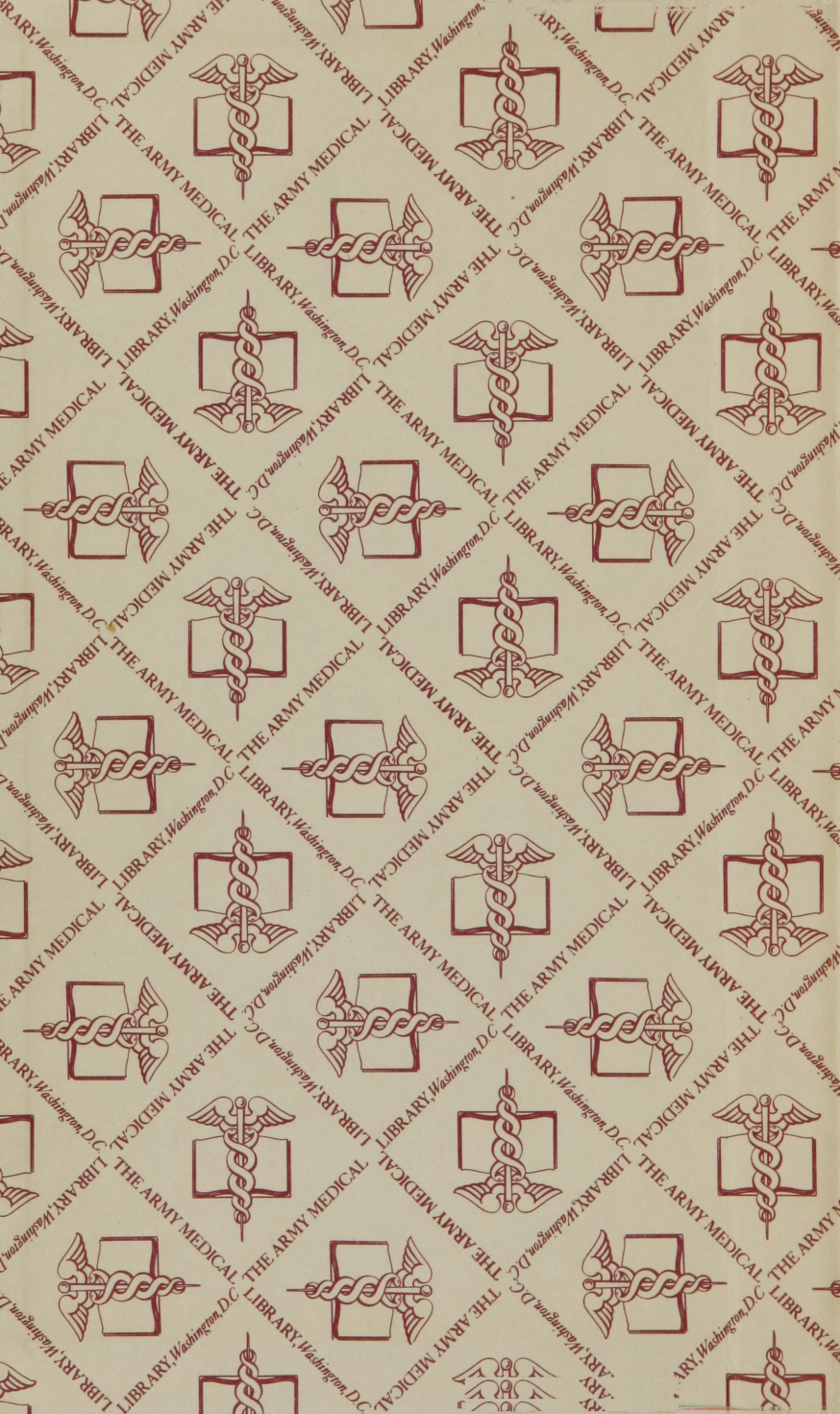

THE ARMY MEDICAL LIBRARY, Washington, D.C.

THE ARMY MEDICAL LIBRARY, Washington, D.C.

CONSUMPTION:

HOW TO PREVENT IT,

AND

HOW TO CURE IT.

Yours truly,

James C. Jackson, M.D.

CONSUMPTION:

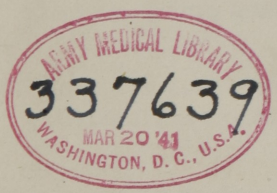
HOW TO PREVENT IT,

AND

HOW TO CURE IT.

BY JAMES C. JACKSON, M.D.

"Nature is a Mistress gentle and holy."
"To obey her is to live."



BOSTON:
B. LEVERETT EMERSON,
129, Washington Street.
1862.

WFA
J13c
1862

Entered, according to Act of Congress, in the year 1862, by

B. LEVERETT EMERSON,

In the Clerk's Office of the District Court of the District of Massachusetts.

CONTENTS.

CHAPTER I.

Page.

WHY SHOULD PERSONS DIE BEFORE THEIR TIME? 1

II.

BREEDING OF CHILDREN OFTEN A PREDISPOSING CAUSE TO CONSUMPTION 14

III.

CONSUMPTION — WHAT IS IT? 51

IV.

IMPAIRMENT OF THE CONSTITUTION BY DRUG-TAKING . . . 68

V.

EXHAUSTION OF VITAL POWER, OR DEBILITY, CAUSED BY EXCESSIVE SEXUAL INDULGENCE 83

VI.

DIFFERENCE IN AGE OF THE PARENTS A CAUSE OF THE CONSUMPTIVE HABIT IN CHILDREN 93

VII.

PREDISPOSITIONS TO CONSUMPTION, GROWING OUT OF THE USE OF UNHEALTHY FOOD 102

VIII.

IMPURE WATER, MINERAL AND MEDICATED WATERS, AS PREDISPOSING AGENTS TO CONSUMPTION 112

IX.

Page.

Alcohol, and its Influence in developing Consumption 124

X.

Causes operating on the Mother during Pregnancy, and those which are induced after Birth 139

XI.

Causes which are not Congenital, but induced after Birth 147

Unhealthy Milk while Nursing 147

Improper Food in Childhood 150

XII.

Sleeping in the same Bed with Consumptive Persons . 156

XIII.

Breathing Impure Air in Close Rooms, Shops, Factories, Privies, &c. 163

XIV.

Causes operating to produce Consumption in Persons predisposed to it, originating in their Conditions of Mind 180

XV.

Recreations and Amusements 188

Walking 194

The Movement Cure 198

Dancing 199

Horseback Riding 201

XVI.

The Influence of Dress in producing Consumption . . 212

XVII.

Mental Causes as predisposing to Consumption . . . 224

XVIII.

The Influence of Unhappy Social Relations in predisposing Persons to Pulmonary Consumption 230

XIX.

Page.

Diseases which tend to produce, and which end in, Consumption 239
Catarrh 239
Chronic Catarrh 244

XX.

Epidemic Catarrh, or Influenza 251
Bronchitis, or Inflammatory Sore Throat 259
Chronic Bronchitis 266
Asthma 271
Hemorrhage from the Lungs 277
Hooping-cough 290
Inflammation of the Lungs 292
Skin Diseases 297

XXI.

Measles 307
Scarlet Fever 310
Vaccination 316

XXII.

Diseases of the Nutritive Organs 319

XXIII.

Uterine Diseases, and their Influence in producing Consumption 325

XXIV.

Tubercular Consumption 332
Mesenteric Consumption, or Consumption of the Bowels. 369

XXV.

What is not the True Treatment for Pulmonary or Mesenteric Consumption 380

CONSUMPTION.

CHAPTER I.

WHY SHOULD PERSONS DIE BEFORE THEIR TIME?

Is there any need of it? God has made man of immeasurable dignity, crowned him with glory and with honor, and rejoices in him as the work of his hands.

By such a being, wearing his nature and endowed with such constitution, one would naturally suppose that life, even in its lower and more material forms, would be valued at a high rate; that he would guard it as a great treasure, and use it only for legitimate purposes. Yet what a useless, empty, vapid life most persons live! They work hard, toil, sweat, and, while young in years, grow old and die, having apparently accomplished nothing; for he can scarcely be said to accomplish any thing whose work dies with the occasion that calls it forth. Real, actual accomplishment weaves into its web threads of the imperishable. Essentially, somewhat of the undying and the everlasting belong to it; and, where these are entirely wanting, the work done is a sham, no matter how it may appear. Only a few of the human race do things that last. These may be said to *create;* and their handiwork is visible, ages after they have passed onward. But the many beget and give birth to offspring only, whether of brain or of body, who, like themselves, perish for ever. Poor creatures! How their departures from the divine law have shorn them of the glory which belongs to human nature! How, all their lives on earth, they failed to express the image of their Cre-

ator, and, in its place, showed horrible disfigurement! How sin dimmed their eyes, quenching the bright flash which they should wear! How their backs were bowed by it, until their carriage was that of a felon or a slave! How out of their hearts were withered all, or well-nigh all, noble impulses, and low desire or passion planted in their place! How it transformed them! A lion shut up in a cage, and made a daily show, looks as much like the king of the Lybian desert as the man of our present civilization looks like the *man* of God's making. Taking the human, as we see it represented by the masses of mankind, for a type of the Divine, it is no wonder to me that extended abjuration of allegiance to the Creator and his laws takes place; for what is there in man, as we see him, in either his personal or social aspects, which should awaken the enthusiasm, the love, or the fealty, of a high nature to his Creator? With rare exceptions, the race presents itself as governed by low and grovelling appetites, and swelling and surging passions. In most men, the spirit is a bond-slave to the matter in which it dwells; the higher faculties are subordinated to the propensities; habits are the masters of principles; convictions are made to yield to desires; aims are low, — gratifications, lower; excesses, over which one boasts and swaggers, are mere fictions, and his achievements are practical defeats. The history of such a man is in his epitaph, and time gnaws this until it is defaced; and *then* all knowledge of him perishes, even in the neighborhood where he was born, reared, labored, and died.

From all this degradation and defilement, this low tone of existence, this mere animal hybernation, is there no deliverance? Are no means of redemption at hand? Out of this Tartarus, this hell upon earth, is there no way, or is there no process, by which a man's bird's-claws can again become nails, and his eagle's feathers soft and silken hair? It is affirmed that there is, and various persons offer various solutions. One says that man will be redeemed when Philosophy triumphs. Why, then, does she not triumph? She has had a fair field from the days when the Pyramids were built. Another declares that Science will cast up a highway for the race to walk on. Still another says that the Gospel will do it; and yet another, that the *Church*

will accomplish this grand mission. In God's name, then, why is it not done, and the prison-doors unlocked, and the fettered slaves let out into the sunlight? I would not undervalue the dignity of Philosophy, the worth of Science, the benevolence of the Gospel, or the power of the Church. They are mighty forces; yet, comparatively speaking, they make but little headway against man's *downward* tendencies. Their results seem to be akin to those of a man with giant strength beating the air; and their ill success is not for lack of opportunity to bring their own peculiar forces to bear. Philosophy has penetrated into the very centre of every civilized nation: it has mastered their languages, and brought to its feet their great men; it has shaped their politics, tempered their poetry, toned their literature, and modified their religion. Science has found her way from the professor's chair in the university to the child's school in the log schoolhouse. She has done wonderful deeds among men. The artist owes her much; the artisan, his all. The Commonwealth is in her debt, beyond its power to pay. The Bible, in our land at least, is in every house, in every school, in every court of justice, and in every pulpit. Children learn to read it as soon as they spell. Men swear by its solemnities, and under its sanctions make prayer; and, for the accomplishment of its great ends, the Church works officially and unofficially. It organizes plans, adopts projects, makes efforts, pleads, criticises, condemns, excommunicates; and yet, in spite of all these forces, men live in the main like brutes, and die, as sheep die with the murrain in their midst, ere their days are half lived out.

Now, this is not more humiliating than it is singular; because it is easily perceived that it takes much more labor, more sweat of brain and of body, to die than to live. What God makes he intends should *live*. The works of his hands are the emanations of his mind; and his intentions are, that every thing he makes should reach its end. Life, everywhere, is the result of the Divine Activity; and, just as far as he gives life, he surrounds it with all the guaranties and securities that it is possible for him to bestow. Is it for a moment to be supposed that it is easier to die than to live? Why, life is man's birthright. It is the evidence of his descent, the proof of his legiti-

macy. It demonstrates his origin, and gives him a title-deed to a home on earth, and, if rightly used, to a home in heaven. God is the Father of all living: "in him we live and move, and have our being." It is easy, therefore, to live, and difficult to die; yet millions think the reverse is true. Were one-half the effort put forth to stay *in* the world that is put forth to get *out* of it, Death would be seen so seldom as not to be unwelcome. His forerunner would be old age. Our present impressions of him would gradually fade out, and we should no longer exercise our imaginations in cutting and carving him in pictures as a grinning skeleton riding on a pale horse, with a sharp spear, ready to thrust it into the first comer. We should have no associations of him that would awaken grief, gloom, silence, and dim forgetfulness; but, on the other hand, we would think of him as a great or good angel, robed in glory, and fresh from the presence of the Great King, to bid us take our translation, to summon us to a higher and nobler life, where sublimer scenes await our sight, and more arduous responsibilities shall satisfy our longings. As a simple matter of fact, putting casualties and accidents aside, Death should never be seen where the young are. They should not have glimpses of his face, nor feel his breath on their cheeks. What has he to do with them? God made them to *live*. Length of days should be in their right hand; and in their left, riches and honor. All this succumbing to Death, this allowing him to run riot through households and townships and cities like a mailed conqueror, taking our fairest captive at his will, is a sin and a shame. It is *a sin* to be sick after the fashion so common to our people. It is shameful to die in the way usually seen, and which it is so popular to term "providential." If a man dies when he is old, one may then affirm of him with correctness, that he died in the providence of God: but when he dies in the vigor of his manhood, or before he blossoms, it is a misuse of speech to say that he died by providential interposition; for, without the least atom of doubt, such a death comes in the face of all God's provisions. As far as the Creator could provide, and be true to the laws of life, he *has* provided for human beings to live to a good old age, until they shall see their children's children play-

ing at their knees. God provides for one's body by making its natural wants few, and easy of satisfaction. The earth, sky, and sea are his assistants; the air, light, heat, and water, are his. What abundant provisions for the life of the body! and to the better, the nobler part, he will look, and see that it is not left unprovided. No day passes over a single soul, that the All-merciful does not visit it, and pledge to it anew its life on the simple condition of obedience. No man believes in and honors God's providence more than myself. I warrant, that He, who does not let a sparrow fall to the ground without his notice, looks vigilantly after the welfare of his children. Such are his longings for them, that he vehemently protests against their laying their deaths to his account. "Have I any pleasure at all in the death of the wicked, but that he should turn from his wicked ways, and live?" saith the Lord. Under such a protestation, is it not due to him and to our self-respect, that, if we are so foolish as to die before our time, *we* take the responsibility, and not, under an affectation of piety and with an odor of sanctity, ascribe the results of our own weakness to the mysterious movements of the Divine Providence? It seems to me so, and that nothing is more legitimately calculated to check this terrible tide-flow toward the unknown world than to hold human beings responsible for an ill-timed voyage. Make men and women feel, that, if they murder *themselves*, they are as guilty as if they murder others; that, if they play the fool, the great commonwealth of universal intelligence, with God at its head, is intrusted to bring them to justice. Educate them to understand that no sin goes unpunished, no fault uncorrected, no crime unvisited by just retribution, and something has been done toward a better condition of things.

For myself, I declare that I am not satisfied with the fruitless labor and wasteful expenditure of the moral forces which God has given to earth for man's redemption. I do not feel discouraged, nor do I despair; but I am saddened to see great efforts made useless by a wrong application of power. For such application is vain and valueless: it is like bold blows which a strong man strikes into vacuity. The strong, when devoid of proper means to make their strength efficient, are no better than

the weak. They need position in order to have power. Position determines strength. Two men, though one be much stronger than the other, are equally valueless in attempting to lift by main strength a rock which neither can lift; but add the fulcrum and the lever, and immediately their value is determined by their strength. So it is in the application of moral power. In what way an individual man, or men in masses, shall be moved, depends quite as much upon the manner of the application as on the nature of the force used; and I contend, that scientific men, philosophers, statesmen, ministers, reformers of all grades, and Christian men and women in combination, and constituting what we call the Church, make their onslaught on disease, vice, death, and the Devil, with little or no skill. Generally speaking, they are poor managers, wretched tacticians, and, so far, have studied to poor purpose the elements of human nature. Of what avail is it that they speculate arm-pit deep in philosophical abstractions, or wall themselves in with the formulas of science, or heap up prayers mountain-high for the world's conversion, or build churches in every valley in the land, and send missionaries until they stand on every square mile ever pressed by human foot, so long as they fail to recognize the importance of a proper direction of their force? They may establish schools, enact statutes, build prisons, and erect gallows; but his Infernal Majesty will laugh their labors to scorn.

The failure in our attempts to work out for individual man a higher sum of happiness or a greater growth in goodness, and for society a larger and better freedom, consists in overlooking entirely *the body* as one-half of humanity, and a very important half at that: for a human being is not a simple spiritual essence, but a spirit in connection with or united to a physical organism; and the *human* of a man is as much the earthly or physical man as is his spiritual part. As a resident of earth, that part of him by which he becomes cognizant of earthly things, through which alone he can establish earthly relations, through whose approval and consent alone he can have earthly obligations imposed or responsibilities rest on him, is, as it seems to me, of great import in determining just what his character on earth shall be. I have no wish to go beyond the line of fair

argument in this view; and so I simply say, Give to the soul or spirit of a man all the dignity you please, sublimate it to the highest ethereal essence, clothe it with glory as with a garment, and your estimate of it cannot exceed my respect for it. Nevertheless, it is undeniably true, that while occupying a material form, and having to do with material things, the moral part of man is inevitably subject to the laws of matter. Every recorded fact, the world over, proves this. The Deity has as yet made himself visible to human consciousness only by taking on a material form. Christ, it is said, was, when on the earth, God *manifest in the flesh*. Angels have always been reported as appearing in human form. Ghosts, as they are said to appear, always show themselves in human, bodily form. Your soul, my soul, each and every soul, makes itself apprehensible through material organs. Does your soul speak to my soul, or, to use the common phrase, do you speak to me: you use organs that are material. You touch, you taste, you smell, you see and hear, through material organs only. Your powers, your thoughts, your faculties, your ideas, your emotions, all find expression only through your bodily organs; and what is of the greatest interest is, that just according to the condition of your bodily organs will be the nature of the expression which the spirit will show. Born with imperfect physical organs, your spirit is dumb. Born blind, what can your spirit tell of colors? Born with a lame leg, your spirit must walk lame for life. Orators grow eloquent on the themes of civilization, the sciences, the arts, human progress, and enlightenment; and it is well: but it would be better if occasionally they honored God by expressing their admiration of his divine skill in fashioning the human body, to which, in so great a degree, society owes its high estate. For, with all the worth of the spirit, it would, simply as an essence, work out a poor result by means of an organization in which the special senses should have no play.

Need I illustrate this view further? If a man has a deranged body, his mind is deranged; if a sick body, his mind is sick; if a feeble body, his mind is feeble. Does his body faint, his mind is faint. Is his nervous system irritable, *he* is irritable. Is his body drunk, *he* is drunk. Does his body suffer, *he* groans.

Is his body thirsty, *he* is athirst. In other words, what his body is, he is. Not only does the quality or condition of the physical organization, but the very form of it, determine character. A man is not a woman, nor is a woman a man; a horse is not a sheep, nor a mule a buffalo: and no fallacy or folly or lunacy into which persons or society may fall can make these parties interchangeable representatives.

At the very outset, then, I declare my mission to my fellows not to be simply to teach them how to rid themselves of their diseases, which, in the long-run, may culminate in the fatal disease, the name of which forms the title of this book. There is no comfort to me in the contemplation of being able *simply to cure* persons of dyspepsia, liver-complaint, rheumatism, general debility, scrofula, or consumption, and then let them pass into the world ignorant and undisciplined, unrestrained and untrained, only to be resnared. Never! But my mission is to teach my readers how, if it is possible to be done, they may not only *rid* themselves of their diseases, but *remain* free from disease, and thus be *cured*, not only in themselves, but in all their generations; to break up for ever, between them and their posterity, connection with disease; to set in motion through them such redeemable impulses and influences as shall draw down the blessing of Heaven in the shape of healthy bodies, vigorous minds, and pure hearts, and thus, to their latest descendants, help to create, train, and educate men and women with whom the Spirit of Eternal Wisdom may find it easy to hold intercourse; to impress on them the folly, the shame, and the crime of being sick, so that they shall feel as mortified at being sick as at having committed theft; to make them feel, that whatever their professions of religion, their standing in the church, or their high social position, they cannot "grow in *grace*" unless they are in possession of health; that sickness is practical selfishness, and that surely and unmistakably, sooner or later, it shuts out those divine visitations which our Father is so ready to give, and which we all so much need. If mission I have, or if special object I have, in writing this book, it is to teach people how to put themselves in possession of their bodies, so that these shall render reasonable service; so that

the professions they seek, the pursuits they follow, the work they do, and the responsibilities they assume, may all be accomplished. My mission is to inspire the sick and those in health with a regard for Nature; to induce them to rely upon and confide in her, within the circle where she is authoritative; to instil the feeling, that she can cure them by the use of the same means, wisely applied, which she uses to keep human beings healthy. It is to awaken in my readers, and in all persons over whom I may have any influence, an intense disgust for poisonous medicines; to caution them against the clap-traps and catch-pennies by which the unwary and unknowing are led to ruin. It is to create in my fellow-men an enthusiasm for a simple, refined, highly cultured, and sincere life, so pure, and so free from stain, that a perpetual blessing shall come with it; so well-balanced a life, that the whole manhood shall be in harmony, and so at rest; — to teach them, as far as I can, how to subdue appetite, change habit, confirm principles, and quicken into activity those elements of goodness which now move so sluggishly in the human soul.

Do you tell me, reader, that I am a fanatic, and am seeking after Sir Thomas More's Utopia? I reply, that I am trying to realize the Utopia *of the gospel*; — to bring man into conditions alone worthy of him, and to overcome the evils which work such havoc among human beings; and, in order to do this, I declare my conviction, that it is necessary to find where and in what part of man these evils make their lodgement, — where they burrow.

The general opinion is, that they are to be found having their home only in the *spiritual* nature of man; or, to express the same idea in other terms, that the efficient causes of man's depravity, disease, and death, are to be found only in his mind or his heart, in his spirit, or in his moral sense. I beg leave respectfully to dissent from this view, and to offer the converse of it; to call attention to the fact, that in man's life, as we see it wrought up, — from the constitution of his higher nature, as well as from his physiology and the philosophy of the Bible, — very much of the depravity and evil which he shows, and over which good men are sad, is to be found dwelling in his body, and

manifesting itself through his depraved physical habits. I do not deny that a man can be depraved at heart; I know full well that "the heart is deceitful above all things, and desperately wicked:" but I also know that the body can become depraved, and re-act with terrible power upon the higher life of a human creature. Go with me into society, and look at the vices to be seen there. How large a proportion of them are the results of ill or wickedly directed *physical* energy! The murders, the burglaries, the arsons, the assaults, the licentiousness, the ignorance, the pauperism, the breaking-up of families, the quarrellings, the ill-success in business, the cheating, the gross selfishness, the loaferish life, the irreverence for law, the contempt of religion, the want of patriotism, and the ill-breeding, of which men are guilty, — how much of these may be ascribed to the ardent spirits, the tea and coffee, the opium and tobacco, which those who commit these crimes daily and habitually use! Or if to father these infernal poisons alone with this catalogue of crime, vice, and suffering be too severe, then add the drugs which the doctors give; the patent medicines which they do not give, but which almost everybody takes; the pork, the beef, the butter, the lard, the pepper, the salt, and the spices daily thrown into the human stomach with haste, with no regularity, and in utter disregard of the laws of digestion and assimilation, — thus forcing the body to take on such states as to subject the mind to perverted and sometimes to crazy action. Look: a man in *delirium tremens* sees devils, snakes, and all monstrous things. A woman in childbed-fever looks upon her own baby with loathing and hate, and seeks to kill it. Look again: our suicides uniformly come from the ranks of our nervous dyspeptics.

If one chooses to go still further, the question may with pertinency be asked, What makes woman in our country so uniformly characterless as she is? As a great fact, she has no such possession of herself as the better class of men have. Her objects in life can generally be covered by a hand's breadth: her plans are narrow, her purposes hardly worthy the name. Events which stir the blood of man to a fever-heat are only tea-table talk with her. What is the matter with her? Like man, she has a soul. The matter is, that she has not a well-

trained body for her soul to use. The very material of which her tissues are made is of inferior quality. Her blood is not *alive*, like man's; her brain is much less magnetic than his; her muscles are soft and flabby, and incapable of endurance; her nerves are sensitive to external impressions; and her will, by reason of its infrequent use of her physical powers, finds itself incompetent to their management. All her bodily habits tend to bodily deterioration, and so to mental and spiritual enfeeblement. Would you give woman character; would you elevate her, add higher tone to her life, and make her something worth: the first thing to be done is to improve her *physical nature*. She must be brought under the law of freedom, — the only law under which a moral agent can thrive. She does not so much need freedom from spiritual as from bodily bondage. What human beings want, then, may be said to be, training, — bodily training; not exclusively moral and intellectual culture or spiritual criticism. It is the fashion with philosophers, statesmen, and ministers of the gospel, to provide for the mind and the heart, — to give to human beings knowledge and religion, — and let bodily organization grow up as it may. This is not the Divine Order; and so, as a practical fact, it comes to little or nought. "*Train* up a child in the way he should go; and, when he is old, he will not depart from it." The *training* is the guaranty of character. Train his body, and you may be sure that you *can* educate his intellect and consecrate his heart; neglect to train his body, and you are not sure of either of the others in any case.

When it is remembered that the sensational and the sensual are much stronger in most persons than the spiritual and ideal, it surprises me that public men of all professions should be constantly urging the consideration of principles on them, to the neglect of their duty to correct their habits. A great many persons are virtuous from habit, and not from any keen sensibility or deep regard which they feel for right in the abstract. While it is true, that, in many instances, they lack opportunity, — as they *are*, it is of no use to offer it to them. They have eyes, but they see not; ears, but they hear not; neither do they understand. *Their higher natures are in complete subjection to their*

appetites, and their souls have descended into their bellies. The animal, being in the ascendant, carries things with a high hand; and preaching of a judgment to come, to such, is like fiddling to one born deaf. What care they for a judgment *to come*, while they have the gratifications of *to-day?* Having no active sentiment of love for the good, the true, and the pure, they have no fear of the evil, the false, and the corrupt. How, then, can threats of prisons and punishments frighten them, when visions of joy unspeakable fail to allure? Out of ninety-nine cases in a hundred, such persons need restraint in bodily indulgence. One or ten or a dozen or more cursed physical habits are dragging them to ruin. To the many, sufficient self-possession may remain to enable them to *see* the way in which they are going, and yet not by any means enough to enable them to control themselves; for nothing is more observable to the physician than the fact, that a man's judgment and his bodily habits are at war, and that generally, if left unaided in the strife, judgment is overborne. What is so tenacious of life as an evil habit? False opinions one may hope to change; a false statement, to correct; a false faith, to replace with a better; false notions, false ideas, false estimates, false principles, false positions, are seen to give way daily before righteousness, goodness, and truth: but false habits — how they cling to one! The sceptic may become a Christian; the avaricious man, charitable; the rough and rude, gentle and meek: but the rum-drinker, the tobacco-chewer, the tea and coffee drinker, the drug-taker, the patent-medicine swiller; the pork, beef, and grease eater; the man that subjects himself daily through his appetites to the *law of prey*, until he snuffs up blood for food as the wild ass of the desert snuffs up the east wind; the lewd, lecherous man, whose whole existence concentres in impure desire, — O Heaven! what struggles these must go through, if they are to be free! It will be like being dispossessed of devils: a few may be saved; but the millions are doomed. No gospel, no government, no church, no school of philosophy, from the present point of occupancy of these great saving forces, and under our present methods of applying them, can ever redeem them. They are *lost.* Am I wrong? Nay, verily, I am right.

Where one drunkard is saved, a thousand die fools. Where one tobacco-chewer, snuff-taker, or opium-eater, abandons the habit, tens of thousands proclaim either their inability or their unwillingness to do so. Where one woman gives up tea, or one student his coffee, thousands yearly increase their indulgence to the day of death. Where one beef or pork eater gives up being *carnivorous*, and becomes simply *human*, thousands eat until their very souls become slaves to their desire for flesh.

This is seen in all classes of men, women, and children. Doctors, statesmen, poets, men of genius, men of letters, bishops, ministers of Christ, deacons, laymen, each and all, with few exceptions, are in greater or less degree victims of their bodily appetites and passions. To them, health — perfect, uninterrupted, and joyous health — is a myth, an entire stranger. Of her they have heard; but she has visited them only in dreams. To them, life on earth is an unending, daily round of care and drudgery. For them, home, sacred and blessed, is a spot not clustering thick with joy and happiness and rich consolements: on the contrary, it is a place from which care, labor, and anxiety are never absent; where sickness dwells a large share of the time; where struggle against want is constant, and toil to meet unsatisfied desire is ever present. No sunshine falls across their threshold, that is not attended by a dark shadow; no gleam of hope and peace and blessed content flits around their household altar, but it is immediately followed by doubt, distrust, or despair. Is it wonderful that the divine beatitudes never encircle such persons; that, mole-like, they work their way, and die, deprived of all knowledge how to bring down heaven to earth? To me the old Circean fable has a mournful moral. Daily do I see men transforming themselves, and being transformed, into swine. Out of them the God-like gradually fades like the shimmer on the sky of a setting sun; and, in its place, the beastly is developed in a horrid manner.

In such conditions, disease is always more or less prevalent; and, of all its forms, there is none more to be dreaded, or more difficult to overcome, than pulmonary consumption.

CHAPTER II.

BREEDING OF CHILDREN OFTEN A PREDISPOSING CAUSE TO CONSUMPTION.

I WAS sitting by the side of a lady, not long since, in whose intelligence and general knowledge I place great confidence, and who has given, perhaps more than any other *woman* of this age, profound attention to the subject of health, in all its bearings; when the question arose, By what means and processes checks might be administered, not only to the prevalence of diseases of the body, but also to the spread of such evils as afflict society, and exert a largely depraving influence upon human character: and she said to me, "Almost all persons lack good health, and are unhappy; and they are so, because they are *born wrong*." I was impressed with the force of the remark, and particularly because of the philosophy that is wrapped up in it; for, when fairly considered, one comes to see that it means much more than at first thought it would seem to import. Mankind are physically depraved; and their depravities work themselves out in a great variety of abnormal or diseased forms, producing misery and suffering to a degree almost impossible to estimate. To a great extent, this suffering — which involves the loss of health and personal enjoyment, and which induces such warped and unnatural growths and developments of disease as to render their contemplation quite unpleasant — depends more decidedly and extensively upon violations of original law than the world at large has hitherto supposed.

It is honorable to human nature, and to the degree of civilization that it has reached, that so much has been done, and so much is doing, for human improvement. The wise and the good, the loving and the true, are self-sacrificingly at work for the amelioration of human conditions; and yet, as has been said in the chapter previous to this, they make but poor head-

way. The reason of this is, that they are dealing chiefly with *effects*, and leave untouched the causes by which the very evils they combat are produced. Men and women, as the lady said, "are *born wrong:*" and if we are to have human nature show itself in its original lustre; if the dignity, the purity, and the intrinsic worth, which belong to it, and are to be seen evolved in its individual manifestations, are to be generally witnessed, — we must not only consider those subordinate laws which shape and regulate its minor forms of exhibition, but must take up for consideration the nature and mode of expression and operation of those laws which are *fundamental* to its existence, and by which its general as well as its specific character is determined.

Of these great principles, the one to which I would call particular attention at present is the *making* of a human being; the law by which, out of nothing, as one would say, something is produced; the law of originating a new creature, — the law of *breeding*. I am not unaware, that to do this is to ask my readers, and the public generally, to consider a point or topic for which there is no pre-existing favor in their minds, but toward which, by every element and accident of their education, they are already prejudiced. If there were no other objection to a full and frank investigation of the laws of reproduction, this, with the great majority, would be sufficient, — that it involves a violation of modesty. From this view I beg leave to differ; affirming, that where the Creator himself has already travelled, and left behind him the proofs of his having passed, there can be no impropriety in the following of him by any of his creatures, provided the pursuit is made in a reverential and filial spirit. From no low motive, then, would I ask anybody to come to the consideration of the great causes whereby so much general, and *especially* so much pulmonary, disease is produced; under whose working early decay shows itself, and by whose authority death is permitted to enter into households where only love and joy should preside, and pluck out from the very centre of the family circle the fairest and most beautiful members of it, and hie them across the dark river; leaving the memory of their presence only to chill with sadness and sorrow,

and to make all who knew them feel that they were like blossoms in the spring-time, — beautiful to behold, but blasted before ripening. I cannot see why any one should be more shocked, in his feeling of modesty, by talking freely upon those causes which produce the diseases that shorten human life, and evidently lie far back in the original processes whereby human life is produced, than in the consideration of any of those disease-producing causes which exist and act subsequent to the birth of a human being; and I confess, that I hold in more than usual esteem the lady whose mind had turned in its investigations on this subject of health and disease, until it was forced to come to the conclusion, that the sickness and death, as well as the unhappiness and depravity, everywhere so prevalent amongst us, are to be ascribed as much to defective relations between those who occupy the position of parents, as to all other causes combined: and I am unable to see why such investigation was improper on her part, simply because she is *a woman.*

There would seem to be more of an obligation resting upon her, for this very reason, thoroughly to understand every thing having a legitimate bearing upon human health, so far as it may be dependent upon considerations that are in their nature reproductive; for it is no inferior position that woman holds in this respect. Nature has so related her to the question, and to the results involved in its right settlement, that under no fair view can she be justified in exhibiting indifference in regard to it. True modesty, then, may well challenge the right to look into, and become familiar with, those laws which bear upon the production and maintenance of the *life and health* of human beings; for one can only hope to be thoroughly familiar with all those minor causes, which, after the birth of a human creature, may work out its destiny either wisely and well, or unfavorably and ruinously, according as he or she is familiar with those original laws upon which these minor ones depend.

Consumption is a morbid condition of particular portions of the human structure, so peculiar in its characteristics, so intimately connected in its order of development, and in advanced stages so difficult to be cured, that no alternative is left to the physician — and, I think I may say, to the philanthropist — but

to search, with all sincerity and earnestness, *for means whereby it can be prevented.* If, like some other diseases, it affected only the functional or official action of important organs, being rather a derangement than an organic disease, there would be less need of understanding all that may be understood about it; but it is universally admitted, that it is a form of disease, which, when once established and far advanced, challenges the most excellent skill and the application of the most legitimate and powerful means for its removal. Incidental cases, indeed, are seen, where apparently the worst types of the disease give way to means that in themselves seem to be the simplest and most inconsiderable; but these cases can never be relied upon as furnishing data on which a substantial course of treatment may be based, nor these means such as one may depend upon as certain wherewith to be successful in combating consumptive conditions, and restoring the patient to health. Like all exceptions to a general rule, they but go to prove the deadly nature of consumption, and awaken a deeper solicitude on the part of those whose endeavors are put forth to cure it. By every view, then, which may be taken, having in it a desire or a design to find out how this terrible ravager may be estopped in his destructive progress, and human health be relieved from his deadly assaults, am I justified, I think, in calling public attention to such causes as, when operative, tend directly to prepare the way for his coming; and show, if I can, how they may be effectually blockaded, and the destruction of human health be greatly lessened, if not entirely and wholly prevented. At any rate, whatever risk there may be to my reputation in this course, I propose to pursue it with entire freedom of thought; and, if what I have to say be unpleasant to the reader, he has, of course, the liberty to close the book, and thus, while remaining in ignorance, preserve his modesty. That some will do this, is perhaps true; for such is our perverted education, and our nonsensical idea of what constitutes true purity, that, rather than know how to be healthy by understanding the laws of propagation, there are those who would prefer to remain ignorant of both. I have no wish, on this or on any other question, to be more particular or select than truth demands; and while Nature, who is God's

vicegerent, subjects the question to such tests as are seen in the processes by which health is produced, it ill becomes me, and I think any one else, to be hyper-sensitive, and to taboo a free and full investigation of the laws under whose operation such manifestations take place. I very much prefer to throw myself for protection upon that great spiritual averment of an eminent apostle, that, "to the pure, all things are pure," than to show a willingness to remain ignorant, in the hope that thereby I may add somewhat to my general reputation for being particularly modest, and greatly indisposed to shock the sensibilities of others.

As nothing but death is more horrible to me than disease, so there is nothing in the whole range of search for knowledge, which prompts me to effort, like a desire to become acquainted with those laws, a full understanding of which would practically abolish sickness, and thus render death a less frequent guest in our households. As far, then, as human investigations have gone, — and I believe, in this particular direction, mine have gone as far as those of any living man, — as to what are the laws, whose operation in the production of human beings tends to insure health, and whose violation tends to produce disease, I offer the following exposition: assuring my readers that my conclusions have not been hastily formed, nor my inferences superficially drawn; but that I have for many years given the subject the deepest thought of which I am capable, and have watched the operation of a variety of causes, with a mind anxious only for the truth, whilst free from any preconceived theories. In fact, as the young Christian convert, who, having been educated in the doctrines of a particular creed which his father believed, finds himself in circumstances where it becomes necessary to settle all matters of religious belief for himself, upon a basis so comprehensive, and so free from all previously formed opinions, as to give him confidence in the conclusions he may draw, and, laying aside all catechisms and commentaries, proceeds, on his own account, to an investigation of the Christian Scriptures, and the laws which govern human nature: so I, in looking over this whole field of humanity in its physical aspects, have chosen to disasso-

ciate myself from all the theories which learned men have offered for the consideration of the thoughtful student, and to pass to the investigation of the question with an open mind and a trustful spirit; hoping to be taught by Infinite Wisdom, and to be able, sooner or later, to refer my fellows to such evidences of the correctness of the conclusions to which I have come, as to quicken them in their desire to do whatever the laws of their higher organizations prompt, and to keep — measurably at least — within the rules upon which health, not only to themselves, but to their children and their children's children, depends.

Man is animal as well as human, animalism being among the constituents of his humanity; and the laws that govern *this* part of him are relatively of as much importance as the laws that govern his higher nature. True, a man's body, which is his animal part, is mortal, and, at best, is subject to the law of decay. In the nature of things, it is not immortal, but perishable; and, however long it may live, it *must* ultimately die. It holds the same relations to life, in this direction, that the bodies of other animals do; and while, from vital causes, it may exist longer than the bodies of some animals, there are others which live longer than it does. Aside from the Mosaic account of human longevity, there are no records which make man the longest-lived animal that the world has produced. During the Christian era, no man is recorded to have lived as long as some elephants, eagles, crows, and swans have done. No matter, however, if it were otherwise. If a human being could live to the age of one thousand or ten thousand years, sooner or later, as he is at present constructed, his body must die; but the more decided the element of longevity in it, the more ready and easy will his offspring find it to live long. This quality of longevity is an available quality; it is cultivable, — one may increase it: how to do this is worth knowing. So, too, one may decrease it; and how to avoid this is worth studying. So of all the other animal or bodily qualities: there is not one of them that is not subject to the law of growth or the law of deterioration, in man as truly and as decidedly as in mere animals. This is an essential view, and has very important bearings

upon the question of human health, and, in fact, upon that of human civilization and Christianization; or, in other words, upon human character.

If, therefore, human kind are proper subjects of study from the laws of their bodily organizations, and this, too, in the ratio of the importance of such organizations to the perfection of their higher characters, it does not need great intuitive force to be able to see that the question of *breeding* human beings holds no indifferent rank, and is not to be regarded as an immodest affair: under such a view, it assumes magnitude, becomes dignified, and may challenge close thought and investigation. Yet look, and see with what little consideration, until latterly, it has been regarded! How to insure manly men and womanly women has caused many a theologian a wearied brain, with but very little satisfaction as the result of his intense study; for among all the topics which he, whose special province it is to look after the spiritual welfare of his kind, has to discuss, none so puzzles him as that which has reference to the physical depravities, the abnormal spiritual conditions, and the intellectual and heart eccentricities, which his neighbors and fellows in general, and the especial members of his congregation, so frequently show. Notwithstanding all the devotedness and earnestness with which Christian men in public position — ministers of the gospel, and men who are supposed to have more than common admeasurements of divine inspiration dispensed for their particular benefit — have discussed it, they have entirely failed to observe the direction in which the solution of this great problem lies. He would be a phenomenon in society, scarcely less than some of those whom Dickens has created and immortalized in his beautiful stories, who should appear, clad in a clerical garb, before his hearers as an advocate of the idea, that very much of the obtuseness and obliquity of vision, perversity of intellect, and depravity of heart, which mankind show, is to be successfully accounted for only upon the ground of violation of the original laws whereby alone healthy human existence is to be had. If he were to make such a remark as the lady I have alluded to at the beginning of this chapter made to me the other day, it would be an

evidence to thousands, could they hear him, that he did not know what he was talking about. The very assertion of the fact, that human beings are wicked because they are so related to *life* as that wickedness is the legitimate, natural result of such relation, would so startle those to whom it was addressed, as to leave them in no conditions to draw any other conclusions than that its advocate had set himself to destroy the Bible, undermine the Church, and bring about chaos generally. Yet the lady was right,—philosophically and morally right; right, in the view of common sense, science, and revelation. Human beings do go wrong because they are born to go wrong; they do die early because the seeds of death are propagated, along with the seeds of life, in the very act of conception. In the very process of begetting, the elements of disease and decay, as well as of depraved character, are introduced; and of the diseases which we have to combat, and some of which we are able to overcome, the most unconquerable is consumption. It is so, because it is most frequently a congenital disease, having as well-established an hereditary line of descent as any physical or moral quality which a human being inherits. How, then, we are ever to overcome it, unless we go back to the point of its origin, and seek by counter-causes to check it where it concentrates all its activities, and makes the most of its future, I am entirely at a loss to understand. Therefore have I given up so large a portion of my time and thought to obtain an understanding of *the laws* upon which, primarily, health and disease are suspended.

As, under Christian civilization, parties contemplating the production of offspring are required by law to enter into a union by marriage; and as such union is, for very grave causes, considered irrevocable except by death: so such persons should consider seriously their relations to each other, and therefore their fitness to enter into such a union and to become parents. Were it considered proper for men and women to unite and to disunite at pleasure, the ill results of hasty marriage, so far as the reproduction of consumptive offspring is concerned, might be very much lessened; but as "once married, always married," except under specified conditions to the contrary, is the rule,

no man may choose a woman, nor a woman a man, to become the mother or father of his or her children, without involving a very great responsibility, and being held to a very close obligation for any ill consequences thereupon ensuing. I do not wonder that originally, in the view of the Church, marriage was considered a sacrament as well as a civil contract; for, of all the relations into which human beings can enter, none, it seems to me, can be fraught with so much good or ill as this. Hence it is well that action under it should bear the air of consecration; that it should not take upon itself the aspect of the hasty and the ill-considered, but that, before adopting and concluding it, one should look in *every* direction, and, as far as possible, forecast the future of so important a step. As a keeper of human welfare, the Church could not readily overlook the obligation imposed upon her to impress all her members with the greatness of the act of marriage: and it was an unhappy day for mankind, when, by reason of political and civil changes, the authority of the Church in the matter became weakened; for now men and women frequently enter upon this relation with no higher feeling than that of fancy, and with no more conception of the results that are to flow from their ill-considered contract than if they were assuming the most trivial parts in a drama whose permanence was not to extend beyond the evening's entertainment.

The unhappiness growing out of this want of thought and proper appreciation of the duties that belong to the husbandly and wifely, and subsequent parental relations, can scarcely be measured. I feel myself entirely incompetent to delineate all the sorrow and suffering which I have witnessed in married life, simply because the parties failed to understand, and so to fit themselves for, the performance of even the more necessary responsibilities which such a condition invokes.

It does not enter primarily into the object I have in view to consider the ill results to the mental and moral conditions of married people, except so far as these may reflect themselves upon the physical organisms of their offspring, and the predispositions to disease which such states of their children may create: for while I shall give, in the course of my investigation,

full weight to the influences which unhealthy mental and moral organization, and unhappy mental and moral states, may exert in the production of offspring, there are mental and moral conditions that in no wise affect the liability of the parties to consumption; and it is only so far as such liability may be said to exist, that it comes within the range of the argument which I propose here to make.

That the mind does act upon the body in many directions as powerfully as the body acts upon the mind, I have no reason to doubt, but the very best reason to affirm; yet just in what direction, and to what extent, such action may be productive of disease of the body, bounds my argument: so that, in the unfolding of my views, my readers may expect me to be not merely speculative, but decidedly practical. It is because of my desire to be so that I so strenuously urge the most serious reflection on the part of those who are about to enter into the married state; for, unless such consideration and thoughtfulness are had, such persons are quite likely to illustrate in their subsequent lives the truth of the maxim, that "he who marries in haste repents at leisure."

Now, one point to which I want to call attention is, that the physical laws, while subject to great modifications, are supreme within the range over which their authority prevails; and, God having made them supreme in their sphere, no mental or moral unhappiness growing out of their violation can render the penalty which such violation incurs incomplete. It is of no avail, therefore, for a man to relate himself to a woman, or for a woman to relate herself to a man, in violation of original physical law, with the expectation that pious states of mind or repentant states of heart can ward off the results of ill-considered and hasty action, or can make good to their children any deviation which their parents may have made from the laws which God has appointed to govern them. Piety is a good thing, and an earnest and sincere desire to obey the divine requisitions is one of the very best mental states in which a human being can possibly find himself; but if, from want of proper knowledge in respect to the laws of reproduction of the species, persons violate those laws, no prayers or repentance of theirs, even though

accompanied with tears, can alter the steady march of causes to their destined results. Sometimes, when thinking on this subject, I am led to feel that the "covenant relations" into which many parents enter, which are very sacred and of high import, and under which they dedicate their offspring to God, would be more decidedly effective, if, instead of impelling such parents to acts of prayer and of pious contemplation, they should urge them to a study and recognition of, and a thorough obedience to, the laws of life and health, in all that pertains to their own welfare and the welfare of their offspring. For to beget a child, and, in the very act of conception, lay the seeds of disease in its nature, and then to invoke, by the most earnest and importunate petition, the Creator to suspend the natural and legitimate operation of the laws which vitally enter into such child's constitutional and functional structure, is, so it seems to me, with all due reverence, to perform acts of supererogation: because, in all my observation and reading of human transactions as recorded in history, I have never yet come across a case where such application amounted to any thing; God seeming to relate himself in all his fatherly action toward human creatures, as far as respects their physical conditions, within the range of the laws upon which such conditions depend; and never, for the purpose of obliging an individual subject, consenting to step out of the range of such laws, or, for special considerations, to render null and void their authority. If this view be correct, it may then be said, I think, without any qualification, that the care or kindly oversight of the Creator, in the direction of the physical conditions and welfare of his creatures, so far as their mental and moral happiness depends upon their physical conditions, always shows itself within the sphere of the laws that fashion, shape, regulate, and control such conditions; and, if we are to have his efficient action divinely displayed, it must be because we bring ourselves within the line of the authority of such laws, and reverently and obediently own our obligation and responsibility to such authority. I know that theology presents to us the doctrine and philosophy of what may be called special intervention of Divine Providence, and I am as firm a believer in it as anybody can be: but my view of the limit of its appli-

cation, or of the warrant of its action, is confined to such cases as present a *necessity* for it outside of the authority of established law; for where the Creator has made arrangements, and vitalized them, so that, in the ordinary course of their accomplishments, full efficiency is presented, I see no propriety in special intervention. Hence, where law is competent to the production of a given end, no setting aside of it, or intervention to preclude its action, can, with any propriety, be called for; and Heaven never acts causelessly, or where there is no necessity for action. One must, therefore, limit the special interpositions of Providence to such conditions of human events as present the inefficiency of ordinary laws to attain a given desirable end.

If, then, a man and woman, starting out in life with the idea in their minds of reproducing themselves in their offspring, fail to understand the length and breadth of the operation of physical causes, through the action of their own propagative powers, and so, for want of this understanding, produce children who are unhealthy both from constitutional and functional conditions, I do not see what justification they can have in asking the divine interposition, by going to their closets, getting upon their knees, and praying God to take their cases under his special care, and to set aside, for purposes that shall be *exclusively beneficial to them*, the natural sweep of the laws of life, which should have their children within their influence. At best, I am of so doubtful mind in this regard as to believe that no amount of prayer will avail to move the Almighty to a suspension of the operation of ordinary physical law, as developed in the physical conditions of their children, so as to change such conditions, except so far as such change may be wrought out by bringing the parents to understand how and by what means countervailing physical causes can be made operative, to overcome their want of proper knowledge and proper thought how to have produced healthy children.

Such view being correct, then a man or woman, or both, should, of all things, be careful in the matter of marriage, from the consideration of the fact, that what they do in the way of propagating their species is a great, and, I may say, an almost necessarily concluded vitative action, carrying with it

results that cannot be measured, except you take into account their action upon remote generations. At the very outset, therefore, something else than the pleasures of the imagination are to be considered when one thinks of marriage, if, along with it, he also thinks of reproducing his kind.

The criticism I have to make in the direction of want of proper forethought and arrangement, whereby the highest desirable results might ensue, is the lack of freedom on the part of woman in all that pertains to the decision of this question. A woman, in contemplating marriage, and of course taking into account the probable results of such relation, in American society, whatever may be said of her in other civilized countries, has little or no liberty of consideration or of action, except so far as these may be comprised within the range of simple negation. Even here, her freedom is very much impinged; because, when her consent to become the wife of a man is sought, she is quite liable, if she refuse it, to find herself ever afterwards without opportunity to become a wife. Now, there can be no doubt that her individual happiness, and that of the children resulting from her marriage, depend vastly more upon who *she* is, and what the conditions of *her* after-life shall be, than upon who the husband is, or what his relations to the children in after-life may be. To make this statement clear, I shall not here enter upon any thing like a demonstration. If its correctness does not suggest itself to the reader, I ask him to defer its consideration, until, in the process of the argument, the point is legitimately reached. All I have to say just now is, that this view is correct, and can be demonstrated to any unprejudiced mind; and by reason of its correctness do I make the criticism in respect to the position in which society places woman precedent to marriage. In the nature of things, the duties growing out of this relation, and imposed upon her by it, are not negative: they are of an importantly active character. She is by no means passive in the relations that she finds herself called upon, subsequent to marriage, to sustain. She has to take, in various directions, the initiative.

But it is not alone at this particular point that I wish to make a passing criticism. I also criticise the want of liberty in

which woman finds herself, subsequent to marriage, in matters pertaining to the production of offspring. From the opportunities which I have had of becoming acquainted with the general relations of married persons in this respect, I believe that not one woman in a thousand finds herself so circumstanced as that she is permitted to decline sexual congress, or to refuse the sexual embrace, whenever her husband, for the gratification of his own pleasure or selfish ends, solicits it. Not one man in ten thousand is so sensible on this point as not to feel outraged, if, seeking to cohabit with his wife, she peremptorily declines his embraces at that given time; and because he is so hyper-sensitive and selfish, as to be mortified and angry if she refuses to receive his advances, does she submit to them, and finds herself in maternal conditions, when not one of the requisites whereby healthy offspring is to be produced has been thought of or prepared for. She enters, therefore, upon this most important of all the relations which woman can sustain, under a state of mind toward men in general, and of her affections toward her husband in particular, and toward God himself, whereby there can be but little fitness for the fulfilment of the great duties which such condition imposes. If she brings a consumptive child into the world, her husband, in few instances, thinks far enough to draw either an inference or a conclusion, that its ill health may have arisen from his having sought the gratification of his desires at a time when, by all the activities of his own as well as of her nature, a proper preparation for such act was lacking entirely. There is not a horse-breeder or dog-fancier in the whole land, who makes the propagation of such animals a study, who is not better related by intelligence to the laws of production, or the propagation of the species, than are nine-tenths of the married people living under what they are pleased to call enlightened and Christian institutions.

No man would consent for a moment to have this great specific power brought into active play in the case of horses, when either of the animals who were to bear a part in it was particularly unqualified, no matter from what cause, for its healthiest exercise. A tired horse, — one which had been driven all day, — it is well known to horse-breeders, is unfit to propagate his

species. A mare which has been frightened, fretted, and tired, is, it is well known to horsemen, not in conditions of the nervous system to enter upon the exercise of the propagative function, or to take upon herself reproductive activities. A dog of either sex, which had fought and been whipped, would not, until the memory of the defeat had faded out, be used for the propagation of his species; and if the man having such object in charge were to be thoughtless about it, or inconsiderate, he would get his retribution in the bringing-forth, by the slut, of a family, or litter of puppies, not one of which would have the element of courage, but every one of which would be constitutionally lacking in that quality; and if courage, therefore, were the quality particularly needed or desired, the whole litter, to all intents and purposes, might just as well never have been born. Men and women are all the time breeding and bringing forth offspring which, by their own want of preparation, are lacking in the very qualities which, in their own idealism, they themselves consider to be of great importance. We have knaves and fools born into this world, criminals, that go forth with the elements and constituents of the vicious predominant in them. We have persons introduced into this world, who have, constitutionally and organically, a lack of the very elements out of which alone strong character can be made; and then, because of such lack or defect, society is put to all the trouble of arranging and supporting institutions to meet such defect, and, if possible, to overcome it. This is labor as useless as it is for a man to undertake to make a plant grow, whose very life depends upon its having roots, and these thrust into the ground, when one has taken the plant out of the ground, and cut off its roots.

It is one of the grandest conceptions that could have entered into the Divine Mind, to make the existence of every thing material depend, sooner or later, upon overruling laws: and he who hopes to succeed for any length of time in any project of his, who does not refer his action back to first principles, may just as well consider himself defeated at the beginning as at the end of his effort; for that this is what he will have to say of himself, sooner or later, science determines most unmistakably. To

start out in life with the idea of having children who shall have qualities whereby they will be guaranteed to be able to exist in this world, without taking into consideration the laws of reproduction, is, of necessity, to suffer defeat.

There need be no hesitancy in the direction of giving to this whole matter thorough consideration, growing out of a doubt whether the laws governing it can be understood, and whether, being understood, they are easy to be obeyed. There are no laws, governing human relations and affecting human conduct, more easy to be understood, in all their bearings, than those which relate to the propagation of the species. What is wanted is, not capacity to understand them, but a conscientious conviction of the importance of understanding and obeying them, and proper opportunities to do so. As long as we surround this whole question with a veil of mock or false modesty; as long as we make entrance within its portals a secret affair; as long as we refuse to discuss it with the same freedom that we would discuss any other scientific question, or to talk about it with the same liberty and earnestness with which we enter upon the discussion of any other subject that may have in it great intrinsic importance, — so long will the subject be involved in obscurity, and the people fail to understand its bearings, and be unconscientious about it. For want of such earnestness and of such knowledge, the world will go on in its staggering, drunken manner, and children by the million will be born into it, with no other heritage than that of early death. Of all the diseases with which they will be cursed, and of which they will die, none will stand so high on the list as pulmonary consumption. Not a day goes over, but, in every community numbering five hundred persons, somebody is to be found, either on the street riding in a carriage, bolstered up by pillows, or walking along the flagstones leaning on the arm of a friend, or seated in the shade of a piazza, or shut up in a sick-room into which the sunlight never enters, who has pulmonary disease. If one goes into the street, and begins to talk, he can scarcely converse five minutes without hearing, incidentally or purposely, the statement, that some neighbor or friend, in the place where he resides, is supposed to have consumption, and will probably die

before long. Middle-aged men die; women, in the brightness of their years, and what ought to be the brightness of their beauty, die; boys are taken out of school to die; girls, too, go home to die; little boys and girls and infants die. When we ask of what they died, — "Oh! they died of consumption." One would think that the majority of mankind would rather that this condition of things should exist than its opposite, provided that to change it would subject them to a free, full, and fair investigation of the laws by the violation of which the former condition is induced, and by obedience to which the latter can only be brought about. I do not suppose that I am writing a book which is to convert all mankind to the right and the true; but I do suppose that God has his own seed walking upon the earth up and down, and that they carry around with them such bestowments of his own life, that all they need, in order to induce them to act rightly, is proper instruction. It is for these that I am writing; and I hope they will be able to appreciate the views I am presenting: for many of them will only have their hearts' blood run out in agony, if they enter into the marriage relation with so little knowledge of the consequences to their offspring as they now possess; and they only need to know what they may and what they may not do, in order to have their lives made happy, and they be blessed in their children. I am gratified under the conviction, that they are by no means few in number. There are a great many good people living on the earth; and a great many, in proportion to the whole number, living in America, — men and women whose earnest desire it is to fear God and keep his commandments, and who need but to know his law, though it have reference to the propagation of the species, and they will honor it nobly, and thereby secure their reward.

One thing to be done, then, in order to secure offspring not predisposed to consumption, is for the parties contemplating marriage to enter into an investigation of their respective genealogies. Qualities, either physical, intellectual, or moral, are so largely carried over from parent to child, that a knowledge of what the parties may possess or what they may lack is indispensable to a decision of this question. Hence every man

and woman who propose to become husband and wife should know, as far back as it is possible to know, each other's ancestral relations. This may seem to the superficial thinker a very finical affair: but how is it unimportant? or by what reason will one conclude that it has no essential worth in it, if it be true that human beings transmit their qualities to their offspring just as animals transmit theirs? Concede *this* point, — and it *must* be conceded that it is physiologically as well as naturally and philosophically true, — and the whole question assumes a new light. It then becomes scientifically a fact, that blood, in the human as well as in the lower animal organizations, "will tell:" by which phrase is meant, I suppose, that whatever peculiar qualities, or characteristics, there may be in the parent or parents, are more likely than otherwise to be transmitted to the children.

Suppose that a man thus making proposals of marriage is defective in his physical build in the region of the chest, — his lungs being small and weak: the probabilities are, that, unless counteracted by stronger predispositions in his wife, he will carry over those defects to his children. Suppose the woman contemplating such marriage is defective in her nutritive organization: unless counteracted by the qualities of the male parent, she will carry over those defects to her children. Suppose both parents to be defective, but in different directions: the probabilities are, that, unless those defects are inconsiderable in kind or degree, they will carry them over to their child or children.

Of course, it is with the physical conditions of these parties that I have chiefly to do, because it is of physical disease that I am treating; and to know just how and to what extent physical laws operate in the transmission of qualities, is to know how to prevent disease, and at the same time to know, to a certain extent, how to promote health.

In this direction, the extent to which the law of hereditary predisposition exists is worthy of note. From some cause unexplainable, or, at least, which I have never seen explained, predisposition to carry over *bad* qualities, in the human organism, exists to a greater degree than a predisposition to carry over

good qualities; so that in whatever direction a man or a woman may have any fault in his or her physical frame, whether it be a defect standing out by itself, or whether it be one caused by what may be termed the relation of the different parts to each other, such defect is almost sure to be carried over to the next generation, unless it is counteracted by strong countervailing qualities in the other parent. For instance, — what is by no means uncommon, — if a man is so made up, as that his body, in its length, bears an actual and visible disproportion to the legs on which it is set, to a degree that he can be at once seen to be longer in body and shorter in leg than positive beauty requires; making him, in this direction, disproportioned, if not deformed, — so much so, as that, when sitting down, he will seem to be as tall as another person, yet, when he stands up, will prove to be from two to five inches shorter: such a defect will be transmitted to his children, unless his wife is differently built, and possesses a larger vitative and constructive organization than he does. A man of such related structure, unless counteracted by opposite structural qualities in his wife, is morally certain to beget children of consumptive habits. If one gives attention to this point, he will find that a large majority of consumptives are persons who have long, slim bodies, narrow-chested, and with short, stubbed legs. Suppose, on the other hand, that the woman possesses a predominance of the nervous organization, — indicated by very superior cerebral developments, — with a feeble vital temperament, so as to make her weak in the direction of nutrition: thus poorly furnished herself with the means of sustaining her body against the mental energies which she is constantly exhibiting, and even more poorly furnished with the means of sustaining any child or children she may have, during the periods of gestation and lactation, unless the father is so constructed bodily as that his vital temperament is not only much stronger than hers, but unless he is so much stronger in his muscular development than she is in her nervous organization as to be able to overbear her tendencies, then the children of such parents will have small muscles and large heads, and will be, at the very outset, predisposed to take on diseases that arise from abnormal conditions of the respiratory structure.

In every direction, therefore, where there is a deficiency in the organic relations to health of either parent, it should be supplied by the other; for if both happen to be deficient in the same direction, or one happens to be particularly so, and the other is not protected against it by some countervailing force or some counter-development, then the children must of necessity, and inevitably, suffer in the direction in which their parents are lacking. If this lack happens to be of a kind or in a direction which establishes a vital or constitutional defect, then health to such person, at the very outset, may be said to be well-nigh impossible. A child which should be born with one leg, instead of two, cannot be as efficient in its locomotion as one who should be born with two legs, instead of one. A child with a low vital and very large mental and motive temperaments can never be as well disposed toward health, nor as thoroughly protected against consumptive disease, by constitutional provisions, as though the mental and motive temperaments in him were only moderate, and the vital temperament large. And while such relations are in themselves unhappy, and greatly to be guarded against, by care on the part of the parents, previous to procreation, or subsequently by very careful physical training and education, no regard or heed of theirs can entirely overcome any such defect as that to which I have alluded; for, being of an organic nature, it can only be partially overcome: and the person possessing such organization must always be quite susceptible to diseases of the lungs. It can be qualified and regulated, but never entirely overborne. The security against any such deficiency, then, must be found in forbearing to relate the parties, upon whose cohabitation offspring depends, in any such form as that which parentage presents. Minor defects in parents may be either overcome, or may be so qualified by training as to render their existence of little or no account: but there are such deficiencies of build as can never be overcome by training, and which should be avoided by forethought, in bringing into union, parties, one of whom, or both, is without such deficiencies; for, if parties having them unite in the propagation of offspring, they carry them over to their

children, by the inevitable law which makes the product of any given thing like the seed from which it springs.

Predisposition to take on slight defects is often seen, and goes to show how much more certain great defects are to be taken on. Thus I have known so inconsiderable a deviation from the normal line of structure of the foot as the webbing together of the fourth and fifth toes two-thirds of the way from their bifurcation to be transmitted through half a dozen generations, until the family came to be known as the web-footed family. I have known a superabundant finger, making five fingers, instead of four fingers and one thumb, on a hand, to be transmitted by the father for two or three generations; not, indeed, to all his posterity, but showing itself in some member of each succeeding family which partook of his particular strain of blood. I have known other particular physical qualities to be transmitted, and these, too, of the most opposite kind. A man whose father wore hair upon his head black as a raven's wing, and whose mother had upon her head hair of the reddest hue, his own hair being of a light brown, became a father, and reared up a family of children, ten in number, half of whom had black hair, and half hair of a fiery-red color. In this instance, the whole group of children partook of the father's family qualities; they not being counteracted or affected in the least degree by the family strain of blood which his wife carried in her veins: she was of the lymphatic temperament, and became merely a recipient of the tide-flow of life in the veins of her husband. This man's father and mother both died of consumption, being scrofulous; he also died of it; as did every one of his children.

There are recorded in the history of certain families such peculiarities, which while in themselves quite insignificant, yet, being transmitted from generation to generation freely, have come to be regarded as marks of distinction, so as that they represent the family character with great certainty. Of this class, the Bourbon Family in Europe is very celebrated. The shape of the face, especially from the nose as a central point, — making that organ a prominent characteristic of the face, — is so peculiar as to constitute a distinguishing feature, and has been used as

collateral evidence to determine the legitimacy of descent of certain persons claiming to be lineally descended from that race or breed. When, a few years ago, the public mind became wonderfully interested in the purported proofs that Rev. Eleazer Williams, who was known to be a missionary among some of the Indian tribes of Canada, was no other than the lost child of Louis XVI., among other evidences offered of the verity of the statement was his great similarity of face, or facial aspect, to the Bourbon Family. It had its weight with a great many persons who happened to know the peculiar looks of that family, whose members have borne so large a share in shaping the destinies and condition of the French nation.

There are families in the United States who are marked by strong peculiarities, rendering it easy for them to be recognized as the descendants of their original ancestors, even though you find them related in remote family branches. One distinguished family, whose ancestors lived in the city of New York, but whose descendants are scattered up and down the Hudson, was known for the peculiarity of their noses. Another, whose most distinguished representative in a preceding generation figured largely in public life and in the politics of the State of New York, is known by the peculiar beauty of the hand. Another family is scarcely less marked by the peculiarity of the walk of its members; another, by the distinctiveness given to all its members, even in the remote lines, when seen in a sitting posture.

These are mere physical characteristics; having, however, something to do with the decision of the question, whether the persons having them are handsome or homely, beautiful or ugly: and as beauty is a thing to be desired, and homeliness or ugliness a thing to be avoided, it may as well be understood that such physical qualities are not things of hap-hazard, but are determined by laws as exact as those which regulate the rising and setting of the sun; only they have to be studied in order to be understood, and to be put in practice in order to come in force. When observation is given in this direction, it is easily seen that physical characteristics are transmitted with great freedom from parent to child; and that the law by which they are transmitted is, that the stronger nature, considered as

a whole, will take the precedence in determining what these shall be.

When two persons contemplate marriage, after having looked out their respective genealogies to see that neither of them is marked by such defects or qualities as not only to render health to their offspring improbable, but to make it quite certain, that, from the time of their birth, they are not diseased, the next point worthy of attention is to see how they stand related to each other in their particular individual qualities, and what is likely to be the effect of a marriage which shall result to them in the production of offspring. I offer, in general terms, the following considerations; not being able to stop to make minute applications of them, but bringing them before the reader, that he may be interested in looking into them, and making his own applications, as his desire or his interest may prompt.

First, persons should be related, not by antagonisms, but by *contrasts;* and the greater the contrast, the happier will be the effect upon the offspring. If the man is of large build in every direction, the woman should not be; for, if she is, their offspring will not be compactly and snugly built, but will be angular and coarse, and rough in their physical developments, and predisposed to diseases of the throat and lungs. Nothing could be more unhappy in its effects upon the children, than to have a man of very large stature marry a woman of proportions corresponding. Scarcely less unhappy would the effect be, as seen in the physical characteristics of their children, were such a man to marry a woman remarkably small in stature, or of feeble nutrition. He should marry a woman of medium size; and, if he is himself very tall, she should not be so, but should make up for her lack in this respect by thickness, compactness, and rotundity of form. In this way, her tendencies to breadth countervail his tendencies to height; and the offspring will be of a medium height, and will have broad, full, and handsome chests, large lungs, and, if not scrofulous, will not have consumption. So if a man, short in stature and particularly given to rotundity, having a large vital temperament, were to marry a short, thick-set, rotund woman, he would be acting very unwisely. Such a man should marry a woman who represents his own peculiarities

only by strong contrast. His wife should be of good height, and not given to roundness. The result of such a union would be offspring of a medium between the two parents, uniting their better qualities, and keeping out of sight their defects: for it never can be said that a short, obese man describes the ideal of a beautiful man; nor does a very tall, angularly-constructed woman answer to the ideal of a beautiful woman. A cross between one of large vital temperament and one of large cerebral development makes a happy *mean* between the two in the offspring, and almost certainly insures the offspring against pulmonary diseases. Now, not to render this illustration obscure by the use of terms which the mass of persons cannot readily understand, I finish it by saying, that I mean by large cerebral development one who has a large or over-abundant nervous temperament; and, by the vital organization, I mean one whose main energy centres itself in his organs of nutrition. A short, thick, large-bellied man is one whose nutritive energies are superabundant; while a tall, spare, angularly-built woman is one whose energies run in the excessive expenditure of her mental force: and two such persons, looking to the production of offspring indisposed to take on consumptive diseases, are constituted rightly for marriage to each other. The same may be said to be true of parties if their respective physical characteristics are inverted; that is, if the man is tall, spare, and angular, and the woman short, round, thick-set, and disposed to take on flesh. Considered in the light of their physical characteristics with reference to the production of offspring with anti-consumptive tendencies, these are parties who may marry. But no such view is generally held by parties contemplating marriage. A tall man falls in love with a tall woman, a short man with a short woman: and they, operating from points of individual preference considered purely with reference to taste, unite their fortunes; and, as a consequence inevitable and sure, their children take on the very worst types of build which their parents unitedly or respectively show, and are born with consumptive diatheses. These come to constitute an inferior race, from which subsequent generations are to be bred: so that ultimately the family becomes extinct, or is vitative only in the

bringing-forth of an inferior class of organisms, marked sooner or later by defective mental and moral, as thoroughly as it is seen to be lacking in physical, elements.

The next point is, that *particular* physical qualities are subject to this same law of contrast. If a man shows himself to have some portion of his structure, or some organs, or class of organs, of a kind that it is undesirable to transmit, then he should be extremely cautious how he unites himself to a woman who has the same developments. The converse is equally true: a woman, being defective, should look out with both her eyes not to marry a man who is like herself in this respect; for, if she does, her own type of build is certain to be carried over to her offspring. Under this rule, then, what possible chance have married persons to have children free from liabilities to consumption, when one parent is actually suffering from it at the time of begetting them? Not a shadow of a chance to escape.

Let one go into a group of persons, for purposes of observation in this particular direction; and scan them individually, with the view of determining how many of them have what may be considered defects in their physical formation, and how many have defects similar to each other. Take the hand, for instance. If he can have an opportunity to scan and compare, he will find very few persons to have what may be called beautiful hands. Especially will he find the fingers defective in their proportions. Thus a majority in any common group will be found to have the ends of the fingers so blunt, as to be nearly as large as they are at any other part of them; whereas, structurally considered, the finger should be largest at the second joint, and from that gradually taper to the end of the nail. So in respect to the relative proportion of flesh and bone: some will be found to have hands so fat, that you can scarcely feel the bone when you clasp them; others, again, will have little or no flesh upon the bone, the whole structure being skinny, with a predominance of bone. So in regard to the arm. Stripped bare, and critically viewed, very few persons have a properly formed or anatomically constructed arm: there is either too much bone and too little muscle, or too much flesh and too little bone; so that a man who might want to sculpture it, or to put it upon canvas, would

have to go over half a country to find a model. It is said that Haydon went into ecstasies, and came very near losing his reason, when he first got sight of the Elgin marbles, because of the extraordinary beauty of the arm which the artist had succeeded in representing through them.

So it is, too, of the feet: very few persons have handsome feet; or, if the feet are handsome, very few have them set upon the ankle after the anatomical line. So of the leg, below the knee: almost all men are deficient just at this point of their structure. So of the leg as a whole, and of the manner in which it is set upon the body; the way in which the latter is done constituting the difference between an agreeable walker, whose motion it is pleasant to behold, and one who shambles over the ground like a pacing donkey. What can be more destructive of all conceptions of beauty than to see a man or woman in motion, walking, who is knock-kneed? And what is more destructive of the like pleasure than to see, presenting to you a front view, a woman whose toes turn in, every step she takes? She may have a face as handsome as one of Mahomet's houris, and one's admiration of her will be at as low an ebb as a peacock's tail is when he sees his own feet.

All this is well, that God has planted in us a love for the physically beautiful; and above all admiration in other directions is that which we cherish for the beautiful in the human form. Where particular defects exist, then, parties contemplating marriage should be sure that those existing in one do not also exist in the other party: and, as a general rule, it is not enough that the negative condition exists; but there should be a positively opposite condition, and this, too, with such a vital temperament, as to make what is desirable the quality more likely to be propagated than what is undesirable.

Under this general view of the subject, any of my readers can make their own application. There is no difficulty about it: it can be settled as readily, to the satisfaction of the party or parties, as any other rule of action whereby success is to be determined. It is just as easy, then, for human beings to have beautiful offspring, to improve their breed, and to have them clear from constitutional susceptibilities or liabilities to

consumption, as it is for them to improve the breed of animals, and so add to their beauty. All that is necessary is to be careful in determining what crosses to make, constituting those lines of union and of separation by which results can only be secured. I know, that, to a shallow-pate, this view may not commend itself. More likely than not it may be said, that, in order to make the matter efficient, one has got to go into the study of physical qualities mainly and chiefly, as one enters into trade, from the consideration of its benefits; that, where any such views are entertained, the sentiment of love can never rise to high action; and that it will be found practically impossible for a man to love a woman, or a woman a man, who should be scanning respectively each other's peculiarities of build, to find out whether, under such union, they would be likely to have beautiful children. To this I reply, that the sentiment of love necessarily depends upon such a decision; we always being attracted or repelled, by the presentation of qualities physical in their nature — in connection with those that are of a higher grade — that are estimable or repugnant, in the persons of those to whom our attention is directed. Every man desires to have for his wife a woman who *to him* is, to say the least, good-looking; and he takes her in as a whole, into a settlement and adjustment of that question. True, he may consent to forego some desirable physical qualities, if thereby he can attain superior mental and moral elements of character; but I doubt whether the man lives, who, looking upon two women, would choose, other things being equal, the one who carried about in her own person what to him were decided physical defects. If he accepts of these, he always does so on the ground of being compensated in other directions: so that this argument is self-destructive. The question of physical beauty enters essentially into the consideration of the characteristics by or under whose presence alone the sentiment of love is ever aroused. If, then, a man falls in love with a woman, because, among other things, she is to him beautiful to look upon, why may he not go so far as to consider, whether he and she are to be so related, when married, as that they will have offspring who will be beautiful or ugly? For the world is by no means deficient in instances

of persons, who have married entirely with reference to their admiration, and regard for each other, who have been so ill qualified to carry over their better physical and moral traits, as to have had their children eminently deficient in what they themselves abstractly desired. Handsome men and women are not, therefore, by any means certain to have handsome children; and, in the department of the higher qualities, this is quite as apt to be true. See if it is not. How seldom is it that a man who is more than ordinarily talented, and who is married, finds himself the father of very intellectual children! The children of extraordinary men are almost always ordinary in all their exhibitions of ability. This happens because the parents did not stop to consider, that however much they admired each other, or however well they might be able to get along together in married life, they were so organized that their defects were such as surely to be carried over to their children; thus presenting an inferior type of build, of beauty, and of character, to that which their parents individually or unitedly show. It is in this way that families are made to run in the descending instead of in the ascending line, and at last, by the great concluding law, to become extinct. I know a married pair who were very distinguished for their individual qualities: decided celebrities they were. Their eldest boy is undergoing softening of the brain, this side manhood; and I predicted such a result when his mother gave him birth.

Another point is,—and I think it of very great importance,—that persons should not refuse to marry simply upon the score of kinship, unless they resemble each other in temperament and in physical aspect or build. I now do not mean to exhibit the extreme view, nor to advocate a traverse of the commonly received and established law regulating intermarriages; but I wish to say, that the force of such law or laws is to be found to exist in the fact, that persons who are near of kin are supposed to be, and may be safely assumed to be, so much *alike* as to render marriage undesirable and unprofitable. I know there is a great prejudice, yet a very loose and dimly defined one in the minds of those who entertain it, against the marriage of relatives; but it is quite possible that such a marriage may be

particularly free from objections, provided the parties represent different strains of blood, or show decidedly different physical and mental characteristics. The idea of "breeding in-and-in" in families is objectionable, when you view it philosophically, simply on the ground that the relationship of the parties indicates similarity of traits or temperaments or aspects of character. If strong contrasts exist, so as to show that the parties thus to be related are as far apart as though they were not ostensibly and actually members of the same family, then there is, in itself considered, no objection to such marriage. The law of the land has established a safe rule, because it is founded upon large and varied experience and precedent; and I am not advocating a violation of that rule. I am only trying to give my readers an insight into the reason for the rule; and, where there is no reason in it, there can be no authority behind it: though, as a general principle, the rule, being established upon right reason and based upon large experience, had better be obeyed in every instance than traversed in all. But take, as an example, what is so universally condemned, — the marriage of first-cousins. If a man proposes to marry his cousin, learned men immediately predict that their offspring will be idiotic, or of a low type. Now, the reason why it is probable that their children will be of a low standard mentally, or of a defective physical build, or constitutionally predisposed to consumption, is not simply because their mothers happen to be sisters, or their fathers brothers, and therefore they are related; but because, their parents being brothers or sisters, and they being thus related, their strains of blood are nearly *alike:* and, where such conditions exist, marriage is estopped by the great vital law, that you cannot carry like to like, to an extreme, without deterioration. Suppose, however, that these parties, being cousins, one partakes of the qualities of his father, and the other of her mother, and the father of the one and the mother of the other are as unlike in all their external build, and mental and moral qualities, as the qualities of a crab-apple are to those of the most luscious peach: pray, tell how they are so related to each other, from the simple fact of their parents' relation, that, if they should unite their fortunes in marriage, their children

must inevitably be foolish. If you were to go over the whole community to which these persons belong, you could not probably find a man for the woman, or a woman for the man, more strongly in contrast than these cousins are. What harm, then, can possibly arise to their offspring from their cousinship, should they unite in marriage? It is always well to go behind an apparent reason for a rule, and see just what constitutes its force.

It may, then, be said as a general fact, and laid down as a general rule, that persons who are near of kin should not marry if they have similarities or likenesses; and that the rule for marriage is, that parties should not enter into this relation who are strongly like each other, whether their resemblances are the result of family relations or of temperament merely. It is therefore quite undesirable, because of the strong probabilities that persons who are consanguineously related will be similar in their elements of character, either of body or mind, that parties near of kin should marry each other. But, as I have before said, the rule goes further than this; and if civilization had reached that point of scientific comprehension to which this whole subject is entitled, instead of defining and limiting its operations by what are called relations of consanguinity, it would have gone further into the subject, and its boundary-line would have been regulated by relations of temperament. However, as I am not in favor of the world's being too much governed, but rather desirous that human beings should have given to them a large share of individual liberty, I am by no means desirous of having such a statute upon our books, but merely wish to have the people become individually intelligent, and then act in view of what they know; so that when persons unite in marriage, and have children, they may feel that they are under the protection of that great law which God himself has established, whereby human beings may live long in the land wherein they dwell, not only happy in social relations, but healthy.

Having offered these suggestions, — for they are only such, — going to show how strong and powerful the element of transmission of qualities, in those who act the part of parents, is, and

to how large a degree they may carry over to their children hereditary predispositions, whether to health or disease, I leave the point to be filled up, as it can readily be, by any intelligent man or woman, in every direction, to the minutest degree: reaffirming my belief, that children can be bred, and improved in all their developments, just as merely animal creatures can be improved by breeding; and that, for want of proper instruction on the part of parents on this question, thousands, and tens of thousands, of children are doomed to die almost as soon as they are born. Of course, holding such views, it is impossible for me to recognize as correct the commonly accepted dogmas as to disease and death. I am utterly opposed to a belief in or an acceptance of them, as embodying truth; for, as I have already said, I am sure that God's providence runs in a direction contrary to these views, and that to ascribe to him or to his direct interposition such results as we every day witness in the deaths of human beings, is not to magnify but to detract from his glorious character, and to render it less worthy of our most worshipful regard.

It may be well to consider here the relative importance of the sexes in the production of offspring, with reference to health, long life, and beauty. The usual view is, that it is of comparatively little consequence what may be the strain of blood or particular conformation of the mother, so that the father be unobjectionable, because of the supposed fact, that the male parent carries into the life of the offspring his own peculiarities, whatever they may be; while the mother subserves a very indifferent purpose in this respect, and, at best, is to be considered only as an agent whereby the life of the infant is to be developed.

I am sure that this view cannot be maintained from any scientific standpoint which one may occupy. It is simply an offshoot of the general prejudice which exists in relation to the sexes, and has no substantial foundation in scientific philosophy. It has been foisted into the department of physiology because of the early influence which religious philosophy exercised in all departments of learning at the revival of letters; and as the notion of woman's inferiority has been, under the influence of religious teaching, carried wherever the sexes have gone, and

she has been made to take an inferior position, scientific men have accepted, without investigation, the view, that, even in the propagation of the species and the production of offspring, she sustains a less influential position than man. Because of the general prejudice which exists in regard to her in all directions where comparison is to be run between her relative importance, rights, and qualities of character, and those of man, she is supposed, in the reproductive sphere also, to hold inferior relations to him. The reflex effects of this prejudice against her have been felt in all the investigations and discussions that have been held with reference to the propagation of animals; those who have had the improvement of the different breeds in charge reasoning and acting upon the hypothesis, that it was of very much more consequence to have high blood running in the veins of the male than of the female. But latterly there has arisen a school whose advocates contend for the opposite theory, — and of this school I confess myself a convert, — believing that, wherever any species of animals is to be produced of the very highest grade of which such species is capable, it is of more consequence that the better blood should run in the veins of the female than of the male parent. This view, however, is predicated upon the hypothesis, that one of the parents is to be, or must be, deficient. It is, of course, all the better that the father should be of high degree, and unexceptionable in form, build, carriage, and air, and should be, when considered with reference to the propagation of the human species, of a decidedly high cast of culture, both as regards temper, and tone of intellect and spirit; but, with all this, it is useless, so it seems to me, to hope for children who shall be healthy or long-lived, or yet who shall be beautiful, — whose *whole* shall be perfect, — if the mothers of them are to be of coarse fibre, ill-formed, consumptive, sickly in body, of a low type of mind, or spiritless. Especially will the children lack those physical qualities which command success, if the mother lacks magnetism in her blood. From the very time of conception to the time of birth, woman has her nature extraordinarily drawn upon, in order to furnish the means whereby vitality is to be secured; and it stands to reason, that the vitality thus furnished must be in large measure of the kind and quality

which she who furnishes it possesses. True, she may be of the lymphatic temperament, and supply to her child or children only the lower types of her own life; and if the father happens to be a man of highly organized structure and of large and comprehensive intellectual and moral character, and if the circumstances in which he is placed at the time of his begetting the child are favorable to the development of his own life, then he may more decidedly and thoroughly stamp upon the offspring his own characteristics than the mother can.

Again: generally speaking, the external conditions and impressions by which the parties are surrounded, and under which they act, at the time of begetment and conception of a child, are more favorable by far to the transmission of the positive qualities of the man than they are to those of the woman; because in every direction, even down to this very deed, society has impressed upon the man his right to perfect freedom of action within the limits of law and propriety; while woman has been impressed with the idea, that, in every direction, her freedom is to be subject to artificial, or at least to qualified restraint, and that it becomes her, *characteristically*, to hold her susceptibilities and powers in check. It is only seldom, therefore, that in this special transaction the woman takes the initiative, and feels herself free to exercise her grand impulses of body and soul in the conceiving of a child. When she happens to be organized with large amativeness and great decision of character, she may do so; but, lacking these, she is more likely than otherwise to be passive, to be acted upon, to receive the advances and embraces of her husband, than to render up the strength of her own outer and inner nature. It is not wonderful, that, under such conditions, the qualities of the male parent should predominate in the children. But make woman as free to exercise her whole nature in every respect as man is, and thus to develop it in positive directions; and then let the parties under the marriage sanction come to the act of creating and begetting a new life: and my warrant for it, that, if they are at all equally qualified for this high and holy sacrament, the mother will have as large an influence in the formation of the child's bodily structure, the determination of the qualities

of its higher nature, and a much greater influence in educating and developing such qualities after birth, than the male parent possibly can have.

Why should she not? Just as soon as coition has ceased, the influence of the male parent ceases. With all that relates to the future of the offspring, the man has nothing directly to do for two years succeeding. True, his relations to the mother may affect the welfare of the child, but it can scarcely have any particular influence in shaping its bodily structure or its qualities of character; but she, from this very act onward, begins to affect these in every conceivable direction. Suppose that she is sick during the whole time of her pregnancy: think you, that, because the child's father happens to be a man of great constitutional force, that therefore this child will have its father's physical stamina? No: the sickness and feebleness of the mother altogether neutralizes this; and the child comes into the world delicate, sensible to external impressions, and requiring constant care to keep it here. Suppose the mother to be unhappy during all this period: because the father happens to be a man of abundant geniality and good-temper, and so related to external life as to get on without any extraordinary trouble, or without being ill adjusted to his business or social relations, think you that the child, notwithstanding its mother's unhappiness, is to partake of the characteristics of its father? An unhappy woman, during the time of her pregnancy, inevitably spoils the temper and disposition of her offspring. Suppose she happens to be of exceedingly low vitality; her nutritive system scarcely supplying the blood, from the food which she eats, in quantity sufficient for the wants of her own body: will her offspring, under such circumstances, be large-boned, big-muscled, *broad-chested*, and of a serene brain? Never. It will come into the world sickly, with so feeble a hold upon life as to render it a matter of great difficulty to keep it from dying. Consumption is written on its little face from its natal cry.

This, then, is the direct presentation of the relative importance of the parties in determining the bodily relations of offspring. Let us reverse the view, and make the father a feeble,

sensitive, sickly man, with his relations to life, in every direction, of an unhappy and unhealthy character; but give to the woman on whose body he begets the child, and who is to be the mother of it, a constitution like an Amazon, a functional life that answers readily to great exigencies, a spirit that knows no fear of defeat, a strength of character that is admirable, moral qualities of the highest order, and a faith which, overcoming obstacles of a common kind, reaches out into the future, and takes hold on God. Place her so, that, during her pregnancy, all favorable circumstances shall be hers; every thing shall concur to make her life beautiful, true, and good; so that she shall not be sorrowful, but joyful; so that she shall not be taxed by undue labor, but only have sufficient exercise to keep her body vigorous; so that she shall have every opportunity for social enjoyment; so that her intellect may range over the whole field of investigation whereunto its tendencies may direct her, and bring to her daily such means of answering its wants as shall completely satisfy her, — place her thus, and what do you imagine will be the respective influence of herself and her husband in determining the relations to health, long life, and beauty of build, of the child or children whom she may bear? Do you imagine, that, because the father is a *man*, the offspring will therefore be like him? Not at all. The mother will have settled that: she will, by the superiority of her own constitution and nature, have counteracted, or greatly qualified, the characteristic want of vigor that the father shows; and the child or children will bear her own likeness. The more certainly, too, will this be done, provided she is related to life, *after* the child's birth, during the period of nursing, as pleasantly as during the period of pregnancy: for a woman possesses intrinsically the power to qualify at least, if not absolutely to change, the bodily conditions of her child, so far as these have reference to health or sickness, by the very states in which she herself may be; provided always that she and the child are permitted to hold uninterrupted communication. If she nurses, dresses, and undresses it, and does whatever of manipulation is to be performed upon its body; holds it in her lap, carries it in her arms, and makes up the sum-total of its wants by the answer-

ing to them of her own efficient attendance and activity, — then the child will necessarily become more or less like her. No matter who is its father, nor how strong the characteristics he may possess: he must expect, at best, to have these very materially changed or affected by the powerful influence which its mother must exert over the development of the offspring; and, whatever may be said to the contrary by those who hold to the opposite view, facts, which are stronger than prejudices, just so far as they have been gathered up, determine and conclude this question in favor of the superior efficiency and influence of the mother in stamping the offspring with her own constitutional tendencies and qualities. Observing men, who, previous to investigation, have not been made the victims of pure theorizing, all readily assent to this view, when they come to examine the facts. It will be found a very difficult task to produce a large man, in all the aspects in which a man may be viewed, whose mother was of a decidedly inferior type in all that made *her* up. On the other hand, great men have uniformly had great women for their mothers. The woman's influence in determining the character of the offspring has been again and again demonstrated beyond all cavil; because of the difference that is plainly discernible in the children of the same family by the same father, but born of different mothers. One of the remarkable instances in this country is that of a family whose members are occupying a large position and are wielding considerable influence, and who are divided by a line, arising out of the fact, that, while on the male side they have had a common parentage, they are the children of different mothers. The difference in the physical build and in the abilities of these two sorts of children is regulated by the confessed difference in the relative ability of the mothers. One such fact as this is worth all the prejudiced presumption which has come down to us for ages.

If this view be correct, how does it affect the main argument? Very materially, I think. One can readily see how important it is that mothers should be women of vigorous and healthy bodies; and that, as a general thing, there can be no hope of avoiding ill results to children whose mothers are of

consumptive constitution, and ill in health, only as such an entire change in all the modes and methods of life common to children is had, so as to make the re-arrangements practically and constitutionally vital. A child, therefore, that is born of a mother, who is, in her relations to health, consumptive, should be taken in its very earliest stages, and brought under the most careful hygienic regimen, which should be habitual and permanent; for by such means only can the tendencies to consumption, which the child shows by reason of hereditary transmissions from the mother, be so far qualified and held in check as to make life either prolonged, valuable, or pleasant.

CHAPTER III.

CONSUMPTION — WHAT IS IT?

THERE are two kinds of consumption, — that which is called "tubercular" or "pulmonary," and that which is termed "mesenteric" or "bowel consumption." As the latter, compared with the former, is of little consequence, it will, in the arguments and illustrations which I shall make with reference to the causes that produce this disease, and the means for its avoidance and cure, be discussed subordinately; inasmuch as, wherever it exists, and is worthy of notice, in its progress to the destruction of the health and life of the person or persons affected by it, it sooner or later connects itself with disease of the lungs: and therefore, in a discussion going to show how pulmonary consumption may be properly managed, due attention to this form of disease will also be had.

In the consideration of tubercular or pulmonary consumption, the first thing which demands attention is, what are the causes that produce it? In the opening argument, I have alluded to the intimacy of relation which exists between parents and children, and which, under the law of predisposition or hereditary transmission of qualities, renders the offspring *liable* to take on the conditions of the parents, and susceptible to the diseases, and peculiarities of constitution, of whatever kind or character they may be, which they show. The extent to which hereditary predisposition may be carried from parents to their children has already been illustrated. I, therefore, stop simply to say, that it is not only true that physical *defects* are likelier than not to be transmitted from parents to children, but that actual diseases of the parents are also quite sure to be transmitted; and that, where these diseases in the parents are only functional and temporary in their influence over their physical structures, they appear in the offspring, not as functional derangements or

temporary morbid conditions, but in the form of constitutional tendencies or habits. Now, among the causes which exist in parents to produce consumption in the children, a scrofulous diathesis, or habit of body, may be, perhaps, regarded of as much importance as any other; and as scrofula has come to be, with the American people especially, a household disease, — showing itself in a great variety of forms more or less efficient, and sometimes of an actually malignant type quite destructive to health, — it is german to the object I have in view to discuss the nature of this disease, and of the conditions imposed and established under it, so that all persons who may read what I have to say may be made aware of the liabilities which those assume, who, being scrofulous by descent or from their own bad habits of living, proceed to marry, and bring forth children. For it cannot be doubted for a moment, by any one who has given proper attention to the subject, and has had opportunities for observation and wide investigation, that of those who die of consumption, whether children or adults, nine-tenths, if not ninety-nine hundredths, are persons who have inherited the scrofulous diathesis, or habit of body, which has, sooner or later, developed into active disease, affecting the nutritive and secretory organs, and, by impairing their efficiency, producing pulmonary disease in destructive measure. In a work written by me, entitled "The Sexual Organism, and its Healthful Management," I had occasion to express my views on scrofula, and the influence which it has in producing disease. More especially, however, was the elaboration of the subject made with reference to the effects upon the organism, the morbid conditions of which were then under consideration. But a full understanding of scrofula — its real nature, influence, and effects in producing diseases of the human body, and especially diseases of the lungs — is so important, that I feel myself justified in a recapitulation of it in this volume; for while I hope that those who may read this work may also read the book which I have written upon the management of the sexual organism, and that those who read it may also read this, it will do them no harm, if, in the perusal of both, they should read the chapters devoted to the consideration of scrofula, and its influence in the direction to which, in

each of them, attention is earnestly called: for scrofula, in its extraordinary exhibitions, has so much to do with the production of predisposition to disease, and of disease itself, in a variety of forms, in the bodies of those who die early, as to render an understanding of it well worthy of the effort that a thorough investigation requires.

The scrofulous diathesis was, in the language of an eminent physician, "no further recognized by the ancients than in connection with swollen external or lymphatic glands; the constitutional vice being overlooked, until the writings of distinguished physicians of modern times directed attention to it, and to a more correct pathology of the disease. More recently, numerous writers have furnished very interesting information respecting strumous affections. Dr. Glover remarks, that a careful distinction should be made between the scrofulous diathesis, or constitutional predisposition, and the actual processes of disease. The scrofulous diathesis may, by the debility or susceptibility accompanying it, predispose to other diseases besides those which are strictly tuberculous; and a distinction should therefore be drawn between the latent or inactive scrofulous taint, and diseases which are not strictly attributable to this taint, and those maladies which are actual and structural manifestations of it."

But Dr. Copland thinks that such distinctions are not easily drawn, and that the descriptions and distinctions thus adduced, together with many others, are loose, and present so many and numerous exceptions, that they deserve, in many particulars, but little credence.

The evidences of scrofulous taint, as they have been described by medical writers, for the most part, are nearly as follows: Lack of symmetrical bodily build; small, weak, or deformed limbs; chicken-breast and flattened ribs; hare-lip; a particular development of the head and face, the jaws being broad and the face angular; the neck quite long, and set on to the shoulders so as to give the head a forward pitch; the head larger than natural, especially in the black variety of scrofula, posteriorly, and, in the light variety of scrofula, undue development of the intellectual organs, especially the reflective; a rounded visage;

alabaster whiteness of skin, accompanied, in children, with a peach-blossom hue of the cheeks, usually mistaken as evidence of extraordinary health, and alluded to by the parents as proofs that their children are constitutionally healthy; though the proofs that they are not are abundant, in the frequent if not habitual illness which they show. In the dark variety, the color is of a dull or dirty hue, sometimes of a waxy yellowness, with a dirty pallor around the mouth. Bluish rings around the eyes are generally seen: and, in the light variety, the eyes are most frequently large, and oftener blue than dark; while the pupils are only commonly large, and the sclerotic coat of a pearly whiteness, traversed by injected blood-vessels. In those cases where the mesenteric glands are affected, the eyelids are often swollen, the eyelashes are long and abundant, the nose is wide, the upper lip is thick and projecting, and the furrow between it and the nose is deep. The general expression of the countenance is indicative of dreaminess; and, in marked cases, of indolence, and want of energy. In children thus marked, the first teeth are small, early become black, and rapidly decay, and are often covered by a glairy secretion; are originally very white, readily split, and become carious in early life; and, when decayed, render the breath so fetid as to be offensive to those who come into close contact with the person having it, and, as a matter of inevitable necessity, predispose such persons to take on diseases of the throat and lungs. The appetite is irregular, — sometimes impaired, and at other times voracious. Occasionally there is a nausea; the tongue is often foul; the breath fetid or sour; the bowels irregular, with frequent flatulent eructations; the secretions acid; and the abdomen large, tumid, and flatulent on percussion. Discharges from the nose are common, and from the vagina not infrequent. The solids are flabby; the adipose and cellular tissues abundant, but soft; giving the surface of the body a full, rounded contour. The limbs are deficient in rigidity and firmness; the tendons are small and yielding; the capsules of the joints are weak, and the heads of long bones are large: hence there is a disposition to lateral curvature of the spine. The ankles and joints are large and ill-formed, and the shoulders are high.

One of the most correct writers on pathology (Hensinger) declares that "the taint consists of, or is produced by, a torpid state of the nervous system; the blood being rich in some constituents, but poor in others. There is abundance of lymph, with large extension of the lymphatic vessels, and marked development of the lymphatic glands."

From the very large opportunities which have been presented to myself for investigating scrofula, and its efficiency in producing pulmonary disease, I have formed conclusions of my own as respects the physical conditions which it creates, and the constitutional aspects and morbid symptoms which it shows. So sure am I of being able to determine where it exists, that I do not need to make any inquiry in a given case as to the family ancestry or contemporaneous relations of the subject under examination. The external signs are so numerous and marked, and so certainly to be relied upon, that one who has become expert in the examination of morbid conditions of the human system can decide a scrofulous case without any hesitancy; and, if he or she is intuitively sagacious, may really forecast the periods when predisposing causes will become developed into actual disease. Among the peculiarities of the scrofulous diathesis which persons having it show, I have been led to observe, that the physical and intellectual powers of scrofulous *children* are usually precociously drawn out; though an inability to sustain prolonged exertion, either of body or mind, is attendant. While children of such habit are, therefore, found to be smart and brilliant, — learning easily, and making rapid progress, — they constitute that portion of the school to which they go, who are, oftener than the rest, kept at home by reason of illness, and who, from want of power of continuous exertion, make progress in knowledge no more rapidly than those who are less gifted intellectually, but who have more endurance. So of occupations involving manual labor. Scrofulous children, as well as adults, are active, quick, conceive readily, comprehend conclusively, and, to a certain degree, carry out efficiently: but their want of power to *endure*, affects them so seriously as to break down any thing like long-continued or permanently arranged plans of exertion; and they therefore accomplish no more, if as much, as do those, who, less gifted than

themselves, can pursue their labors with steadiness and persistence.

As there are two varieties of scrofula, the light and the dark complexion, the color of the hair is very variable. Among the English and Italians, strange to say, it is found to be mostly of the dark tint; while of the French and of the people of the United States the majority have light-tinted hair. Mr. Phillips, a distinguished English surgeon, says, that, of nine thousand scrofulous children, he found only a little over thirty-two per cent having light hair and eyes; the balance being of a dark hue. Other writers have found a larger percentage having light hair. Barthez and Rillie state, that, of three hundred and fourteen children who were scrofulous, the hair was fair in a hundred and fifty, red in four, chestnut in seven, black or dark in forty, and not observed in forty-nine.

Dr. Glover says, that, of a hundred and twenty-six cases, eighty-six had light hair and eyes, and forty were of a dark complexion; and that, in some work-houses which he visited, out of a hundred and forty-four cases, ninety-seven had a light and forty-seven a decidedly dark complexion.

Now, assuming that pulmonary disease, which we term consumption, arises from the presence of tubercles in the lungs, and is created by their softening under the operation of causes that lie in the general habits of the persons so affected, the question arises, how far tubercles are dependent upon scrofulous conditions of the blood, or upon a predisposition of the structure at large to take on depraved conditions. I am satisfied that scrofula lies at the foundation of a very large proportion of those pulmonary affections, which, though modified in form, may properly be termed consumptive, and which result in such disorganization of the structure of the lungs as to render long life impossible; and, whatever may have been said to the contrary, I feel justified in making the assertion, that there are few families, whose ancestry dates back to the period of the original settlement of this country, within whose membership persons are not to be found affected with scrofulous habit of body, and predisposed thereby to take on some of the forms of disease to which scrofula predisposes those who are affected by it. I should no

more think of entering into the marriage relation, were I free to do so, without taking into account the question, whether the woman whom I married was of a scrofulous family, than I should of failing to take into account the question, whether, by family descent, she was especially liable to become insane. To the extent, therefore, to which a scrofulous habit of body prevails among our people, especially among those of New England, and of the North-west who are of New-England descent, do I attribute a greater percentage of deaths by consumption than to any or all other causes; for, bad as our methods of living are, taken as a whole, they should not result in disease of the lungs to such a degree as to increase the number of those who die of consumption in so large proportion over that of those who die of other diseases. Except there exists among the people of the United States a predisposition, scrofulous in its nature, to take on diseases of the lungs, there is no reason to be offered for the greater prevalence of consumption than of any other disease; and when the thing is scanned with sufficient closeness to get at the actual facts of the case, so as to include within the bill of mortality the little children or boys and girls who die of diseases that originate in scrofulous conditions of the blood, we may reach a point of enumeration which shall justify us in the declaration, that a majority of all those who die of disease in the United States die from causes having root in their constitutional scrofulous habits.

After all that has been written on the subject, there is comparatively little known of the structure of scrofulous and tubercular matter. Medical writers, who have given close investigation to the subject, say that scrofulous or tubercular matters are peculiar morbid formations, the product of altered secretion and nutrition of the parts containing them, arising independent of inflammation; and, though frequently associated with a modified state of inflammatory action apparently induced by these morbid products, that such formations are different from the products of ordinary inflammation occurring in a previously healthy constitution, as well as different from the formations of matter in other morbid growths, as in scirrhous and morbid tumors.

It is said that scrofulous matter, or deposit, presents various

appearances, according to its stage, its seat, and the state of the surrounding tissues; yet it is essentially the same at each of its stages. Whether in a scrofulous external gland or in an internal organ, it varies chiefly in grade or stage in the successive changes which it undergoes. When scrofulous or enlarged superficial lymphatic glands are seen and examined, the difficulty is to settle the quality of the changes which take place at the early period of the disease. One witnesses the steady growth of a scrofulous gland, sees its increased size, and is puzzled to tell just what causes the enlargement. Some persons think that it arises from increased vascularity; but it seems to me to be owing to tubercular infiltration making morbid deposition. Though celebrated writers differ entirely from this view, I feel myself justified in speaking of the matter as scrofulous deposit, and in saying that it is infiltrated into the tissues of the gland, thus increasing its size. Tuberculous matter, then, may be infiltrated into the tissues of a gland, organ, or part. Sometimes traces of these tissues may still be recognized in the tubercular mass. It is only in such cases that any appearance of blood-vessels can be traced; the vessels being merely those belonging to the infiltrated tissues. In other cases, the tissues, being more and more compressed by the increase of the tubercular matter, cease almost or altogether to be distinguishable, and nothing is to be found but a homogeneous mass of this matter. In some instances, the mass is isolated from the surrounding parts, and a covering, or cyst, becomes formed around it as is formed around pus or any foreign body. Here there is a close analogy between the formation of pus and tubercular matter, either of which, being infiltrated into the tissues of the part in which they are found, afterwards becomes isolated by impacting the tissues around them into a cyst. Kingston, Thompson, and Argol infer, that, when a lung contains gray granulations isolated from one another, an injection penetrates easily by the bronchia and by the pulmonary arteries and veins; "and that the vascular network which surrounds the granulations communicates necessarily with the pulmonary artery, and probably with the vein." However correct this view may be, it is of no particular consequence to the general reader.

"The tubercular deposit, no matter where it may be located, is to be regarded as a tumor, varying much in size, — ranging from that of a small pin-head to that of a butter-nut; and, in color, of a grayish or half-translucent hue or a whitish yellow; is commonly round in form, and, before softening, quite firm; but, when transformed, shows matter consisting of masses of curd mingled in a sero-puriform fluid." When the tubercle is changed into this state, it establishes or creates an ulcerous cavity, extending more or less rapidly in every direction; though it sometimes remains stationary for a long period, and, once in a great while, becomes covered by a fibrous lining, and the edges around it become cicatrized.

The growth of tubercles has been accounted for mainly on the ground that the formation is a morbid secretion, which, having begun, continues to extend itself; the deposition of its particles, being separated from the blood, increases; until, as has been stated, their size is from that of a pin-head to that of a butter-nut. As to the cause of their softening, or what is called by medical writers "their puriform transformation," this is supposed to arise from the fact that they are foreign bodies, and so act on the surrounding tissues as to force from them a secretion of serous fluid. This, Dr. Copland thinks, is the true explanation, and that, mingling with the tubercles, it divides them mechanically, and changes them into the state usually termed that of "softening." This matter, being once secreted in an organ, serves, after a while, as a source of irritation to the vessels of the tissue in contact with it; and the consequence is, the effusion of a fluid secretion, which breaks down the tubercular matter. The semi-fluid matter thus formed tends to perpetuate and to increase the irritation of the surrounding tissues, and necessarily leads to a solution by which a way is opened for the escape of the tubercular matter, as in the case of a foreign body; and, even after this has been accomplished, the morbid process excited in the surrounding texture generally continues. After the expulsion of the tubercle, the process of suppuration may continue, the same cause that produced the tubercle before may produce it again, and the same process which eliminates it may contribute to a renewal of its formation: so that, far different

in this respect from a foreign body introduced from without, the tubercle may be indefinitely re-created simultaneously with the pus destined to produce its discharge. In rare instances, tubercles, instead of being softened, acquire unusual hardness, and are transformed into a firm, gritty mass, in which a considerable quantity of carbonate and phosphate of lime is found, upon chemical analysis. These salts likewise exist in the softened as well as in the early stage of tubercles, but in much smaller quantities. The transformation of a tubercle into a harder substance seems to proceed from an absorption of a portion of the matter of which they chiefly consist. The cretaceous transformation occurs most commonly in those cases where tubercles have long ceased to exert any hurtful influence on the constitution; this being the reverse of a purulent transformation.

Dr. Copland says, "A young man, about twenty, evinced symptoms of incipient consumption, or phthisis; for which he was recommended to visit the Mediterranean. After being abroad for several years, he returned to London in a tolerably good state of health. I attended him, some time afterwards, for an attack of acute bronchitis, during which he expectorated two or three cretaceous masses, evidently transformed tubercles. He recovered, travelled abroad, returned again, and continued, for a considerable length of time, in apparent good health. He was afterwards attacked, about twenty years subsequent to the appearance of phthisical symptoms, by an acute disease, of which he died. Upon examination, a considerable number of cretaceous tubercles were found in the lungs, which were not otherwise much diseased."

From personal observation, I have come to the conclusion, that the popular impression, that the blood, in scrofulous subjects who have pulmonary consumption, is of an impurer quality than it is in healthy constitutions, has much truth in it. Most manifestly it is deficient in some of the constituents that make up healthy blood; and the reason of this may be found in an imperfect formation of chyle, as well as in other varied and efficient causes, which I shall proceed to consider in their order.

Dubois says that the blood of scrofulous subjects coagulates

slowly; the clot is soft, small, and bifluent; the serum thin, and of a reddish color; and, under the microscope, the corpuscles appear devoid of color, and are flattened. Hence he infers that a deficiency of salts in the blood of scrofulous persons exists.

Mr. Phillips says, that, in every case in which he examined the blood of scrofulous subjects, the coagulum was relatively small, and the serum large; the clot being unusually soft, and tolerably firm in only a few instances. In most cases, the proportion of globules was considerably under the healthy standard.

Dr. Copland says, that, as far as his observation has extended, "the blood of scrofulous subjects shows a deficiency of red globules, and an increase of albumen. I have never known of any diminution of the salts that belong to healthy blood, though the fibrine is varied with the state of vascular action; and as scrofula becomes more and more chronic, and suppuration or ulceration takes place, the blood becomes more watery and poor, and the red globules diminish."

I think that most scrofulous persons will be found, upon examination, to suffer from deranged states of the gastric organs, and to show disordered secretions; and that, wherever scrofulous and tuberculous affections are to be found, there are also to be seen changes, of greater or lesser degree, in the gastro-intestinal secretions. The organic nervous energy, upon which nutrition, secretion, and assimilation chiefly depend, cannot but be much impaired in scrofulous constitutions, and so there must be a co-ordinate impairment of the digestive function; for as this energy becomes weakened, and the blood, owing to impaired digestion, becomes thin, it follows inevitably, that the signs of such disorder will appear under very slight causes.

As to the comparative frequency of tuberculous manifestation in the lungs, a good deal of interesting information has been gathered up by medical men, some of which may not be uninteresting to relate.

M. Louis, a celebrated French physician and surgeon, found, in three hundred and fifty-eight adult subjects (leaving the lungs out of the calculation), tubercles in the small intestines

in one-third of them; in the great intestines in one-ninth; in the mesenteric glands in one-fourth; in the cervical glands in one-tenth; in the lumbar in one-twelfth; in the prostate gland in one-thirteenth; in the spleen in one-fourteenth; in the ovaries in one-twentieth; in the kidneys in one-fortieth; in the uterus in one case only; in the cerebrum in one case; in the cerebellum in one case; and in the ureters in only one case. There was no account taken of their occurrence in the testicles or in the bones, neither of which is uncommon. He found only one case in which tubercles existed in other organs, without being seen in the lungs also.

M. Andral says that his observations as to the relative frequency of tubercles in the different organs of the body have assumed nearly the same order as given above, except that he has found, in more cases than M. Louis, tubercles in the other organs of the body, without detecting them in the lungs.

Tubercles in children more frequently affect a number of organs at the same time than they do in adults; and they occur more frequently in this class of subjects in other organs, without being found to exist in the lungs also. In a hundred young subjects, M. Lombard found tubercles in the bronchial glands in eighty-seven cases; in the lungs in seventy-three cases, in thirty of which only one lung was affected, — namely, the left in thirteen cases, and the right in seventeen cases; in the mesenteric glands in thirty-one cases; in the spleen in twenty-five cases; in the kidneys in eleven cases; in the intestines in nine cases; in the nervous centres in nine cases; in the cervical glands in seven cases; in the membranes of the brain in six cases; in the pancreas in five cases; in the gastro-hepatic glands in five cases; in the lumbar glands, in the sub-mucous tissue of the bladder, in the omentum, parietes of the gall-bladder, and in the false membrane of the pleura, in one case each. It may be remarked, that tubercles were not found in the liver in a single case; and that, of all the cases of adults, the liver was found to contain tubercles in one only.

M. Papavoine found, in fifty children in whom the seat of tubercles was ascertained, forty-nine to have them in the bronchial glands, thirty-eight in the lungs, twenty-six in the cervical

glands, twenty-five in the mesenteric glands, twenty in the spleen, seventeen in the pleura, fourteen in the liver, twelve in the small intestines, nine in the large bowels, nine in the peritoneum, five in the brain, three in the cerebellum, three in the cerebral membranes, two in the kidneys, one in the pancreas, and one in the stomach. In ten cases, tubercles were found in the bronchial glands, without being found in the lungs. In the instances enumerated, it will be seen that tubercles were found to be more frequent in the bronchial glands of children than in the lungs, while in adults the proportion was much greater in the latter than in the former organs. In children they are seldom met with in these glands, without being seen in the lungs also; but in adults they are often found in the lungs, without there being any in the glands.

As to the relative frequency of tubercles at different periods of life, without reference to the organs in which they are seated, the following inferences may be adduced: First, tubercles are very rarely developed in the fœtus, though instances have been found where they appeared in the lungs of those whose mothers were suffering from consumption during the period of gestation. During the first months after birth, they are likewise rare. In my own practice, I have found that they are to be considered as quite frequent in scrofulous children, from the age of nine months to that of five or six years. I am certain that a larger number of organs will be found to be affected by tubercles at the age of four or five, than at any earlier or later period of life. From close observation, I am of the opinion, that these tubercles begin to form at or about the period of teething or weaning, and that the change which is made in the diet of children at that time has much to do with this result. I am happy to be sustained in this view by distinguished physicians, only one of whom I will now quote. Dr. Copland, in his "Dictionary of Medicine," says, "I believe that these tubercles begin to form about the period of dentition or weaning; the change which is then made in the diet of infants being the chief cause of their formation. The physician at the Hospital for Sick Children, at Paris, found in four hundred of them under fourteen years of age, who were afflicted by tubercles, seventy-

three under two years of age, sixty-four between two and three, forty-six from three to four years, thirty-five from four to five, thirty-two from five and six, and eighty above six years of age.

When children become adolescent, or when they reach puberty, tubercles are more frequently found; but their appearance is confined to the lungs, though they are seen sometimes in the intestines and in parts of the lymphatic system. The question here arises, whether or not this frequency occurs from sources of exhaustion coming into action in the development of the reproductive organs. Some writers think that it does. According to one, boys are particularly subject to their appearance between the ages of fifteen and twenty-one, and men between the ages of twenty-one and twenty-eight; while girls are subject to them from the time the menses appear up to the time of marriage, say at or about twenty. After this period, they are much less frequently met with in women until from thirty-eight to forty-five years of age, and in men from their fortieth to their fifty-fifth year. Now, if one will but stop long enough to pass out of the common highway which runs by the graveyard in his village, and go in and examine the ages of persons who lie there buried; or if he will take pains to keep a record of the ages of those who die in the community in which he lives, for a length of time sufficient to justify him in drawing conclusions from the data which he may gather, — he will find this fact to be true, that the larger proportion of those who die range within the following ages: infants, from the period of their birth up to two years; children, from four to six years; girls, from eleven to fifteen years; boys, from fourteen to seventeen; women, from eighteen to twenty-five; men, from twenty-two to twenty-seven; women, from thirty-five to forty-five; men, from forty to fifty-five; women, from fifty-five to fifty-seven; men, from sixty-two to sixty-five. When there appears to be no difference in the ratio of deaths between the sexes in proportion to the whole number dying, the diseases of which such persons die will be found, upon examination, to be of a pulmonary nature, involving diseases of the lungs: so that there would be a good degree of truth in the affirmation, were one to make it, that they die of consumption. It is not, therefore, at all

difficult for any one, who gives himself up to an examination of the causes that operate to produce disease and destroy life, to forecast with a good deal of certainty about how long persons of scrofulous habit will live. True, the causes that operate to kill are varied in their intensity and efficiency. The constitutional vitality may have much to do with determining this question; but then a shrewd man can readily range these countervailing or counteracting forces, so that he may form, not merely a passable judgment, but one so shrewd and determinate as to acquire thereby great reputation as a skiful prognosticator. In numerous cases has it fallen to me to prophesy, as the phrase is, at or about what time, casualties and accidents aside, such and such persons would die; and my statements in this respect have proved so correct, as in many instances to puzzle a superficial thinker and observer, and lead him to suppose that I was gifted in a way not particularly orthodox. If I were set down in the centre of a congregation of persons ranging from five hundred up to a thousand, I believe that I could, if sufficient time was given me, pick out every scrofulous person; and that, if opportunity were given me to judge on a scale broad enough to include those exhibitions of activity and character which are natural and habitual to each, I could decide the length of time that he would be likely to live, unless some extraordinary causes should intervene, either to prevent sickness, and preserve his life or to destroy it, — so as to satisfy those who should witness the process, that laws do exist, a knowledge of which will enable one to determine such a question with a very good degree of exactness. I believe also that I could do more than this, — that I could determine with almost infallible certainty at what points in the system tubercles were already formed; in what organs they predominated; and taking into account his temperament, and style of build, with the morbid conditions under which the system labored, could determine, extraordinary influences and causes aside, of what disease he would die. So certain do I feel of being able to arrive at a correct knowledge and to form correct conclusions therefrom, that I do not hesitate to say to those who come to me to be examined, "You are scrofulous; you have tubercles, already located here or there, as the

case may be; and with your present habits of living, and modes of spending power, you will, casualties aside, live two, three, five, or seven years, as the case may be, when this or that or the other disease will spring up in you, and prove fatal."

As to the relative liability of women, compared with men, to have tubercles formed, and ultimately to have, in consequence, diseases of which they die, as far as my observation has gone, I regard it to be very much greater in them than in men; not by reason, however, of their greater susceptibility to such a creation by reason of their sex, but on account of their habits of living: all physicians concurring in the statement, that tubercles may be created and formed and lodged in the different portions of the human body by reason of the subject's bad habits of living; and that, among the things which tend directly to establish scrofulous conditions, are to be reckoned the want of pure air, and of healthy food and proper exercise. Women are more unhappily placed, in respect to these, than men: they live, for the greater part of their lives, in houses, the walls of which are made with particular reference to the exclusion of air; their duties involve them in less active pursuits, and their food is generally less healthy than that of men.

It will readily be seen, by the quotations which have been made and the remarks which have accompanied them, that pulmonary consumption is dependent largely for its prevalence upon scrofulous conditions of the system; and that it is vain to hope, that, while scrofula is so prevalent with our people as it at present is, the development of consumptive diseases can be prevented, or that, when developed, they can be cured to any great extent. Means that are to be efficient, then, in the prevention of consumption, must obtain to prevent the existence and the spread of scrofula: and, if this view is correct, we are set back to the point at which this argument started, — that, in matters relating to the health of our people as bearing upon their *consumptive* tendencies, reference is necessary to the great laws of reproduction; and that those who wish to have children who shall grow up healthy, and live to old age, must be careful that they are not constitutionally scrofulous, or, if they are so, that they grow up under a regimen and a management

altogether different from that which is commonly advised and practised by medical men in such cases. I regard — and I am sorry to be compelled to say it, but it is so true that I cannot forbear its utterance — I regard the ideas prevalent among medical men, as respects both the prevention and cure of scrofula (and, of course, of consumption), to be so essentially erroneous, as to merit no consideration whatever on the part of the people, unless it be that which arises from distrust.

CHAPTER IV.

IMPAIRMENT OF THE CONSTITUTION BY DRUG-TAKING.

It would seem, that in just the degree to which, from causes that originate in the ill habits of their ancestors or in their own personal ill habits, men and women are made sick, they are given over to the feeling and belief that remedies for their sicknesses must be composed or compounded of substances, which, if taken into their systems when in good health, would make them sick. In my work entitled "The Sexual Organism, and its Healthful Management," I have devoted a chapter to this terrible delusion; for it is a delusion, and one, too, of a most widespread and fatal character, killing millions of the human race every year. For whatever may be the diseases that afflict mankind, arising from causes unhygienic in their nature or from causes springing out of governmental interference, — such as exposure to loss of life by war, on sea or on land; to lack of proper sanitary regulations in towns and cities; to want of proper care in all directions where official service is claimed, — the proportion of deaths from all these to the whole number of persons dying is not so great as that caused by drug-medication. A distinguished writer has said, "that war, pestilence, and famine never killed as many human beings as have been put into untimely graves by the lancet." And, in my judgment, he did not speak hyperbolically, though it may be said that he spoke somewhat symbolically: for the lancet, in days gone by, was really the representative of the whole process of medical practice; there never, perhaps, having been, till within the last thirty years, a half-dozen men living in civilized countries at the same time, who were seized with acute diseases, who were not bled, and at the same time dosed with internal medicines of the most poisonous and deadly kind. Twenty-five years ago, it was as common for a physician, when called to the bedside

of a sick man, to prescribe some medicine to be taken internally at different hours of the day, — which medicine was a poison so deadly in its kind, as, had it been taken by a man in health, would have made him severely sick, — as it was common for such physician to bleed his patient under any inflammatory diathesis or condition of the blood; but now, while bleeding has passed somewhat into disuse, if not into disrepute, the practice of poisoning sick persons still remains, and is regarded by doctors as necessary to the recovery of their patients, as the presence of doctors is by the persons who employ them. So both physicians and patients are resting upon the same false basis, and are pursuing the same false course, in respect to the treatment of the diseases with which mankind is afflicted: the difference between the two being, that the physician takes the initiative, and is active in the administration of his poisons, while the patient is passive, and becomes the subject of such administration; the understanding and agreement, as to the course to be pursued, being mutual and complete.

Now, what can be done to arouse the masses to a distrust of this course, and to an understanding of one far better, safer, and more successful, I am not prepared to say, further than that I am not entirely without the hope, that a fair and free exposure may quicken some of my fellows, who may read what I have written, to a desire to know just wherein the falsity rests, upon what it subsists; and that in it there is no intrinsic strength, and therefore no groundwork for an intelligent, faithful, or successful practice of it. Of all the diseases of which men, women, and children die, perhaps there is none in which there is so little ground to resort to the administration of drug-remedies as in pulmonary consumption. The disease is a constitutional one in most cases; and, in the process of its development, reaches stages where it is organic in kind, and where, therefore, all hope of continuing life must necessarily come to be dependent upon the slowness with which the life-force is used, and the destructive changes in the organs particularly affected are made. To lessen the sum-total of vital energy, then, in any given case, by the administration of poisonous medicines, is as surely to *kill* the patient as it would be to let out his blood by drops from an

opening in his veins made by a lancet; and just in proportion to the degree of rapidity with which, under such medicinal administration, vital energy is used or expended, will changes that are organically injurious, in the lungs or any organs that strongly sympathize with the lungs, be made, and, as this is done, will the death of the patient be hastened. He would be considered a very poor physician in the treatment or management of cases of consumption, who should not only recommend to, but enforce upon, the person or persons under his care, the breathing of impure air, the wearing of insufficient apparel, the eating of unhealthy food, indulgence in sexual excess, or the inducement of exhaustion by long-continued physical exercise; and, were a physician to suggest any of them to a consumptive under his management, the good sense of the patient would at once detect the impropriety of the course advocated, and the physician would be dismissed as incompetent to the position he occupied, and another would be employed, whose judgment was more to be relied upon.

Why impure air, improper clothing, insufficient or unhealthy diet, or exhaustive exercise, or all these together, should be considered as unfriendly to the recovery of a consumptive, or as decidedly destructive to his health, I am unable to say, if, at the same time, it is fair to regard the administration of poisonous drugs as curative, or even as innocuous. If the effect of impure air or of unhealthy food is to deprave the blood, and of improper clothing and exhaustive exercise to derange and disturb its circulation, then I do not see wherein the security rests against the effects of medicinal preparations taken into the system, which, by their very nature, are calculated to produce the same results. A cathartic deranges the secretions and disturbs the circulation, as much as going without proper clothing, or exercising too much, could possibly do; and an opiate actually so affects the nervous system as necessarily to disturb the conditions of the nutritive and secretory organs, so that, as a result, very great changes in the blood itself must follow. And it may with truth be affirmed, that, directly or indirectly, no poison *can* be taken into a human body, — unless it is administered for the purpose of forming a chemical union

with some other poison already existing there, by which union neutralization of the two shall take place, and so relief be had,— without causing, by its presence, such disturbances as are positively or indirectly injurious to life and health; because, vitality in consumptives being always more or less enfeebled, constitutional and functional impairment must necessarily follow, in every case, the administration of poisonous remedies.

The wickedness of administering drug-poisons, therefore, will be better understood, when it is remembered that only a very small proportion of those who might die of consumption, have, at any given time, the disease positively and actually developed. It exists, if I may say so, in embryo. The constitutional conditions are all present, and more or less active; but the morbid states are to be created under habits and methods of life that are in their very nature disease-producing: so that while it is actually true, that though a person may be constitutionally consumptive, yet, by pursuing the proper methods, such person may live to old age, and die thereof, never having had the disease actually developed, if wrong measures are taken and wrong means used, the disease will become actively developed, and cause death far this side of old age. My objection to drug-medication, therefore, for the treatment of all diseases, and particularly for that of pulmonary consumption, is of a twofold character: first, that it changes the order of the expression of the life-force, making that positive which otherwise might be only predisposing, changing the constitutional relations to life so that these shall be morbidly active; and, second, that it *fixes* such a constitutional predisposition, that it cannot, by any means that afterward can be brought into use, be overcome. All poisonous remedies — no matter what they may be, nor how highly they may be characterized as efficient by medical men — are objectionable on one of these two grounds; and I am quite sure, that, of all the causes which operate to the development of consumption in persons who are constitutionally predisposed to it, no one of them, nor all of them put together, are so potent as this of drug-medication. Were a child of mine constitutionally scrofulous, — and therefore necessarily and inevitably related to consumptive disease, — I should as soon think

of putting it through daily processes of partial strangulation, by tying cords around its little neck until its face was black, with the hope of thereby overcoming its susceptibilities to this fatal disease, as I should of feeding it daily, triweekly, or semiweekly, with the remedies usually prescribed by the doctors. I know how widely prevalent is the popular belief in the efficacy of such medicines: I know too, as I have before said, that three-fourths of those who die have a constitutional consumptive diathesis, not always developed in the direction of pulmonary disease, but either in this way, or in the direction of diseases that hold close kinship to it, and which happen to be the predominating and overbearing manifestation, simply because of the intervention of extrinsic influences determining the morbid conditions to other organs rather than to the lungs. Great numbers of persons die of derangements of the stomach, liver, kidneys, bowels, and brain, who, but for the intervention of particular causes, would eventually have died of consumption, from the simple fact that constitutionally they were scrofulous, and predisposed to take on diseases of the lungs under any thing like unfavorable circumstances. These happening not to be provocative of lung-diseases so much as of diseases of other organs, such organs were first affected; and, in the natural order of disease, the person or persons died.

There is not a medicine in the *materia medica* that is prescribed by physicians, nor outside of it that is prescribed by quacks, which, if given to a well man, would make him sick, that is not *deadly;* and, by deadly, I mean destructive in its effects upon the life of a person who is constitutionally or actually consumptive, if he takes it. I make no exception to this statement. I care not where you go for the remedy, nor by whom prescribed, nor under what conditions it is administered. Any substance, which, if given to a person in health, will make him sick, must, in the very nature of things, make one, who is sick, sicker; and if anywhere there is a substance, which, given to a person constitutionally predisposed to consumption, would develop pulmonary disease in him, by a law that is as imperative as God can make it, such substance will only add to the diseased conditions which a person already laboring under con-

sumption must pass into, if he takes it: for nowhere can there be found a substance, in its nature poisonous, that can be used remedially, except under the operation of chemical laws. Tubercles in the lungs, whatever may be the constituents that make them up, never have one or more of these of such a nature or kind as to permit of chemical union between them and any poisonous remedy that may be administered by physician or quack with the view of producing healthy changes: and unless you can bring the remedial action within the range of chemical laws, and so produce such chemical changes as to alter the constituents of the blood or of the tissues, you cannot hope to introduce into the organism any substance in its nature poisonous, without having the legitimate effect of such substance produced upon the structures which it reaches; and this effect is always to kill, and not to cure. It is quite true, that changes are made by such administration; but they are always changes for the worse. As, for instance, administer to a person, laboring under pulmonary disease, a given poison, and thereby apparently mitigate, or change for the better, his symptoms: you do this, necessarily, only so far as you involve other structures in the process; and, in deranging them, you decidedly lessen the chances of your patient for recovery. It is not by any means a good principle to seek to create additional derangement of the stomach in order to overcome morbid conditions of the lungs, because such a thing is practically impossible; God never having arranged the life-forces in a human being so that one organ can be ultimately benefited at the expense of another: and hence the fallacy of treatment based upon such an hypothesis. No given disease is ever cured by creating another disease in its place, without the change from bad to worse. Whatever may be the *apparent* beneficial effects produced by such a course for the time being, sooner or later it will result in more extensive morbid complications than those which originally existed. The result of such a course may be seen only in the conclusion of a life, after years of such miserable practice; but it must come sooner or later, and the rapidity with which it comes will be according to the degree of involvement and the feebleness of vital resistance.

It is not, however, from the curative point that I wish just now to present the impropriety and inefficiency of drug-medication, but from the effect which such administration has upon consumptive constitutions in the way of vital impairment. Every human being comes into this world with a definite vital capability. This may or may not be wrought up into actual capacity; and that it is not so wrought up in one case in five thousand is perfectly obvious to the thoughtful observer. Men, women, and children live for years with immense forces in their systems undeveloped, and therefore of no use; and die in great numbers, without ever having brought out their force *in reserve*. Like the heat which is latent in a bar of iron, and which is only discoverable by the iron being subjected to a given process: so the life-energy in human beings lies unused, because they know not that it exists, or how to draw it out; and it is, therefore, of no more service than if they did not possess it. Or if this view is not readily perceivable, then the converse is certainly true, — that, with a given quantity of life-force, this is so directed and spent as to amount to unthriftiness and actual squandering; numbers appropriating it for particular purposes, and in such unnecessary and ruinous measure as to bring themselves down to their graves before they are fairly matured.

There is such a thing as living *fast* and dying soon; and this is the habit of our people. Among the influences that determine this matter, this of drug-medication is a very potent one. Let us look into the practice a little, and see just what its history in the treatment of consumption up to this time has been, and whether it has not been so far lacking in good results as to justify criticism; and whether, also, there has ever been known, to the medical faculty of any school, any remedy, which, in its ordinary effect on the human system, is poisonous, yet which, in its effects on persons laboring under consumption, has been so recuperating and renovating as to make it reliable. I do not recollect a single substance, however highly it may have been lauded by those who were for a time its advocates, that has not at length gone into disuse, by reason of its insufficiency and inability to meet the conditions which were prevalent. So true is this, that no remedy, I believe, has lasted the length of a

single generation; while many of them which were recommended with great fervor and enthusiasm at first have not preserved the public judgment in their favor for a period exceeding a year or two.

If this be so, then most assuredly the fact goes to substantiate my original averment, that faith in poisonous medicines is based upon an entire misconception of the relations which the organism holds to agencies that are disease-producing; and that the idea, that deadly agents can be made life and health sustaining, is to be characterized as utterly delusive, and productive only of the most thorough disappointment, and not infrequently of the deepest sorrow. Confessions to this end by medical men are thick as autumnal leaves, and could be adduced in such frequency and to such extent as really to make up a respectable sized volume.

Among the medicines recommended by physicians for the treatment of tubercular consumption, mercurial preparations have held, and do still hold, high rank; though for what reason they are given, I am unable to comprehend. I know their *supposed* value; but this gives way, whenever, from any cause, an examination is made of the grounds upon which such supposed value depends. This would be of small moment, provided their uselessness was the chief consideration to be regarded; but it is not. They are not only unreliable and untrustworthy as remedies, but they are in the highest degree injurious to the constitutional vigor of those who take them, and are always productive of more or less extended derangement of the visceral organs; breaking down their natural action, and lessening their vigor to a degree that is alarming. It is asserted by medical men, that pulmonary consumption often depends upon or grows out of deranged conditions of the liver. Assuming this hypothesis to have weight, — and I am sure it is entitled to it, — what is often seen to be the effect of mercurial preparations upon the liver? One cannot take a single dose of calomel, without having the liver wrought up to extraordinary action, to be followed ultimately by corresponding inaction; and this, being the effect of the medicine taken, only creates in the patient's and physician's minds a necessity for a re-application of the same means as

before. Thus there are established, in a short period of time, such abnormal conditions of this very important organ, as to render artificial means, and these of the *worst* kind, actually and positively necessary to the production of the most ordinary effects, which, in its material state, the organ is constantly manifesting. There can be no worse conditions of the liver of a human body than those which exist when the secretion of the bile from the blood by it comes to rest upon the presence of a poison taken into the circulation, whose effects upon that structure are so deleterious as to *force* it to exhibit its efficiency in an unhealthful way. For, as I have before stated, all extraordinary vital action must necessarily be followed by a corresponding depression; or, if no such depression ensues, the vital capital must be so severely taxed as at a very early period to show a deficiency amounting to entire exhaustion, and of course to be followed by the evolvement of incurable diseases, of which the patient must inevitably die. A human being can no more live when his vital energy is used up than he can breathe when his body is sunk in the sea ten fathoms deep. If, then, mercurial preparations, poisonous in their nature and deadly in their effects, do produce such results legitimately when given as medicines, by what peculiar mental process those who administer them lead themselves to conclude that they are beneficial, I know not. All I can say in this direction is, that I am extremely thankful that my own mind is not under such an illusion, and that, in my reasonings upon their beneficial or injurious effects, facts are abundant around me, going to show that the latter entirely exceed the former. Where, in any given case, benefit has been derived by the administration of mercurial preparations, a hundred times have persons been injured by them, and a very large number have been actually killed. I do not wish to get up a senseless prejudice against this particular form of poisonous preparation: but I am justified in urging the consideration of the reader to it, from the fact that learned and respectable men rely upon this poison, as the commander of a vessel relies upon his sheet-anchor in a storm; and as there is not, in the nature of the case, any substantial ground for such reliance, I am disposed to use every fair means to weaken the public confidence in its use.

But mercury, bad as it is in its various combinations as a medicine for pulmonary disease, is not the only one in use by medical men. Wherever pulmonary consumption exists, showing scrofulous tubercular manifestations, the medical practice has been so devoid of all good sense, as really to entitle it to the very severest and most unsparing handling. Physicians laugh at the superstitions of the common people in respect to the propriety of the means in which *they* believe for the overcoming of pulmonary diseases. In early days, scrofula in its incipient stages, or when it was developed in the form of running sores upon any part of the body, and in fact when diseases of the internal structure were fairly fastened upon it, was sought to be cured by incantations, charms, or other superstitious rites, as the laying-on of hands. It was because of the supposed power on the part of one of the kings of England to cure scrofulous diseases, that scrofula came to be called "king's-evil." But absurd notions and practices far back in the history of civilized communities were no more frequent than they are now, nor were they any more confined to the lower or less intelligent classes of society; and derogatory as they may appear to the dignity of man, and irrational and uncertain as the results imputed to them may seem to men of the present day, they were no greater absurdities nor grosser impositions than at this very day are accredited by hundreds and thousands of the common people. So, for that matter, none of them were indicative of more decided delusion on the part of the people than the very processes of drug-medication upon which physicians themselves so confidently and completely rely.

Take, as an illustration, the following popular superstition, to which I was myself an eye-witness. In certain neighborhoods and districts of country in the United States, it has been believed, and is believed to-day, that, where consumption is seen to exist in a family, a check can be given not only to the ravages of the disease, but an actual cure can be wrought upon such member of the family as may have it developed, by taking out, of any one of the family who may have died of it, the heart, cutting it in pieces, putting it into a kettle suspended over a fire until the heart is reduced to ashes, and then mixing

the ashes with water, and giving the mixture to the live consumptive to drink. The effect of this on the patient is supposed to be, to change the structural conditions of his lungs, of which the disease is simply an indication, and to restore the sufferer to sound and vigorous health. Just such a transaction as this took place, not a dozen years ago, within three miles of my residence; and hundreds of people gathered together to see the process carried out. A member of a certain family was very sick of pulmonary disease, and was the fifth one of the family attacked by it; the preceding four having died. When the fourth one died, before the burial took place, the heart was taken out of the body, and the process I have described gone through with; the consumptive drinking of water in which the ashes of the heart of his dead relative had been mingled. The belief in the curative effects of this process, entertained by three-fourths of those present, was altogether firmer than that of any of the physicians of this country in cod-liver oil.

Why should the belief of the people whom I have mentioned, in the efficacy of this remedy, be regarded as a mere delusion, when learned men are believers in processes quite as unsubstantial, though a little more complicated? Why may not the ashes of a dead man's heart have in them virtues as decided, positive, and powerful as grease squeezed out of a dead codfish's liver? Can any person tell? Yet physicians all over the world have argued for and advocated the use of this oil which has been pressed out of the livers of codfishes, and thousands upon thousands of persons smitten with pulmonary disease have taken it, supposing that it had in it some hidden and wonderful efficiency; when there was really nothing more efficient in it, for the cure of consumption or of a diseased lung, than in the ashes of the heart of this dead man, which his brother drank.

To show just how a very intelligent and very fertile mind can be led to accept as reliable truth that which is nothing but the sheerest fiction, let me call the reader's attention to a quotation from Dr. Copland's "Dictionary of Medicine." Under the head of Scrofula and Tubercles, he says, "Superstitious practices have been adopted for the cure of external scrofula since the earliest ages, and have been of various kinds;

the oldest being more or less connected with pagan or religious rites, and the most recent with certain medical doctrines and quackeries which influence more or less the faith of the patient. It is not unlikely that scrofulous sores form no small part of the external maladies, respecting which so ample provision was made in the thirteenth, fourteenth, and fifteenth chapters of Leviticus, and for which the means were calculated no less to excite the faith and hopes of the patient than to benefit the priests, who, in those ages and places of imperfect civilization, joined the healing art with the priestly office. During the early epochs of Jewish history, both priests and people had recourse to sprinkling with oil and touching the diseased part for the cure of external sores; and, before the introduction of Christianity into Northern countries, the Druids, or priests, while they undertook the treatment of these affections, most probably adopted the same or analogous means. Pliny and Tacitus furnish evidence of touching the sick having been resorted to as one of the means of healing; and, from some German and French writers in the seventeenth century, evidence is adduced, that the practice of healing external sores by the royal touch existed in the Northern countries as early as the eleventh or twelfth century, and was very commonly adopted from those times until the middle of the eighteenth century."

Dr. Copland goes on to say, that there can be no doubt that many of those who were thus touched recovered of their diseases: but he offers as a reason for their being restored, that the circumstances in which the patients were, had very much to do with their recovery; and that they would undoubtedly have recovered, had no such application been made. The accession of puberty, the influence of the mind on the body, the change of life, of air, and other things, when these modes of healing were popular, all combined to produce great constitutional effects, and thereby to remove the local manifestation of the constitutional evil.

Now, why should not there be drawn, by the ignorant and unlettered mind, conclusions as worthy of belief, in view of the effects which *seemed* naturally to grow out of the processes used, and yet such mind escape being characterized as superstitious,

just as decidedly and philosophically as the learned mind draws conclusions in the light of effects produced by the administration of agents which in themselves contain no power whatever commensurate with the results produced, any more than that such a power existed in the touch of the priest or physician of olden time? Why should I characterize the peasant of the fifteenth century as a superstitious fool because he believed that his scrofulous sore was cured by the touch of his priest, any more than I should characterize the intelligent man of the nineteenth century in like terms because he believes that his scrofula is cured by the administration of iodine? What is there, in the whole case, that should relieve the one, who puts his trust in the curative effects of iodine, from the same charge that is so readily made against the sufferer of a former age, when it is remembered, that, between the means used and the effect produced, there is no more natural relation, physiological connection, or chemical affinity, in the one case than in the other?

Having described the tendencies to superstitious belief on the part of the people of early times, Dr. Copland goes on to express *his* firm conviction of the efficacy of the various preparations of iodine prescribed for scrofula; and he spends half a dozen pages in the attempt to show that these deadly substances *may* be in the highest degree beneficial, provided they are judiciously combined and administered. Let me note some of them. He offers to the reader, as preparations of iodine which he prefers, the iodide of potassium, the compound tincture of iodine, and the iodide of iron. Then he says, that, in certain stages of disease, iodide of mercury may be given with great effect; though he confesses, — and the confession is, in my judgment, fatal to his whole theory, tearing it up at the very foundation, — that during the exhibition of iodine in any form, especially if continued for a few days, the state and functions of the liver may be irritated to such an injurious extent as to demand careful watching on the part of the physician, by reason of the fact, that the iodine, passing directly into the portal circulation, may irritate the liver in a high degree. And he says, that, even when it is cautiously prescribed, it will disagree with some constitutions; and should never be too long employed without

intermitting its use, because of the ill results that may flow from it. He also recommends mercury in the form of calomel or corrosive sublimate, and æthiops-mineral; and says, that, in his own practice, of all the preparations of mercury, he has found corrosive sublimate to be most beneficial. Then he offers, for the consideration of the reader, preparations of iron; and gives a list of these. Then he passes to the chlorides, and thinks that they may be beneficial. He then goes over to the phosphates, and thinks that phosphate of lime, because it forms a constituent of healthy bone, may be of great service when taken as a medicine. He also refers us to the use of acids, to alkalies in various forms, and to tonics; and finally comes down to an expression of his opinion in favor of cod-liver oil. Then he steps over into the region of the botanist, and says that gums, pounded barks, and infusions of leaves (such as walnut-leaves, willow-bark, hops, &c.), may be used with more or less efficiency. Then he tells us of the large benefits, which, in his own practice, he has found to be derived from the use of tar-water, from applying it as a wash to scrofulous sores, and giving it to persons so affected to drink. Finally he comes to the recommendation of sea and mineral waters, and thinks they may be used with great benefit, both internally and externally, for the cure of scrofulous affections in all forms; and rather recommends them to persons laboring under consumption in its different stages.

So, through almost the whole range of poisons, this learned physician plunges his way, like a horse forced into a quagmire by his rider; and comes out on the other bank, ruffled and defiled, without leaving any evidence behind him that it is better to pursue that way, than it would be to bridge the quagmire, and pass over dryshod. When a man of the erudition of this gentleman can talk nonsense in respect to the "*virtues*" of these poisons, — not one of which was ever intended by the Almighty for any other purpose, when applied to a human organism, than to kill it (except where chemical laws come into operation, and the relations of such substances to the constituents of such organism may change them), — I do not see any great difference between the position which

he occupies as a *deluded* man, or as a believer in the veriest superstition, and that occupied by the unlettered men and women of our own or former times. The truth is, that a very large portion of the proofs which physicians themselves accept as conclusive, in favor of the use of poisonous medicines for the cure of disease, rests upon as unsubstantial a basis as did the belief of the people in the healing virtues of the touch of a priest or a king in cases of developed scrofulous disease. All this, too, while the people are dying in great numbers from want of proper knowledge how to live, and of the proper means whereby to be restored to health, and cured of the diseases under which they labor; and their condition is a very pertinent and instructive illustration of the truth of the saying of the Saviour, that if the light that is in mankind be darkness, how great is that darkness!

I come now to the people, on the *other side* of this question; and take it upon myself to say, even at the risk of being ridiculed, laughed at, criticised, and censured, that there is a far better, safer, and truer way for the cure of any kind of disease, no matter what, and especially for the cure of persons laboring under pulmonary disease, than that which is based upon the taking into the system of substances for remedial purposes, whose legitimate, natural, and inevitable result is to break down the health of the person or persons taking them, and which, if administered in sufficient quantities, destroy life. Poisons are not remedies for disease; nor, in the very nature of the case, can they be. Their effect is to kill, and *not* to cure. He who takes them does that, whose effect, though long deferred, must be ultimately fatal; and he who administers them to others, with the view to cure disease, operates fatally, though the last and worst results of his practice may not appear for a long time.

CHAPTER V.

EXHAUSTION OF VITAL POWER, OR DEBILITY, CAUSED BY EXCESSIVE SEXUAL INDULGENCE.

If scrofula in the parent is a powerful predisposing cause in the production of the consumptive taint in children, and if constitutional ability may be impaired by mercurial courses of medicines or by the administration of other powerful drug-poisons, so may children be born with strong consumptive liabilities by reason of exhaustion of vital power, or by debility caused by excessive sexual indulgence on the part of the parents. There can be little doubt that this is a fruitful cause of the production of consumptive disease ; though, by reason of the indisposition manifested on all sides to discuss the legitimate or illegitimate boundaries for the exercise of the sexual function, there is but very little general knowledge existing in regard to the deleterious effects, upon children, of excessive exercise of the reproductive organs on the part of their parents. The range of thought and of discussion in this department has hitherto been confined almost entirely to the medical profession ; and the people know but very little about the laws of life and health, as they are developed and applied within the reproductive sphere. The utmost care of the most thoughtful and liberal-minded of the laity has imposed obligations only so far as the exercise of the family relations and restraints is concerned ; few men or women having any idea that sexual intercourse could be improper, or that danger could exist either to their own health or to that of their offspring, so long as they acted within acknowledged marital rites. The records of the profession are loaded down with the history of cases of men and women who have brought upon themselves severe and destructive diseases by means of excessive sexual indulgence, and who have transmitted these diseases to their children, in the form of constitutions, or habits of body,

predisposing them to take on, from their very earliest stages of childhood, chronic or organic diseases. Among these, — and their number is very great, — none is so frequently seen as a predisposition to consumption.

The cause for all this must be, that in the father, at the time of the begetment of these children, the germs of his own life must be very much weakened; while excessive sexual indulgence on the part of the mother impairs her nutrient abilities, rendering her unable to give to her child or children the necessary support whereby their organisms can be sufficiently and thoroughly vitalized. A great many children are born, having the consumptive taint in them, and carrying about the consumptive predisposition, whose parents are not aware of the fact, because they die of other diseases in childhood. In truth, the consumptive diathesis may develop other diseases than those of the lungs. The organs of secretion and of nutrition may be the ones whose impairment is felt as a consequence of the constitutional taint.

In the foregoing chapters, I have alluded to the fact that consumption might be divided into two kinds, — that of the lungs and that of the bowels; and it is perhaps as frequently the case, that children, born of parents who have debilitated their own powers by conjugal gratifications in the sexual sphere, are born with greatly enfeebled nutritive organs, and as readily take on those diseases which result from innutrition as they do those diseases, or forms of disease, which originate in, and confine themselves to, the lungs. If parents wish to introduce to life children who shall not be predisposed to consumptive diseases, either of the lungs or of the lower viscera, they should be careful to be, at the time of begetting such children, in as healthy and vigorous physical conditions as possible. Sexual gratification should seldom be had, where children are to be the result; and, whenever it is had for this purpose, the parties should have undergone preparation for this most important act, in a way and after a manner calculated to develop in the highest measure their physical forces and their physical health. If the man who breeds sheep or cattle, horses or swine, feels himself not only at liberty, but under an obligation, to procure the very best breeds

of these animals which may be within his reach, how much more important is it that human beings should take all pains and care to bring into existence offspring who in later days shall be not only a great comfort to the parents, but useful to society, and valuable members of the great family of man! This view becomes enlarged, when it is remembered that the family relations of mankind depend for their healthy tone and their proper exercise upon their physical health. A sickly people cannot be in any direction highly developed; morbid conditions of body being unfriendly to the unfolding of high mental qualities, or the acquisition of high mental accomplishments. All peoples and nations, who have risen to such an elevated civilization as to leave in their records proofs of their greatness, have been marked by fine physical characteristics. The individuals composing them have been robust, or capable of great endurance; and in proportion as these have existed have corresponding results shown themselves in the department of the higher faculties with which human beings are endowed. I do not know of a people, who ever have had, or do now have, a history, who form an exception to this rule. All nations have ranked, in the scale of public influence and character, in the ratio of their physical development and sound health; and, where there have been lacking those traits which give to a nation character and standing, these have been found to be so chiefly from and through the influence of causes that have deteriorated and debilitated such people physically.

If this view be the true one, then I am sure that every individual, who has his attention called to the subject, should feel that a proper obligation rests on him to see to it that he does not cast whatever influence he may have in shaping and determining the public welfare of the people to whom he belongs in any such direction as to introduce additional members to the body public in whom the seeds of disease shall rest from the very hour of their birth. Society has a right to insist upon it that its members shall be healthy. It cannot hope to create and impose any obligation that shall be efficient in this direction, unless such application extends to the sphere of activity in which life commences; and if a man and woman may feel that they

may beget and bring into the world children who are tainted with disease and lacking in vitality, in such measure that they must inevitably show diseased states of their bodies, and, unless cared for with great attention, must die early, then there is no means at command whereby society can overcome all the unhappy moral results which flow from want of proper comprehension on the part of such parents. No man, having any just conceptions of the duties which, as a member of society, he owes it, would hesitate at all in deciding whether he is or is not obligated to add to the general welfare, and to avoid its injury. If the question were, whether he was at liberty to poison the wells and springs of water in the community where he lives, his moral sense would settle that in a moment; and he would consider himself fairly holden to all the penalties which the law may justly impose upon the well-poisoner, if he were to do such act. Herein he is quickened in his moral perception. But when a question no less important to the general weal is raised, having reference to his action in the production of healthy offspring, he seems to feel that in this direction there can be no such relation existing between him and the public as to obligate him to give to it, in the persons of his children, additional value and additional securities. He supposes that this is a subject with which he has little, if any thing, to do; that it is all uncertainty whether his children shall be healthy or not; and so neither he nor the mother of them is at all sensitive or sensible on the subject.

Now, children may be consumptive without their parents being so. It is only needful that the latter shall be in exhausted conditions when their children are begotten in order to have them predisposed to consumptive disease. A tired man and woman, so worn out with labor as to have their physical systems at the lowest point of vigor when cohabitation is had and conception takes place, are more likely to have the offspring they produce under such circumstances predisposed to diseases of the lungs, or of the nutritive system, than otherwise. The liability is in this direction almost entirely: and, even if the child comes into the world showing no such organic relations to life as to mark it particularly as belonging to the consumptive class,

it may, nevertheless, be so related as to be greatly susceptible to disease; and, under circumstances calculated to develop consumption, it may take it on with as much readiness as though it were of a consumptive habit. It is a mystery to a great many people, how and by what means so many persons die of diseases of the throat, lungs, stomach, and bowels. The matter is perfectly explainable in the direction to which I am now calling attention. It is because of the susceptibility to disease which the lungs, stomach, and bowels show; for with a people such as we American people are, in our styles, methods, and habits of living, so precocious, so prurient in our growths, so excessive in our activity, and so premature in our development, making us pre-eminently a *fast* people, it is not at all difficult to see how and by what means we bring our physical frames into unhealthy conditions, by which the nutritive, secretory, and respiratory systems become abnormalized, and take on diseased states. It is an evidence of our superior quality of blood, and of the extent to which the strain exists amongst us, that we live, under such circumstances, as long as we do, and that so many of our number arrive at manhood and womanhood, and, passing through the duties of life, reach the neighborhood of old age before death closes their earthly career; for no people ever did live, or are now living, on the earth, of whom it can be said that their habits of living were or are more unfriendly to health than ours. True, we are a young people. As a nation, we are not yet a century old; and very much of the shaping necessary to make us a great people, in the higher sense of that term, is yet to be brought to bear upon us: so that many of the enervating influences, which usually fasten themselves upon nations older than we are, are yet inactive in our case. We have not reached the luxury of the old Roman or Grecian civilization. We lack many of the forces which are destructive of life and health with the French and English nations; and the developments of civilization among those peoples living in the heart of Europe have been of a kind and character, in some directions, much more destructive to physical health than almost any of the active causes have been with us hitherto: so that our youth is our protection, and we have the advantages of it. We have already

shown to the world a peculiar form of physique. Our people are of a different build from those of any other nation. Our climate, our position, our very institutions, are all friendly to the establishment of physical conditions in their nature healthy. It is only where we have deviated from the true line, and have super-imposed upon ourselves habits that are destructive, that we find ourselves suffering in the direction of health and longevity. Such is the peculiar style in which we exhibit our activities, that it hastens those conditions in which physical debility shows itself; and causes us, from want of proper knowledge, to carry over this debility to succeeding generations. It is a matter of profound regret to me, and would be of very great astonishment, did I not know how ignorant persons generally are on the subject, to see men and women conducting themselves as they do in this matter of bringing into existence unhealthy offspring; because there is nothing needed but what may be termed common care, ordinary forethought, and decent regard to the results, when one is seeking to accomplish a given object, in order to have such conditions exist as to spare regret on the part of anybody: it being easy to secure healthy children; whereas now unhealthy children are seen, so often as to leave the parents without justification.

In this place, I wish to say that the *time* at which most children are begotten is exceedingly unfriendly to the organization of healthy constitutions in them, or to their coming into the world with such relations to it as shall enable them to live in it rightly. I venture the assertion, that not one child in fifty thousand of all that are born in this country is begotten when the parents are not fatigued. A large proportion of the children born in our nation are born of parents, either one or both of whom find it needful, from prudential considerations, to do more or less physical labor, and engage more or less in actual toil. Where this is a necessity, a corresponding exercise of the mental faculties is habitually had; so that fatigue, or a tired condition of the brain, will also be found where the muscles are seriously taxed. If this is the case, then it is easily to be comprehended why children should show such poor physical outlines as most of them do; why, in later years, they

should show want of power to endure physical taxation, and exhibit such nervous excitability and physical irritation, and such susceptibility to abnormal conditions. The very germs of their being were not healthy: how, then, can the product itself be expected to be so?

But there is another point in this direction, worthy of notice; and perhaps I may as well state it here. It is, that, for the most part, children of consumptive tendencies are begotten under circumstances in which one of the strongest, most powerful, and most invigorating influences is absent: I mean sunlight. Most children are begotten when the parents are not only fatigued, but in the night-time, when the parties are in bed, covered up with clothing, and so related to each other as to have about every abnormal condition in their frames in full or superabundant exercise. There can be no wider departure from the law of health, in regard to the propagation of offspring in respect to their constitutional relations to life, than to beget them when proper electrical conditions are wanting. Of all the structures of the human body involved in begetting children, the nervous system holds the most direct and important office. The muscular system need not be taxed to such a degree as produces a sensation of fatigue; but the nervous system is necessarily involved in high activity, great excitement, and consequent severe re-action, whenever this important act takes place. If, then, there is any such relation of the parties to the act performed as to indicate that they are in unfavorable conditions for its perfect consummation, they must expect that their offspring will be correspondingly defective in form, shape, or feature; and, as a whole, will lack the elements of strength and constitutional endurance. A common maker of metallic statues knows perfectly well, that, unless the conditions under which he performs his labor are favorable to the production of a perfect specimen of his art, he must account for any deficiencies which his work may show, on the score of such imperfect conditions. How much more, then, when the important act of begetting a human being is to be performed, should the parties to such a work secure to themselves the largest combination and the most favorable conjunction of proper influences! Lacking these,

they lack every thing: and if their child is born deformed, or deficient in any of its physical members; or is so related to life as that its hold upon it is slight; or has such an adjustment of its forces, mentally, as to make it almost impossible, when responsible agency shall come upon it, for it to live with any degree of ease and comfort in this respect, — the parents must take to themselves all this faultiness, and bear the burden as best they may. If their child is sick, its sickness should be to them a constant reminder of their own thoughtlessness and heedlessness just at the point where they should have been very thoughtful and careful; and if, by reason of want of power to live, or from consumptive disease, which, on account of its feebleness, is developed in it by its unfriendly surroundings, their child dies early, they should have common sense enough to lay the blame at their own door, and not foist it upon Providence. Be this as it may, one thing is true, that over-sexual indulgence on the part of parents does debilitate them, and, in doing so, impairs the vigor and health of the constitutions of their offspring. It is also true, that, where this is done, the diseases which such offspring will be likely to show will confine themselves chiefly to the respiratory and nutritive systems; and that, if parents are desirous of avoiding the transmission of the consumptive diathesis to their children, they should, among other things necessary to be heeded by them, avoid cohabitation, with the view of begetting a child, when they are fatigued, and, above all, when light is absent from the earth's surface; for it is scarcely less unfriendly to the health of the offspring to have it begotten in the dark, than it would be to have it live in the dark after its birth. Under this view, benefit may be derived from analogy, if we are only observant, and brave enough to make use of it. Of all the domestic animals which rise to a rank to make them particularly valuable, there is not one whose habit it is to copulate at any other time than by day. If left to themselves, they are sure to have this function in active exercise when the sun is up in the heaven, so as to furnish electric states of body. Nature takes care of this instinct, and guards it with great vigilance; and for the double reason, that they may have the largest measure of excitement in and

for the occasion, and that they may be in the best possible vigor to perform this act whenever it is needful for the propagation of their kind. What nature does by instinct for the lower animals, we ought to be able to see the fitness of, when, in addition to our own instincts, we have the aid of reason.

Parents should not make the mistake of supposing, that because their children do not, quite early in life, show the consumptive predisposition, they therefore are *free* from it: for it is quite as common to see it developed after puberty as before it, and in frequent instances it manifests itself quite late in life; the diathesis, or taint, or predisposition, or proclivity, — terms which are synonymous, — having been transmitted to the offspring, and exhibiting itself early or late, according to the circumstances surrounding the individual showing it. Dr. Copland says that phthisis may be transmitted to the offspring, — first, as a predisposition; and second, as a latent germ, which may be quiescent for many years; and third, in a more or less developed state, in the fœtus itself: and that the scrofulous taint of the parent, though quiescent, may give rise either to external scrofula, or to tuberculosis in the lungs, or in some other organ, or in several organs or tissues, especially in children and young subjects. External scrofula, or an external gland fully suppurated, is less likely to be followed by phthisis than the quiescent scrofulous taint; but either condition will transmit consumption to the offspring. The transmission of the taint may not appear in the children, yet be seen in the grandchildren. The predisposition arising either from scrofulous taint, or from disease of some organ or tissue of the body, may remain dormant through life; not having been aroused by exciting and determining causes into activity, either in the form of glandular enlargement or tubercular consumption: so that it cannot be inferred that the offspring of a scrofulous or phthisical parent, or parents, who have never been affected by either scrofula or phthisis, is therefore free from the constitutional taint, or hereditary predisposition to these diseases. — As to the proportion of cases that may be referred to hereditary taint, authors differ very widely.

Ruysch says that four-fifths are hereditary; M. Portal,

two-thirds ; M. Ansell, one-third ; Briquet, thirty-six out of ninety. M. Roche considers that the children of phthisical parents are *doomed* to disease ; and such may be the case if they be subjected to abnormal causes which occur previously to or during puberty and early manhood. M. Lugol states that more than one-half the subjects of tuberculosis have consumptive progenitors.

Of a hundred and forty-one persons affected with scrofulous glands, whose family history was investigated by Dr. Balman, full accounts were furnished. In nine cases, the fathers had died of phthisis. Deaths occurred from phthisis, in the families of uncles and aunts on the father's side, in sixty-one cases. Of the grandfathers on the father's side, there died of consumption eleven cases. Of the grandmothers on the same side, there died seventeen cases, — making ninety-eight in all. Of the mothers, there died of phthisis eleven cases. From consumption in the families of uncles and aunts on the mother's side, there died thirty-eight. Of grandfathers on the mother's side, there died nine cases ; and of grandmothers, twenty cases, — making seventy-eight cases in all. In thirty out of a hundred and forty-one scrofulous persons, no deaths from consumption, in either parents or collateral relations, were ascertained ; but whether the latter exhibited signs of tuberculous taint or disease does not appear.

As to the relative frequency of transmission in the two sexes, opinions differ, and statistical information is very imperfect. J. P. Franke, Mr. Richards, and Mr. Phillips, favor the more frequent transmission by the father ; while Hasse and others entertain the opposite opinion. From the report of the Hospital for Consumption, in Paris, it would appear, that, omitting those cases in which both parents were consumptive, the father transmitted the disease to the sons in fifty-nine per cent, — and to the daughters, forty-three per cent ; and that the mothers transmitted the malady to the daughters, fifty-six per cent, — and to the sons, forty per cent. But the numbers from which the above results are calculated are insufficient data to be relied upon conclusively ; nor can the facts be determined with precision, especially as regards the absence of the taint in either parent.

CHAPTER VI.

DIFFERENCE IN AGE OF THE PARENTS A CAUSE OF THE CONSUMPTIVE HABIT IN CHILDREN.

THERE should be no well-founded doubt existing in the mind of any intelligent person, of the effect of the physical conditions of parents upon their offspring in the production of the consumptive taint; and, among the causes that tend directly to fasten this taint upon children, a very important and influential one is the actual and relative ages of the parents. In the United States, a great many children are made consumptive because the parent or parents marry too early in life. For reasons, too, that are not at all legitimate to the topic under discussion, a habit has grown up with our people, of entering into the marriage relation before the parties have actually and positively reached their physical growth. Particularly is this true of females; girls marrying as often between sixteen and twenty as at a later age, and I do not know but more frequently. Now, it may be safely said, that, as a general rule, woman does not cease to grow until she has passed the age of twenty-three years; she does not always show growth in height, but she does in breadth and fulness, up to a period as late as I have stated: and for her to be subjected to the production of offspring before her own frame has fully been perfected, is almost inevitably to insure the bringing-forth of children whose constitutional relations to life must be feebler than her own, and more than ordinarily predisposed to disease. And as pulmonary consumption is generated by tuberculous states of the lungs, and these are consequent upon scrofulous conditions; so the connection is established immediately between the mother and her children, from the fact that scrofula is very frequently induced from the child being subjected, previous to birth, to such unfavorable

relations to its mother, in the establishment of its own vitality, as to bring it into the world constitutionally feeble, and more than ordinarily susceptible to all conditions unfavorable to health that may surround it afterwards.

The same is true of the too early marriage of men, and their begetting children while as yet they are themselves undergoing physical change. Men do not cease to grow, in this country, until they are past twenty-five years of age. In some directions, their bodily frames undergo decided modifications; not always in height, though men do not reach their growth in this particular direction, relatively, as soon as women: very many of them growing — not very much, it is true, but sensibly — every year until they are past twenty-five; and almost all men grow in breadth and fulness until they are twenty-five or twenty-eight. Considered with reference to the health of the offspring, therefore, it is unsafe, and decidedly impolitic, for a man to beget a child while as yet his own system is subject to radical organic changes. If he wishes his offspring to be of the healthiest type possible, and if he wishes it also to partake of the better qualities of his own and of its mother's organization, then both he and she, if married young, should forbear to beget children until they have reached such a point as will make it certain that they have ceased to grow in any direction; their bodies being as firm, compact, and solid as they can ever hope to have them. Children begotten under such conditions as these are much less likely to show physical habits favorable to the development of consumptive disease, whether the parents are so predisposed or not.

If the parents, either one or both of them, do happen to be of consumptive tendencies, then all the more necessary is it for them to forbear begetting offspring until they have reached such a period in their lives as to exhibit their developments or characteristics, whatever these may be, in their full and perfect order. Whether the effect upon the offspring be more deleterious in cases where the father marries too young, or in those in which the mother has not yet reached her full growth, is a disputed point between those who may be sup-

posed best qualified to give a professional opinion upon it. My own judgment leans to the conclusion, that it is far better to have a child born of a young man, provided the mother has already reached mature age, than it is to have the mother a mere school-girl, the father being mature; because I am firm in the belief, that, in all that respects the child's *organic* relations to life, the mother has the control, the father's influence in this direction being much less. In certain directions, the characteristics which offspring may show are very essentially dependent upon those of the father; but in all that pertains to vigor and longevity, and freedom from disease, the mother has a much greater influence in shaping and moulding the child than the father has. If this view be correct, then it logically follows, I think, that it is better for a young man to beget a child on the body of a mature woman, than it is for a mature man to beget a child of a mother who is but imperfectly developed in her physical organism.

Besides, the conditions of the mother after birth affect the child's constitutional relations to life; and if she is not in such conditions at the time of conception, and after the child's birth, during the period of nursing, as to furnish it with facilities for laying the foundation of a healthy nutritive system, then, whether she is consumptive or not, she so arranges the child's relations to life as to render it *liable* to take on the consumptive diathesis, and thus to become the originator of a consumptive family whenever its reproductive powers are called into activity. Many a man and woman can be found, whose children are scrofulous, and therefore predisposed to tuberculous consumption, whose ancestors on both sides were entirely free from any such condition or taint; but who themselves, from unfavorable circumstances in early life, developed in their own persons the conditions whereby scrofula is made to exist, and, begetting children, transmitted these conditions to them. In this view of the case, it becomes a very important question with considerate minds, whether a sense of the obligation to their children under which parents rest — the obligation to have them healthy if possible — should not prevent men and women from marrying as early as it is customary for them to do. My judgment prompts

me to take *this* view, and to urge upon young men and women not to enter into matrimonial alliances while as yet they themselves are imperfectly developed in their physical conditions.

Here, again, some aid in determining this question may be had by reference to the effects of producing offspring, in the lower animals, while they have not as yet reached maturity, and are not yet possessed of their full stamina. The breeders of sheep, under large observation, have come to see that predispositions to disease are shown in this animal, whenever it is propagated within the range of the rule laid down. If a yearling ewe is stinted by a full-grown buck, the offspring is not as likely to be healthy and vigorous, or to reach a maximum point of physical growth, as it would be if the ewe was older. So is the converse true: if a ewe which has reached the age of maturity is made to propagate her species by connection with a half-grown buck, the product never shows as fine a physique as when both male and female are of mature age. Some very close observers have drawn conclusions satisfactory to themselves in this respect, which go to show that the worst possible connections are those in which the male is mature, while the female is as yet only half-grown. The reason for this conclusion is, that the mother is ill-fitted to furnish nutriment in sufficient degree to her offspring, while her nutrient energies are taxed, at the same time, to answer the demands of her own system for further growth. The breeders of swine have drawn the same general conclusions; and so have the breeders of cattle. But more particular attention has been given to this subject in respect to the raising of horses: the offspring of horses, both of which, at the time of copulation, were young, show less fine forms, less constitutional power of endurance, and less ability to resist functional diseases, than the offspring of animals no better in blood, but which, before they were put to the begetting of offspring, had reached their full growth. Indeed, I have no doubt that the deterioration of any species of animals may be as decidedly attributed to the propagation of its kind, while as yet the parent is imperfect in its physical growth, as to any other cause, operating to this end, of which we have at present any knowledge; and, for one, I

am decidedly opposed, in view of the propagation of the human species, to early marriages, or to the marriage of parties either of whom is only in a partially matured condition physically, provided children are to be born as the immediate result of such marriages.

There are consequences, resulting from too early marriages, higher than those relating to the body merely: but, as they do not stand within the line of the argument I am making, I pass them by; simply saying, that imperfect intellectual power, and a want of clear perceptions of spiritual things, are not infrequently to be met under circumstances which warrant one in attributing their existence largely to the fact, that the persons in whom they are found are the children of parents who married, and begot them, while as yet they were not fully grown themselves.

If, then, persons do not wish to become the parents of children predisposed to consumption, — of children more likely than not to have this disease, if the conditions in which they are placed are at all favorable to its exhibition, — let them beware how they enter upon the matter of begetting offspring before they have themselves reached their concluding point of physical growth. There can be no more silly or foolish act than that which is so customary with us as a people, of a man, full grown and firmly knit in his physical frame, begetting children upon the body of a female who is not entitled in any sense to be considered full-grown. I often see men, thirty-five or forty years of age, married to girls fifteen, sixteen, seventeen, or eighteen years old; and I do not object to such relations (for they may be sources of great happiness to both parties, and I can readily see how they can be so): but I do object to the folly of having a wife of either of these ages become a mother, before time enough to finish her growth in the direction of her constitutional powers and tendencies has been given her. As I have remarked already, I can easily see how such marriages might be productive of happiness to both parties, and also of the very highest physical vigor in the children, or even physical beauty, provided the question of offspring were deferred until the woman should be thoroughly matured in bodily frame. Whether

children shall be well-formed and good-looking, or whether they shall be deformed, or, if not deformed, ill-looking, is a matter by no means devoid of significance; and whether they shall be so or not, is to be determined very much by the conditions of health and matured growth in which the parents are at the time of propagation, as well as by the state of health, and manner of life, of the mother after the children are born.

But there is another view which bears directly upon this point, whether children shall have a predisposition to consumption or not. It is this: A liability, and not a small one, to have the offspring consumptive, will always be found where the male parent is of such an age as to have his physical vigor essentially and permanently weakened. This is not to be measured by years merely; because though, when we use the term "age," we speak generally of the number of years a person has lived, yet it is quite readily seen, that one man may be as old at thirty-five years of age as another may be at sixty-five: and so the question of fitness to beget children who shall be free from the consumptive diathesis is to be determined by the actual condition of the parties, and not by reference to the term of time during which they may have lived. If, therefore, the male parent has come to be old, insomuch that his physical vigor has left him, whether he has lived few years or many, he cannot hope to beget children, without running great risk that they will take upon themselves his own state; but where physical vigor has departed because a man has gotten to be old in years, and he then produces offspring, such offspring will not only take on all the worst physical qualities which, at any period of his life, he has ever shown, but it will be likely to take on also the peculiar and specific conditions in which he may be at the time he begets it. If, at that time, he is feeble in body, though not diseased, the child will be almost certain to have a feeble constitution, unless the mother happens to be of very robust frame and highly nervous temperament, with an active brain; thus taking upon herself, in the act of propagation, all the main responsibility, and so controlling and cultivating the child's characteristics as to make it partake essentially of her own nature. Additional pertinence is given to this view of the

case, from the general practice, where such relations exist, of men, who are quite advanced in life, uniting themselves to women who are quite young. Old men are very liable to have young wives; and there are explanations of this which are quite easy to be understood. The relations which such men hold to life itself, and to all its associations, are of a character calculated to attach them to the young, and the young to them. The relation of father and child comes to be acknowledged as the basis of a marriage of this sort; and when married, and the old man thus becomes a husband, and the girl a wife, these relations are more likely than not to be to a great degree merged in the other and more natural one of parent and child. I have seen a great many instances, where men and women were married, whose relative ages were *greatly* disproportioned, where the wife regarded the husband more as a father, and the husband the wife more as a daughter, than either regarded the other as husband or as wife; and where this state of things exists, and children are begotten, it is almost impossible for them to have as much constitutional vigor, as, by descent, either or both of the parents are entitled to, and should be able to transmit. They partake of the feebleness of the father, arising from advanced age; and also of that of the mother, arising from lack of maturity: and so require only to be placed in circumstances favorable thereto, to put on either the scrofulous habit, and have it work itself up into scrofulous disease purely, or show the consumptive diathesis, and die at an early age of pulmonary consumption.

Fortunately for the race, nature, on a large scale, takes care of this in a very safe way, by rendering it impossible for *very old* women to bear children. If woman could bear children up to an age as great as that at which man still retains the power to beget them, our race would run out in the course of a half-dozen centuries, and the world would be depopulated, from causes so productive of deterioration as to make the whole species impotent. But God, whose goodness never fails, has settled this question by an imperative law; and at or about the period of a woman's life, when, under the best of circumstances, her constitutional vigor must necessarily begin to give way, and her

elasticity and re-active energy must begin to lessen, she becomes incapable of propagation. This fact goes not a little way to show the superior importance of the mother's relations to the health and well-being of her offspring, over those which the father can possibly hold; for I can see no *reason* in organizing woman, and relating her to the act of propagating her species, so as to render her unable to perform it up to a period of life as late as that at which man is capable of doing so, unless it be found in the superior importance and intimacy of the relation which she constitutionally bears to her offspring in all that pertains to *its* welfare. If aged women could bear children, I should still much prefer to have old men beget children of vigorous women, to having vigorous men beget children of old, decrepit women. So, correlatively, I would rather have a young man become the father of a child whose mother should be of mature age, and at her maximum point of vigor, than to have a mature man become the father of a child whose mother was as yet in the mere gristle of her physical frame.

The truest view to be taken of this whole matter is to have the parties nearly of an age; or, if there is a disproportion in years, to have them related by temperament, and degree of constitutional vitality, so that they may be nearly on a level. A man may be as vigorous, and therefore no older, at forty years of age, than the woman who is to be the mother of his children is when she is thirty: and, whenever this is the case, the disproportion in years may be counted for nothing; the parties being then as well related as they would be if separated by only a year's difference in age, when their relative vitality was the same. The matter is to be decided in the light of the constitutional hold on life, or power to live, of the parties, and not by the number of years that they may have already lived.

Let me close this chapter, then, by a recapitulation of the points contained in it.

Protection against the consumptive taint, or predisposition to take on consumptive disease, in children, depends upon the facts, —

(*a.*) That the mother of such children shall not be in her

girlhood at the time of their conception or birth, but shall be mature.

(*b.*) That the father shall be a full-grown man, and not a boy.

(*c.*) That, if either party is to be younger than the other, the welfare of the offspring depends upon the mother being the older parent, up to such a point as does not impair her vigor in its highest efficiency.

(*d.*) That the father shall not be an old man, either in his physical conditions or in years.

(*e.*) That, if the father *is* an old man, the mother shall not be a girl, but a woman in thorough health and in the prime of life; and that she shall be possessed of such a temperament and of such nervous conditions as will give the offspring, more likely than not, a preponderance of her own characteristics.

(*f.*) That neither of the parents shall be scrofulous.

(*g.*) That the mother, during pregnancy, shall be surrounded by the very best possible conditions for her own health.

(*h.*) That the child, after birth, shall be surrounded by influences favorable to health, and shall be placed under the very best possible hygienic relations.

These are the securities which, under the laws of life and health, God has placed in the hands of human beings for protection against pulmonary diseases; and, if any of these are neglected, no one can have as full security against the development of consumptive disease in his children at any time as he *might* have.

CHAPTER VII.

PREDISPOSITIONS TO CONSUMPTION, GROWING OUT OF THE USE OF UNHEALTHY FOOD.

In the front rank among causes predisposing to consumption may be reckoned unhealthy food.

The question, what men shall eat and what they shall drink, has been, from time immemorial, a vexed one; and perhaps there is no other subject upon which, among medical men of the present time, there is a greater difference of opinion than upon this. For the most part, public sentiment, whether lay or professional, is in favor of at least a *moderate use* of the flesh of animals; and, of these, such as range within the sphere of the domesticated are preferred.

In this country, the staple articles of animal food are the flesh of the swine, ox, sheep, cow, and domestic fowls.

Now, without entering very largely into a discussion of the question, whether, on the whole, our people would be healthier under a moderate daily use of the flesh of our domesticated animals, or under entire abstinence from it, I wish to impress upon the reader the liability to which any person is exposed who indulges in their use in such conditions as they generally are when prepared for food. There is as much difference between the flesh of an animal which is healthy and that of an animal which is unhealthy, as between the conditions of a person when in health and when out of health; and the conditions in which we place almost all the domesticated animals, before, in general opinion, they are considered fit to be killed and used for food, is as violative of their laws of health as the ways in which men generally live are violative of *their* laws of health. The flesh of the animals we eat is generally fattened flesh; that is, it consists of an accumulation of fibrous and adipose tissues in a quantity greater than that which can exist, and the animal

remain in natural conditions. Where fatness takes place, adipose tissue increases in undue proportion to the muscular or fibrous tissue; and, where this exists, the flesh itself is not healthy. Almost always, in such cases, the increase of the fatty structure is caused by a retention, in the cells, of waste matters, which, under ordinary circumstances, ought to and would be cast out, but which, under the fattening process, and the lack of opportunities for natural exercise consequent upon it, are retained and secreted, and so accumulate, and add to the animal's fatness and weight. To the degree, therefore, that fattening increases the weight or bulk of any animal over and above what it would be were the animal free to exercise its natural habits and follow its own instincts unrestrained, is such increase of weight proof of the unhealthiness of its flesh; and should be, therefore, a good reason why any human being, who desires to be healthy, should refuse to eat it.

The custom with our farmers is to shut up our domestic animals in stables or stalls or sties, and keep them so restrained as that they cannot have any thing like their natural freedom of motion. In this way, they increase the weight and bulk of the animals more than they could otherwise do: so that the value of the animal in the market may be said to be in a ratio inverse to its fitness to be eaten, — the fatter it is, the unhealthier it becomes; and the fatter it is, the more valuable it becomes for market-purposes. This is well known to men who deal in such articles. Pork-buyers always pay from one to two cents more a pound for an animal which will weigh three hundred or four hundred pounds, than they will for one which weighs only two hundred pounds. A bullock will always fetch from a half cent to a cent and a half more per pound when it weighs from sixteen to twenty hundred, than one which weighs only from eight to ten hundred.

In fattening our domestic fowls, too, it is our habit to shut them up in dark places, and feed them to excess; the impression being, that to the degree that we increase the fat is the muscular fibre of their flesh made tender and relishable. Whether this is or is not true, in no way affects the immediate point under consideration, — that to the extent that the

animal accumulates flesh, above that which it would accumulate under an unrestrained exercise of its natural habits, is such flesh made unhealthy by the restraint imposed. Fattened swine, beeves, mutton, calves, turkeys, chickens, are all unhealthy, — so unhealthy, as, when eaten in large quantities and habitually, either to actually deprave the blood of those who use them, or so affect the nervous system, through their effect upon the blood, as to subject the persons using them as staple articles of food to excessive excitability, and to induce a corresponding action in their other habits of living (in their exercise, work, rest, and sleep), and arranging their life-force unhealthily; so that, when they come to beget children, they give them their own predisposition or proclivity. I am therefore opposed to the eating of *fattened* flesh, because of the danger which arises of its poisoning or depraving the blood, and also because of the excessive excitability which the stimulant contained in it awakens in the nervous system; and, in the latter view as in the former, I am sure that my conclusions are founded in right reason, and not in any fanciful theories which I may be supposed to adopt, and urge upon the public, because of my professional position. The truth is, that the habits of living of parents essentially determine the constitutional habits of their offspring; and the use of unhealthy foods, and particularly of flesh-meats, is one great *provoking* cause of the establishment of unhealthy conditions. In this direction, if in no other, the disuse of flesh-meats will be found of great importance; and were I at liberty, in my own mind, to use them habitually as food, I should most certainly abstain from them for a period so far anterior to the exercise of the sexual function with a view to propagation, as to relieve my blood and nervous system from any immediate connection with the influence which this kind of food might exercise upon them. I would as soon go into the act of begetting my kind under the direct and positive use of alcoholic stimulants, as I would if wrought up to sexual desire by the stimulating effects of beefsteak or swine's flesh; for in no way could I hope or expect to avoid the influence of such stimulants upon the constitutional conditions of the child that might call me its father.

The philosophy of Moses is, that the blood is the life; and all that subsequent research has gone to demonstrate has in no way detracted from the merit of his view. In plain language, it may be said, that, at any given time, a living human being is characteristically just what his blood is. As *it* is, so is he, in all the physical aspects which he shows; and what his food has been, in its constituent or elemental qualities, will his blood be.

At one period of research on this subject, distinguished and learned men favored the opinion, that the vital principle in a living organism could convert one element into another. Thus Dr. Prout, in the "Philosophical Transactions" of the year 1822, page 337, asserts that the lime found in the skeleton of a chicken did not pre-exist in the recent egg: so that the only possible source whence it could have been derived was the shell, and not a transmutation from other substances supposed to be elementary. But as the membrane in contact with the shell is never vascular; and as both the albumen and the yolk contain, at the end of incubation, a considerable quantity of earthy matter, which, it is to be supposed, would have been appropriated to bone, in preference to that derived from a remote source, — Dr. Prout doubts whether the origin or source of the lime is referable to the shell. Indeed, it is tolerably clear that he believes in the capability of the vital energies to effect the transmutation of some of the so-called elements; and, in a work entitled "The Nature and Treatment of Stomach and Urinary Diseases" (third edition, 1840; page 36), he expresses himself more decidedly on this point. "Some imagine," he observes, "that the mineral incidental principles of organized beings are generated during the vital process; while others maintain that they are derived *ab externo*. My belief is, that, under certain extraordinary circumstances, the vital agents can form what we now consider as elements; but that, in ordinary, such elements are chiefly derived from without, in conjunction with elementary principles." In another part of the same work, he speaks of the assimilative organs being able, under extraordinary circumstances, to decompose some principles which are still considered elementary; nay, to form azote or carbon.

Other writers, scarcely less celebrated, have more or less

distinctly taken the same ground. But more extended investigations of scientific men, cotemporary with Dr. Prout and others, who advocated his views, have gone to show conclusively the incorrectness of this position: and all physiologists of the present generation, I believe, concur in the statement, that a living body has no power of forming elements, or of converting one elementary substance into another; hence, that the constituents of which the body of an animal is composed must be the elements of its food.

Admitting this, it must be seen what are the conditions of a man's blood, when one knows what the elements of his food are: and so far as vital states result from or are dependent upon the food he eats, so does the question of what he eats involve the question of what shall be the conditions and characteristics of his offspring; for the act of begetting a child is in the highest degree a vital act, and necessarily imposes upon a man the transmission of his own vital and constitutional relations at the time of begetting. If the food which he eats has the effect to deprave or deteriorate the blood which is in his body, or in any way to make it unhealthy, then the secretions from that blood which are necessary, under the act of propagation, to the transmission of his life to that of another, are qualified by the state in which his blood is at the time of such propagative act.

Now, flesh-meats, abstractly considered, are much more likely to be unhealthy, and therefore unfit for food, than grains, fruits, or vegetables; and for the reason that the organs of secretion in animals are much more complicated, their processes less easily understood, and their morbid conditions much more difficult of comprehension, than those of the vegetable kingdom. The flesh of an animal may be in a very unhealthy state; and he who eats it, not know it, and not be able to know it: but the pulp of an apple or the fibre of a potato cannot be in an unhealthy condition, without the fact at once becoming readily apprehensible by any one who will take the trouble to examine. If from any cause an animal becomes sick, — so sick as actually to die of disease, — and his flesh is offered in the shambles for sale, there is no readily available means of determining that

fact. To all intents and purposes, the meat may appear like that of a healthy animal; and that such is frequently the case, is well known to those who have given thought to the matter, and taken pains to investigate it thoroughly. In our large cities and towns, diseased meat is often sold for that which is not diseased, the purchasers being totally ignorant on the subject; and but for the stringent regulations which exist, involving the labor and expense of maintaining inspectors, the evil would greatly increase. To avoid the liability to eat diseased meat, and to have one's blood rendered impure by so doing, forms, to my mind, a full justification for abstinence from the use of flesh of any kind.

Dr. Copland, in his article on "Blood, and its Morbid Relations," in his "Medical Dictionary," says that "the effects of living upon much fresh animal food, in disposing the blood to inflammatory diseases, are too well known in all their relations to require illustration; but, when we consider the influence of various kinds of aliments in modifying the state of the blood, we ought never to overlook, that as its organization and vital manifestations commence with the chyle, and depend upon the vital conditions of the vessels and tissues, and upon the perfect discharge of all the functions which contribute to its formation and purification, the extent of the mischief produced by unwholesome food will be commensurate with the deficiency of vital energy and the imperfection of the various organic functions. A person of robust constitution, breathing a pure air and assisting the eliminating functions by regular exercise, will suffer much less than the debilitated, the indolent, and those placed in unhealthy localities, from unwholesome food, or from the accidental ingestion of injurious substances. A person thus circumstanced will also suffer less from the habitual indulgence in too much animal food; but, even in such cases, such indulgence will commonly give rise to a superabundant secretion of uric acid, and favor gravel. There is reason to suppose also, that, in such persons, urea, or uric acid, may exist in the blood, and be deposited from it in various parts of the body, particularly the small joints. The acid which becomes thus abundant is a highly azotized animal principle, obviously formed

from the excessive use of food which abounds in azote; and when its proper emunctories, the kidneys, fail to carry it out of the blood, it is secreted in other parts. The imperfect performance of the function of depuration is often a chief cause of morbid states of the blood. When we consider the importance of the changes that take place in the lungs; the quantity of carbonaceous fluids constantly discharged through this organ, and of watery vapor, loaded with various impurities, continually exhaled from its surface, and passing out with the expired air; or the abundant perspiration, sensible as well as insensible, constantly issuing from the cutaneous surface, and holding dissolved in it substances which require to be eliminated from the circulation (owing either to their excess or their foreign and hurtful nature); or the varying state of the urinary secretion; or the secretions formed by the liver, the internal surfaces of the bowels, pancreas, &c., out of elements, which, if not combined into these new forms and destined to serve ulterior purposes, would become poisonous to the frame by vitiating the blood, — it must be evident, that interruption of any one of these functions, if not compensated for by the vicarious increase or modification of some of the others, must be followed by alterations of the quantity, of the quality, and of the relative proportions, of the constituents, and even of the vitality, of this fluid. Under the due dominance of the vital energy of the system, and particularly of that influence exerted by the organic nerves on the great secreting viscera and on the whole vascular system, no sooner does any substance which may have been carried into the circulation, or which may have accumulated in it, become injurious, than it is eliminated by the proper action of some of the organs, which often evinces a kind of disorder, either in its action or in the state of its secretions, according to the nature of the substance which affects it. Thus we perceive various substances, and kinds of food, affecting the action and secretions of the kidneys, of the skin, and of the bowels, even in health; certain of their constituents becoming sensible in the *halitus* of the expired air, in the perspiration, or in the urine, where they come to be transported through the channel of the circulation only. The fetor, &c., of the breath, and the perspi-

ration, &c., of the skin, upon interruptions of the abdominal secretions, indicate also that impurities have accumulated in the circulation, and that they are being eliminated by means of the lungs and skin. So long as the vital energy is sufficient for the due performance and harmony of the functions, injurious matters accumulate less frequently, to the extent of vitiating the constitution of the blood; but when, from any cause, this energy languishes, or is depressed by external agents or influences, and the blood is thereby either imperfectly formed, or animalized and depurated insufficiently, some one of its ultimate elements or proximate constituents becomes excessive, and the chief cause of a disorder, which terminates either in the removal of the morbid accumulation, or in a train of morbid actions and organic lesions.

It has been long known, that affections impeding the functions of the lungs are frequently attended by an increased secretion of bile. This I have shown to depend upon the liver being excited to increased action by the carbonaceous and other elements accumulating in the blood, owing to the interruption of their elimination by the lungs; and thus we may readily recognize the cause of the frequent complication of biliary disorder with pulmonary disease.

Now, take a man who eats habitually of the flesh of animals, making it a staple of his food: and when it is considered that the usual habit of fattening such animals, so as to have them what is called fit for food, is to deprive them in large measure of opportunities for following out their natural instincts for the preservation of their own health, and thus to induce morbid conditions of their bodies, actually making them diseased, and of which bodies such eater partakes largely for his own purposes of sustenance; and then suppose such person to exercise the propagative function; and the question, it seems to me, is quite easy of solution, as to what the constitutional predispositions and tendencies toward health or disease of his offspring will be. It is no wonder that consumption has long been admitted to be an *hereditary* disease. Such are the bad dietetic and drinking habits of our people of both sexes and of all ages, that very few men and women can be found living in our country, of

whom it can with propriety be said, that their blood is in a *healthy* state. Persons are much more frequently in ill health than is supposed; superficial observers deciding the matter by the evidence, or the want of evidence, which such persons give of positive sickness: and, where such sickness is not visible, the conclusion is readily drawn, that those who have it not are necessarily in its opposite state, whereas the fact is frequently the other way. Though not suffering from actual sickness, they are suffering from ill health; and this ill health is attributable very largely to their dietetic and drinking habits, which are of such a nature, and followed up so pertinaciously, as to result in depravation of their blood, which in Bible language, as I have said, is their life. Thus the great life-principle comes to be abnormalized: and, whenever they exercise the reproductive function, they carry over to their offspring their own conditions, and relations to life, so that the child sets out on its course of existence with inferior vital relations, and under unfavorable circumstances; more likely than not, shows not only very feeble powers, but determinate predispositions to certain diseases, chief among which stand such as arise from imperfect nutrition, and imperfect aeration of the blood. A very much better course, therefore, on the part of parents, so far as avoiding the transmission of hereditary disease, or liabilities thereto, arising from unhealthy food, is concerned, would be to avoid the daily use of such substances as may contain constituents or elements, which, once introduced into the blood, vitiate it, and thus render their relations to health less positive and sure than they otherwise would be, and, in addition, make it quite certain, that, whenever they beget or bear children, these shall also have less securities for good health, than, under other and different circumstances, they would have. I am satisfied that the general abandonment of flesh-meats as food by all persons of scrofulous habit or of highly organized nervous structure, and the substitution therefor of grains, fruits, and vegetables, would, within the limits of two generations, diminish largely the number of persons who die annually of consumption.

But it is not only by the depravation of the blood of parents by animal food that predispositions to consumption are created in their children: it is quite as much through the effects pro-

duced, under its use, upon their nervous systems. The effect of an unhealthy condition of the blood upon the cerebro and organic nervous systems is readily admitted by all pathologists; and it is, or should be, as readily admitted by them, that the introduction, into the circulation, of substances which are in their nature stimulating, and which can in no way be assimilated and made to form component parts of the tissues, but which, while in the system, constitute and are to be regarded as foreign bodies, poisonous in their effects upon every portion of the organism which they may reach, so relates the subject who is under their influence, as to make it impossible for him, while in such conditions, to propagate his kind, without carrying over to his offspring these conditions or tendencies, and generally in a more permanent if not in a greater degree than he possesses them himself. Thus a man who is under exalted or unnatural states of the nervous system, caused by the introduction, into his circulation, of a foreign substance which is stimulating in its effects upon him, may find, that, under it, these exaltations may be ephemeral, or, at most, quite temporary: but if, while under the effects of such poison, he proceeds to beget offspring, his child will be more likely than not to show a condition similar to his own at the time of begetting it, as its constitutional bias or tendency; and will come into the world, therefore, with such excessive nervous sensitiveness, as to be wrought upon quite unduly by ordinary causes of irritation; and will show such bodily sensibility and high excitability of brain, and such readiness to take on nutritive irritation, as to put good health out of the question, and doom it, from the very outset of its existence, to abnormal states of body and mind, of activity and of feeling. Under such constitutional liabilities, backed up by the ordinary habits of living of our people, it is well-nigh impossible for such a child to grow up to adult age; or, if successful in so doing, to avoid, for any great length of time thereafter, exhibitions of consumptive disease. Either through the nutritive or through the respiratory system, there will be made manifest such enervation, as, at no remote period, to indicate actual structural involvement; and the subject, whether male or female, will die of marasmus or of abscess in the lungs.

CHAPTER VIII.

IMPURE WATER, MINERAL AND MEDICATED WATERS, AS PREDISPOSING AGENTS TO CONSUMPTION.

THE important part which water serves in the formation of the animal tissues is admitted by all physiologists. It is said that five-sixths of the whole volume of the blood is nothing but water; and that, of the soft and hard solids of the body, at least seventy-five out of every hundred parts are made up of this fluid: so that if an adult body were, by process of desiccation, to be deprived of all its fluids, its actual weight would be lessened four-fifths. Indeed, Blumenbach mentions the fact of a perfectly dry mummy, of an adult inhabitant of Teneriffe, with all the muscles and viscera, or internal organs, entire, which did not exceed seven pounds in weight.

Water enters very largely, also, into the composition of substances, both animal and vegetable, that are used for food.

As will be seen in another part of this work, consumption is oftentimes provoked by the imperfect action of organs which hold intimate correspondence with the lungs, — as, for instance, the stomach, liver, spleen, and bowels: and hence it follows, that a healthy condition of the lungs is greatly dependent upon the natural and healthy action of the organs of nutrition; and neither of the functions of these great organs can be carried on for any great length of time with success, unless a due quantity of water is introduced into the circulation. The first process of digestion, which is that of reducing the food taken into the stomach into chyme, cannot be carried on without a sufficient quantity of water, nor can the chyme be made into chyle, nor the chyle become blood. It is only by the presence of water in the food, or introduced into the stomach as a distinct substance, that the blood can be constituted fit to flow into the various

vessels which carry it, and so to convey to all the tissues of the body, and to deposit in them as it passes, the substances needful to compose them, or to make them good against the waste which they have suffered under their general vital actions. Water, therefore, it will readily be seen, forms not only a large component part of the fluids and solids of the body; but its use, in the maintenance of any thing like healthy conditions, is essential to the body.

Dr. Bell, in an article on "Regimen and Longevity," says that "thirst can only be allayed by water, or by drinks mainly composed of water. Whenever man is left to the cravings of instinct for the preservation of his frame, — as when wandering in the desert, or on a wrecked vessel, or tossing about with fever, — he snatches at water as the only beverage to quench his thirst, cool his system, and renovate his decaying strength. Next to the nutritive fluid furnished by the maternal bosom, water is the only one taken with avidity by the infant; as, if left to his primitive taste, it ever would be by adult man: and even he, who, in the madness of his evening revel, drinks deep of the intoxicating bowl, and stoutly denies the fitness of water as a beverage, will, on the following morning, entreat for, and clasp with eagerness, a full pitcher of this liquid, which, a few hours before, he had so insolently derided. Both instinct and recovered reason now suggest the choice of the proper beverage; and, but for the curse of imitation and evil example, their joint influence could never be mistaken."

When we say that water is the only drink fit for man's habitual use, we are sustained by the facts of the case. Water is the only liquid which is essential to the formation, development, and support of his frame. It is equal to all the exigencies of thirst for the relief of present inconvenience, and of dilution, by mingling with his blood other fluids to prevent further suffering and disease. Water is found in all climates and habitable regions of the earth; and Providence has nowhere formed, in fountain, stream, or well, in river or in lake, any liquid as a substitute for water. To be the universal beverage, it ought to be (as it is) everywhere attainable, and adequate to all our natural wants of appetite, growth, bodily

and mental exercise and activity. Even when the health suffers, and the body and mind are ill at ease, where is the restorative liquid, or agent of any kind, that can revive and renovate like water? Besides serving the purposes of dilution, and being the menstruum by which other substances are kept in solution, and the medium of their conveyance from one part of the body to another, it has also nutrimental purposes of its own. A large proportion of that which is drunk is absorbed by the veins, and finds entrance at once into the circulation; but the product of the digestion of the food, or the chyle itself, largely consisting of water, is introduced by the way of the lacteals. Not only is the agency of water required for transporting the solid organized and vital constituents from one part of the body to another, and for arranging them in the desired place in the animal organism, but it is also necessary for their removal and expulsion from this latter when they are no longer necessary, or when their retention would be deleterious. This fluid is alike important for the performance of the functions of assimilation or supply, and of dissimilation and depuration. It imparts, also, to the more solid constituents of the body, that inflexibility, and power of distention, so characteristic of animal solids. The quantity of water these possess is continually changed by the operation of the organic bodies. The lungs, the skin, the act of drinking, the kidneys, all affect it: in fine, water and its elements enter into all organic processes.

By what methods of stultification our people have been brought to such opinions and conclusions as they hold, and to such habits as they show, in the use of their beverages, I am at a loss to decide. In a country where hardly a week passes without its being visited by copious showers of rain or of snow, — thus enabling the people to provide themselves, by very little labor and at a moderate expense, with water free from all foreign material, and therefore fit for all the purposes for which we use it, — it is a curious fact that they should everywhere be found following the practice of digging down into the bowels of the earth, and drawing up therefrom water, and generally very poor water at that: for the water of our wells

is for the most part hard, being impregnated with mineral or metallic substances in greater or lesser degree; and, even under the most unexceptionable forms of such impregnation, being decidedly unfit for use, either as a beverage, or as a menstruum in which to cook our food. Notwithstanding this, except in localities where the streams and ponds of water are soft, every family will be found to go to the double expense of building a cistern and digging a well, — the cistern being for the purpose of enabling the laundress to do her domestic duties successfully, and the well to supply the family with water to drink and in which to cook their food; the owner of the homestead never stopping to think, that the water which his family use for drinking and cooking purposes ought to be as pure as, and if possible purer than, that which they use for washing-purposes. In this direction he shows ignorance of a great physiological law, in supposing that water which cannot cleanse his wearing apparel is quite fit to cleanse the outer surface of his body from its accumulations of waste matter and dirt, and his inner surfaces as well; whereas it is an actual fact, that every human being needs to drink water chiefly, and I may say solely, from the necessity which exists that his blood and solid tissues should be washed regularly and thoroughly every day. Blood-washing is a very necessary, healthful, and vital process; and nothing can wash the blood, and keep it pure and healthful, but soft, pure, unmedicated water. Just to the degree, therefore, that water partakes of foreign material, is it unfit for the great washing processes of the internal surfaces of the body, and for the uses to which, in the purification of the blood, it is put by the great organic vital forces.

Said a very distinguished allopathic physician to me, when talking with him on the uses of water in the treatment of disease, "I recognize, from my own point of view, the success of your practice to depend chiefly upon the benefits derivable from the drinking of water, and the absorption of it under its external application. I hold to the idea, that the blood needs washing as much as the solid tissues of the body; and that the internal surfaces of the body need detergent operations as much as the external surfaces do, and perhaps more; that nothing

can reach the conditions in which they are, when washing is demanded, but water; and, therefore, that to advise sick persons to drink largely of it when under treatment, is to act wisely, and, as I think, with a philosophical certainty of success. It is for this reason that I advise my patients to visit the watering-places. I send them there to drink of the waters, not because of the value I attach to the *mineral* and *metallic* substances which they contain, and which are generally regarded as of a medicinal nature, but because, that, under the impression that medicated waters are of great benefit, they can be induced to drink much more freely of them, than, by any motives which I could suggest to them, they could be induced to drink of simply pure water. They thus get the benefit of water in the changes and purifications to which the tissues are subjected under its presence. And," said he, "I am in the habit of washing out my blood and my system generally once or twice a week; and, in order that I may be successful in so doing, being, in the main, a generous liver, I partake, on such occasions, freely of common salt, in order to create a thirst which will not be satisfied without my drinking copiously of water. Thus, although I should be, perhaps, quite as well off if I were not to eat the salt, but to drink the water alone; yet I cannot get up force enough, in the absence of a good degree of thirst, to drink such a quantity of water as I think my system needs for purifying purposes. Resorting, therefore, to the use of salt to create a thirst, and drinking water to allay it, I derive all the benefits obtainable by its use."

When this gentleman made the foregoing statement, I could only think how thoroughly in line with the general practice of his school were this advice to his patients, and this habit of his of using common salt; the whole being devoid of all sympathy with science or common sense. How easy it would have been for him to advise his patients to do the right thing in the right place! These sick ones, and he himself, according to his view, needed, for purposes of health, to use water much more liberally and habitually than they were accustomed to use it; and what he should have done, in order to insure strict obedience on their part, was himself to rise to the level and

dignity of the law, — obedience to which, his as well as their bodily welfare rendered imperative. He should have said to his patients and to himself, "You need more water than you drink; and, for the purposes to which the system will put it, none is so good as that which is quite soft, and entirely free — or as nearly so as it can be found — from all foreign substances. Now, change your habits in this direction; and instead of drinking water with foreign substances infused or dissolved or suspended in it, under the impression, that, as a beverage or as a medicament, it will be useful to you, drink water which is entirely free from any such substances. Do not take good soft water, and put lime into it, in order to make it hard, and to supply material for your bony structure. Do not take pure water, and, by putting into it the tea-plant, make a decoction, the natural and legitimate effect of which is to shrink and shrivel the tissues, and thus infringe upon great vital processes, the undisturbed operations of which are essential to health. Do not take pure water, and put into it the coffee-berry, and so make a drink, which, when taken into the circulation, so deranges the nervous system, and especially the brain, as to unfit those, who use it, for any thing like a healthy exercise of the mental faculties. Do not take pure water, and put into it alcohol, in itself a deadly poison; the effect of which, when introduced into the circulation, is to excite every organ of the body in its functional activity to undue degree, only to be followed by a corresponding depression. Do not take water which is pure, and put into it mineral and metallic substances, and then drink it, expecting to have produced thereby such changes in the condition of your blood, or in the conditions of action of any of your more important organs, as will greatly benefit you. For your congestion of brain, for your difficulties of respiration, for your imperfect digestion, for your inaction of the liver, for your torpor and costiveness of the bowels, for your inefficient external circulation, if water is needful in any form, stop and consider, and act upon the sensible theory, that the purer it is, and the freer it is from all substances the natural effect of which is to disturb or derange the system in any way, the better it is for all your curative purposes."

Suppose this gentleman had reasoned thus with his patients, he would have introduced them into a field of thought, and helped them to establish a course of action, which would have been of vast benefit to them when they should have come fairly to understand it and act upon it. But, as he did advise them, I am compelled to say, that he did so from the point of an empiric, and urged them to do what in his own consciousness he knew to be nothing but the merest quackery; and, in doing this, he brought them under the range of influences, which, in their more extended effects, will reach beyond their own conditions, and vitally and permanently affect the health of any children they may have.

According to the best physiologists, water serves an essential purpose in the transformation of all the tissues of the body. Its efficiency as a solvent is well understood, and is in proportion to its freedom from all foreign matters. The chemist understands this; and in those delicate experiments to which science subjects him, in order that he may understand the wonderful arrangements of natural law and its outworkings, he comes to be aware that their success depends very essentially upon this solvent being entirely free from all extraneous material. He therefore decomposes and recomposes it for his own use. Far from being willing to experiment, in cases where it is needed, with water drawn from a common well, or even caught on its way from the clouds, he is only willing to use it after he has rendered it into vapor and recondensed it; or, in other words, he is only willing to use distilled water, which is made up of oxygen and hydrogen in their organic relative proportions, and of nothing else. When it is remembered that the arrangements which the chemist can make in his laboratory, for the adjustment of the relations of these different substances, cannot be carried on with any thing like the minuteness or exactness with which they can be formed under the operation of what may be called the vital principle in the living organism; in other words, when it is remembered that the laboratory of the chemist, with him for an operator, cannot be a place where as grand a display of the operation of chemical law can be had as in the laboratory

of the human body, with Nature for the operator, — it will at once become manifest how important it is that human beings should be careful, in introducing into their bodies such an essential constituent as water, that it be perfectly pure, or as nearly so as may be. The amount of health and life which has been lost; of disease which has been caused, and which has made life, while it existed, a burden, and filled it with suffering, by so seemingly unimportant a thing as the use of impure water as a beverage and in preparing food, — can never be computed. In all cases where, from constitutional predisposition, there is a tendency, under unfavorable external circumstances, to establish morbid conditions of the mucous membrane, of the external skin, of the blood itself, of the fluid and solid excretions of the system, or of any particular structures (such as the lungs, stomach, liver, spleen, kidneys, bowels, or genitals), the use of hard water is altogether indefensible and unjustifiable. To its use, much more commonly than is supposed, may be laid the prevalence of baldness, early grayness of the hair, nasal catarrh, sore eyes, cracked lips, furred tongue, sore throat, inflammation of the mucous membrane of the bronchial tubes, development of tubercles in the lungs, dyspepsia, congestion of the liver, constipation of the bowels, stony concretions in the kidneys and bladder, and highly irritated conditions of the sexual organs; with such unhealthy and inert state of the external skin, as greatly to impair its efficiency. If, under the use of hard water, these conditions are not seen, it is only because the vital resistance has been competent to the prevention of all the derangements which the use of such a beverage is calculated to produce, and has thus kept up the health of the person. But here it must be remembered, that never does one violate a law of his organism, and escape the *direct* ill results of such violation, without sooner or later suffering therefrom; and that to the degree that the vital force has been compelled to expend itself in protecting one against the direct effect of an ill habit, even though this may be nothing more than the drinking of impure water, is his life shortened: for it is quite axiomatic, that the rapidity with which vital force is expended by any individual must be the measure of the length of his life.

In large portions of our country, the water which runs upon the surface of the ground, making springs or brooks, contains vegetable matters. These have undergone decay or decomposition, and then, by the permeation of the water through them, have been mingled with it, so that they are either held in solution, or suspended in its bulk. These substances may be, and not infrequently are, poisonous in their nature, and, when introduced into the system, serve to irritate the surfaces over which they pass or upon which they lodge. They produce, therefore, such exhibitions of vital action, on the part of the organs within which they lie, as to cause very diseased conditions of them. Fevers, diarrhœas, inordinate urinary secretions, bad breath, expectorations from the lungs, nasal secretions, vomitings, hemorrhages of the stomach and lungs, unusual secretions of bile, are often seen as proofs of the presence of such poison in the circulation or in the other fluids of the body. It is, therefore, quite unsafe to use for drinking or cooking purposes the water of streams which flow through marshy land, or over a portion of the earth's surface, covered by vegetable matters undergoing the process of decomposition. There is but one safe rule by which to be guided; which is, either to use water, coming from a spring or stream, which is soft, or to use rain water which has been filtered. Whenever the attention of a family is directed to this view, and it becomes the basis of their action, they may rest assured that it will prove of great benefit in the preservation of their health and the prevention of disease.

If, however, it is important that water should be free from all vegetable substances, how much more important is it that it should not contain any combinations of earthy salts, such as, when found in large measure, give to it the name of "mineral" or "medicated water"! The unhealthiness of the mineral waters of the United States cannot be estimated at the first calculation. So prejudiced are we by our habitual use of drug-poisons for remedial purposes, that our reason cannot, at the first effort, be rallied to a close analysis, nor our judgment to an impartial decision, with regard to the use of medicated waters. The medical profession is so given up to the use of drug-poisons as

remedies for the maladies of the human frame, that *they* are nearly incompetent to render any other decision on the subject than one which is unqualifiedly favorable to their use. For a large class of ailments, mineral springs, or medicated waters, as they are termed, are highly recommended by medical men, and are therefore held in high popular repute; but any such expression of opinion in their favor does not change the facts in the case. Look for a moment at the composition of the most celebrated mineral spring in the United States, — the Congress Spring, at Saratoga, in the State of New York. One gallon of it contains of —

Chloride of sodium	385 grains.
Hydriodate of soda	$3\frac{5}{10}$ „
Bicarbonate of soda	9 „
Bicarbonate of magnesia	95 „
Carbonate of iron	5 „
Silex	1 „
Making	$498\frac{5}{10}$ „

Dr. Steele, formerly a resident at Saratoga Springs, and, when living, a physician of great celebrity, says that it is not uncommon for invalids, resorting to that village for health, to be found drinking from thirty to forty tumblers of this water before breakfast! He thinks, however, that this is altogether too much, and that, in so large quantities, it often causes serious if not dangerous effects; and that in no case can such immense quantities of fluid be imbibed without doing more or less injury. One might well think so, upon a little examination of the matter. Forty tumblers of water are forty half-pints; forty half-pints are twenty pints; twenty pints are ten quarts; ten quarts are two gallons and a half; two gallons and a half contain $1{,}246\frac{1}{4}$ grains of mineral substance. Here, then, are not only two gallons and a half of water introduced into the human stomach, to be gotten out of the system by absorption and excretion, but there are also one thousand two hundred and forty-six grains of earthy salts to be eliminated from the system, not a single one of which can ever get out of the body without irritating every particle of surface over which it passes, unless such substance happens to be one which can be appropriated by the organic machinery for the purpose of building up some one or

other of its various tissues. If any physiologist or chemist will cast his eye over the formula above, and see the constituent elements which are there enumerated, he will, at a glance, be able to determine which of these substances legitimately go to make up any of the tissues of the human body, and, if so, to what degree one or more of them is usually appropriated for that object; and he will also be able to conclude, I think, that just to the degree that these substances are found in the system, over and above the wants of such system for them, they can only be regarded as foreign bodies, and serve only the purposes of irritants; thus doing injury, instead of good, by their presence. Dr. Steele goes on to say that this Congress water is a cathartic, which possesses interesting and important qualities; and that such are its peculiar effects, that, under its daily use, increased evacuation of the bowels may be induced for any length of time: and he thinks that about three pints should be taken an hour or two before breakfast, and followed by a proper share of exercise, in order to have it produce a cathartic effect; and, as if this effect might not be insured habitually by so small a quantity, he suggests, that, in order to have a proper cathartic action, a *teaspoonful or two of Epsom salts may be added.*

But there are various other springs, at Saratoga and at Ballston Spa, which, together with the Salt Springs of Virginia and the White Sulphur Springs of Greenbrier County, Va., and other mineral springs in the different parts of the United States, are celebrated for what are called their medicinal effects. There are also medicated springs, bubbling up from the earth's surface, in almost every town and neighborhood in the Union. The majority of these, however, have such a predominance of sulphur in them, as to be known by the name of "sulphur-springs;" and the people in their neighborhoods are in the habit of resorting to them, and drinking of and washing in their waters, for the cure of any ailments for which they may be locally or more widely famous.

But this is not all. Such springs are regarded by people, generally, as effective not only for the cure of disease, but also for its prevention; and are oftentimes resorted to for purposes of health. I know persons, who have sulphur-springs

upon their farms, who drink the water habitually, and think it subserves a most excellent purpose; and yet this portion of our population who regard such waters with favor as a remedial agent, or as a means of preserving health, would be greatly surprised, and not unlikely indignant, if they were to learn, that, in neighborhoods where no such waters are to be found, medical men were in the habit of compounding medicines in just the ratio in which they are found in these springs, and, having mingled them with water, of giving them to their sick ones as a universal panacea, and of recommending the free use of them to their fellow-citizens who are *not* sick. Think of a physician entering the house of a neighbor, no member of whose family was in the least degree in ill health, and gravely saying to him that he was sure their health would be in a greatly increased degree rendered secure, if, every morning, each member of the family would take from one to twenty grains of sulphur or magnesia or iodine or common lime or potash or soda, stir it into water, and drink it! If our mineral springs were made to order in the apothecary's shop, or in the laboratory of the chemist, the people would be as much prejudiced against their use as they now are in favor of them; but there would be no more reason for their being ill disposed toward them then, than there is for their regarding them with so much favor now. In the one case, as in the other, they would be equally open to objection; for, in either case, their use could only be productive of great injury to all who should indulge in it.

I cannot imagine, much less determine with mathematical certainty, the number of persons who are killed annually by the use of these medicated waters: but I am as certain as I am of any other fact, that ninety-five per cent of all those who seek them for sanative purposes are injured by them; and that of persons, young and old, male and female, who, having strumous diathesis, partake freely of these waters, large numbers develop, sooner or later, active consumption, and die of it.

CHAPTER IX.

ALCOHOL, AND ITS INFLUENCE IN DEVELOPING CONSUMPTION.

It has been urged with great pertinacity of late years by medical men, and their statements have been accepted with great confidence by the common people, that alcohol has the effect, when taken into the circulation, to so alter or re-arrange the constituents of the blood, or to so relate itself to those constituents, as directly to tend to the prevention of pulmonary disease.

How or by what means this notion has been permitted to take lodgement in the minds of intelligent men, especially of men whose business it is to understand the human body and its vital and functional economy, is a matter of surprise to me. There is not the least shadow of a foundation for the opinion, to be derived from an examination of the chemical or vital relations of alcohol to the blood, the solid tissues, or the nervous structure, of the human body. On the other hand, just as far as scientific investigation has gone, it proves determinately and decisively, that its effects upon each of these organisms, and upon all of them, are of a nature opposite to that which medical men, in large numbers, have attributed to it.

Alcohol is described, by one of the best writers on chemistry, to be "a colorless, transparent liquid, of an agreeable, fruity odor, and a penetrating, burning taste. It is about one-fifth lighter than water, its specific gravity being .794; and has such a strong attraction for this substance, that, when bottles containing it are left open, it withdraws it from the atmosphere, and becomes heavier. Hence the weight or specific gravity of a mixture is made use of to determine the proportion of spirit it contains. It is more volatile than water; that is, it evaporates and disappears faster when exposed to the atmosphere. It has never been frozen, even by a temperature a hundred and eighty

degrees below the zero of our common scale; and is hence adapted for use in thermometers where the cold is so great as to freeze mercury."

Alcohol consists of four atoms of carbon, six of hydrogen, and two of oxygen. It is, therefore, highly inflammable, and burns with a lambent blue flame; producing no smoke or soot, and only a very small amount of light, but a very intense heat. This property adapts it admirably to the wants of chemists, who burn it in lamps as a common source of heat. It is much used as a solvent, as it dissolves many substances which water will not. It has also powerful antiseptic properties; that is, it prevents the change or putrefaction of animal and vegetable substances, when they are placed in it. It is an essential ingredient in spirituous liquors, and to it do they owe their characteristic and remarkable properties; and in consequence of the alcoholic constituents which they all possess in common is it that they are so much sought after and prized, and to its presence in them do they owe their peculiar and characteristic influence on the animal system.

"The relative amount of alcohol in different liquors varies greatly, according to the brand. Rum, whiskey, brandy, and gin contain from fifty-three to fifty-seven per cent; port wine, twenty-two; champagne, twelve; cider, five to nine; and beer, four to six per cent."

One can readily see, then, the true origin of this substance; and that, no matter what particular manifestation it may show, its origin is the same: it comes from the decomposition of sugar, and has no other source in nature. Unlike substances that serve the purpose of food, it is not the product of growth; and there is not the least ground for the assertion so often made, that it exists as such in the sugar or grain. Before it can exist, the substances from which it is capable of being produced must undergo chemical changes, so as necessarily to involve the destruction of one compound and the construction of another. One might as well say that a thousand other compounds which can be produced from sugar, under the changes which the elements undergo, existed in the sugar before these changes, as to say it of alcohol.

From this description of its nature and origin, we are prepared to examine its effects upon the human system when taken into the circulation, and to see what is its relation to the digestive process; and, after the exercise of that function has been accomplished, to the constituents and tissues of the body.

The first question, then, is, whether alcohol, when it is taken into the stomach, is ever digested. The best writers affirm that alcoholic liquors do not remain in the stomach, to be digested like solid food; nor do they pass into the intestines and enter the circulation by the route usual to nutritive substances. They are absorbed at once, in the same way as water, by the veins of the stomach, and so transmitted to vessels of larger size, and thus mingle with the mass of the blood.

Youmans says that Dr. Percy made numerous experiments upon the lower animals by injecting strong alcohol into the stomach, and thus poisoning them to death. Upon subsequent examination, if not too long delayed, he was always able to detect the alcohol in the blood of the poisoned animal; and the speed with which this result was brought about can be explained in no other way than by the direct and rapid absorption of the alcohol upon its entrance into the stomach.

More recently, also, alcohol has actually been detected in the veins of the stomach by two eminent French physiologists.

There is a widely spread popular notion, that alcohol, when taken into the stomach, is capable of producing such effects upon that organ, as essentially to assist it in the act of digestion; and what seems strange to me is, that educated men should fall into this great mistake, because a very superficial acquaintance with the conditions under which the digestive process is performed should satisfy such persons that the thing is impossible. Digestion is not, and cannot be, carried on, except under the secretion in the stomach of a fluid termed the "gastric juice;" which fluid is secreted from the inner membrane of that organ. Chemists say that the solvent power of this fluid over the food eaten is chiefly due to the different substances it contains. Youmans describes them as being, one, an acid, which may either be acetic or lactic, and which imparts an acidulous character to the digestive operations of the stomach. The other substance

essential to digestion, he says, is a peculiar organic principle called *pepsin*, which is asserted by all writers on vital chemistry to be indispensable to digestion; though the nature and properties of it are as yet but imperfectly comprehended. Chemists prepare it by adding alcohol to the gastric juice, which precipitates the *pepsin*. To the degree, therefore, that mixtures taken into the stomach contain alcohol, do they antagonize the digestive process.

The very latest and highest physiological authority corroborates this view. Say Todd and Bowman, in their work entitled "Physiology of Man," "The use of alcoholic stimulants retards digestion by coagulating the *pepsin* of the gastric juice, and thereby interfering with its action. Were it not that wine and spirits are so rapidly absorbed, the introduction of these, in any quantity, into the stomach, would be a complete bar to the digestion of food, as the *pepsin* would be precipitated from the solution as quickly as it was formed by the stomach."

As alcohol, as has been stated before, does not pass into the circulation by the same process by which the constituents and elements of solid food pass into it, but is quickly brought into the presence of every part of the system by rapid absorption, it necessarily is carried with great rapidity to the heart, lungs, liver, and brain; and so reaches every tissue in the body. Such being the case, what are its effects upon their constituents is worthy of inquiry.

The leading idea of the Creator, in constructing the living organism, most undoubtedly was to exhibit a manifestation of power; and it is a well-settled principle in the economy of living creatures, that the exercise of force is always accompanied by waste of the materials of which such organism is composed. "Every act," says a distinguished writer, "involves the partial destruction of the vital instrument engaged in its performance. Living machines, as well as inanimate ones, wear by use. With the birth of power, there is death of living matter. Every contraction of a muscle, every transit of nervous influence, is accompanied by the passage of living atoms of muscle and nerve into a condition of death. Every action of the mind upon the nervous system disintegrates or breaks down a portion

of the nervous matter, just as every train sent over a railroad wears away some portion of the iron track."

To the degree, then, that the constituents or atoms of which the body is composed perish under the action of the living force, must there be contrivances to eliminate these dead particles from the body. Detained there for any length of time, they become poisonous; and, when they have accumulated in large masses, they so disturb its vital action as oftentimes to induce death. The carbonic acid, which is generated in the human body by the change which its particles undergo from life to death, would, if retained within it, cause almost instantaneous death. "But Nature has a process going on other than that of decay. Where there is waste, there must also be reparation; and thus arrangements have to be made for nutrimental ends. The body has to be made good against the changes, which, under its vital action, are constantly going on." There needs to be a constant and uninterrupted repair of the muscular and nervous tissues. For this purpose, we eat food, — substances so constituted by the hand of Nature, that, when introduced into the circulation, they can readily take the place of those particles of matter which are of no further use in the building-up of the organism. This process of supply against waste is called the "nutritive process;" and what is not so commonly understood as it ought to be, is, that the medium or vehicle of this, as of other great vital changes in the living organism, is water. The body could not perform its offices, were its constituents mainly or chiefly solids: so, to avoid defeat, the Creator has made them chiefly fluids; and the instrument which he has established for the carrying-on of these great changes is water. As my readers will have seen under a preceding head, the presence of this liquid in the human body is essential to life; chemistry having decided that it is a necessary constituent of all organized substances. So important is it, that one writer declares that "our first physical necessity is for air to breathe; and the second, for water to drink: that the demand for it is so large and continual, that a healthy man consumes three-quarters of a ton annually; and that, when he has arrived at the period of manhood, he has used of it three

hundred times the weight of his own body." Now, science determines that alcohol has a powerful attraction for animal tissue; and that the constituent of water, of such tissue, is held in relation to it by capillary attraction. Any substance or force which tends to disturb the equilibrium of such attraction tends to produce disorganization. If alcohol be taken into the circulation, and brought into contact with any of the animal membranes or muscular fibres, absorption at once takes place; and it penetrates, and extends itself over, every part of the tissue. Youmans declares, "that, in the cases of animals poisoned by strong alcohol, the stomach retained it after long washing and soaking; nor did a jet of water, directed upon it for some time, avail to remove it." Its relation, therefore, to the water of the tissues, is that of a destructive or disorganizing agent. It changes the natural constitution of the parts. Liebig took a hundred and forty-one grains of fresh animal membrane, which contained thirty-four grains of dry substance and a hundred and seven grains of water, and soaked it for a time in about two and a quarter cubic inches of alcohol. When removed, the membrane was found to contain thirty-two grains of alcohol, and to have lost ninety-nine grains of water. "For one volume of alcohol, therefore, retained by the membrane, more than three volumes of water have to be expelled from it; and since, in this case, so much more water has to be expelled than alcohol absorbed, the first result must be a shrinking of the animal substance."

It will be seen, then, by this simple experiment, — which is as good for my purposes as if I were to quote a hundred like it, — that alcohol, when taken into the stomach, or after having passed into the circulation, is incapable of nourishing the body. Wherever and whenever found in the human body, it is the same indigestible substance. The vital forces cannot use it for the purpose of supplying waste, and only exhaust themselves in their efforts to eliminate it from the system. It has not, therefore, any power to re-energize the body, or to recuperate its fatigued and prostrate powers: and he who uses it for this purpose deludes himself; for its tendencies — and its effects, whenever it is taken in sufficient quantity to enable it to

manifest them on a large scale — are always to overpower the vital forces, and to kill the person who uses it. True, under its ordinary use, the quantity taken is not sufficient to cause *immediate* death: but its effects in that direction are always in exact ratio to the quantity drunk; and, although these may not be seen in a direct or immediate form, there is none the less a destructive process going on under its use; for its legitimate tendency is to produce diseased conditions of some or other of the organs of the body; and perhaps in none of them is such effect more likely to be seen than in the organs of respiration.

Here, again, I must be permitted to quote from a writer already mentioned, and one who has done great service in relieving this subject from much of the fog wherewith medical men had previously surrounded it. I refer to Youmans, and to his little work on "Alcohol, and the Constitution of Man."

He says, that "the effect of alcohol upon the nutritive and reparative systems is to obstruct their healthy exercise; and that close experimenters have observed, that, where animals are poisoned by alcohol, the blood, after death, remains either in a fluid or very imperfectly coagulated form, — the fibrine continuing in a fluid condition, precisely as when an animal has been killed by lightning or suffocated by carbonic-acid gas. The twofold effect of alcohol upon the leading constituents of the blood is to retard the transformation of the albumen into fibrine, and to obstruct the coagulation of the fibrine; thus inevitably depressing the powers of the blood, and greatly disturbing the nutritive operations." He says that "this result is in full accordance with observation and with the highest medical testimony. Of the British Army in India, some regiments practised total abstinence, and others made use of the spirit ration; and their commanding officers reported, that so far as regarded recovery from sabre-gashes, sword-cuts, and gunshot-wounds, restoration was more prompt, and fewer cases terminated fatally, in the total-abstinence regiments than in the others."

Dr. J. N. Carnachan, — a distinguished practical surgeon, and professor in one of the New-York medical colleges, — in a letter which appeared in the "Tribune" of Oct. 26, 1853, says,

"As a surgeon, however, having vast opportunities for experience in hospital and private practice, I must declare, that I always look upon patients who have been in the habit of using spirituous beverages as least likely to recover from serious maladies or from the shock of capital operations, and also as most likely to require a longer time for the cure of diseases of a more simple character. I have, at times, met with cases of fractured bones occurring in persons of intemperate habits, in whom the bones would not unite by bony material, but remained flexible and useless, on account of the union being ligamentous."

It is well known, that, without any great amount of physiological knowledge or pathological skill, men in England, who have been accustomed for years to fit and train their fellows for prize-fights, have demonstrated the correctness of these views under their own observation and experience. So clear, too, have they made this demonstration, that no man is now permitted to go into training for pugilistic exhibition, and take into his system strong drinks in any quantity, or even the milder stimulants, such as our common table-condiments. The diet of men who put themselves in "training," as it is called, is chiefly bread and meat, with water for drink; and thus, in time, they reach such healthful conditions of body, that they are able to undergo much bruising and pounding, and recover from their effects rapidly.

The habit, then, of taking alcoholic liquors into the system, with the view of assisting in the overcoming of any morbid conditions which any of its organs may show or of repairing any lesions which may be within it, can readily be seen to be entirely false and indefensible. As the necessities for healthy action of the general system are imperative, in order that the respiratory system may perform its action healthfully, to take into the circulation any substance, the legitimate effect of which is to disturb the nutritive organism, or to hinder the natural action of the excretories, is surely to disturb and derange the action of the lungs, and to lay the foundation of such diseased conditions within them, as, at no distant day, to give cause for anxiety, and perhaps for serious alarm. To the degree, then,

that the use of alcohol involves the vital powers in rapid expenditure, where, but for its presence, a lower order of action would answer every purpose, is life shortened: and as it has before been seen that the effect of alcohol is to hold in check the changes through which the atoms of matter in the system must necessarily pass, in order that the body may be kept in health, and that just to the degree that the metamorphosis of these tissues is hindered must there be an accumulation of poisonous materials; and that to the degree, also, that these accumulate, must the nutritive and respiratory organs take on unhealthy conditions, — it does seem as though the commonest mind might readily draw the inference, that its direct as well as remote effects upon the pulmonary organs must be to disease them.

Take a man, woman, or child, of the lymphatic temperament or of a scrofulous habit of body, and subject such person to the daily use of spirituous liquors which shall contain a medium percentage of alcohol, and the result must be seen in one of three ways, — either that he or she will become an inebriate, and die by some casualty or accident, or in consequence of having committed some crime; or else that death will be caused by a disease originating in the liver, or by consumption. If the person be of the lymphatic temperament, the liver, more likely than not, will be the point around which all the morbific symptoms will centre; while, if he or she be of scrofulous habit, death by consumption is sure to follow.

The practice, therefore, of giving to children, when depressed by fatigue, stimulating drinks, and the kindred habit, so common to our people, of drinking some form of alcoholic mixture, when by reason of excessive labor, whether of body or brain, they become tired, as well as the habit common to the medical profession, of administering alcoholic stimulants to their patients, are open to the severest criticism. They have in them nothing by which they can be defended or justified; and they only argue to what extent intelligent and educated men can remain blind on a given subject. Thousands of physicians, and tens of thousands of persons, can be found in the United States, who are either administering to their patients, or taking themselves, some form of mixture of which alcohol is a large ingre-

dient, in the vain hope and expectation, that, under its use, pulmonary irritations or well-established pulmonary diseases will be alleviated or cured; such persons never stopping to think, or not knowing, that every dram of such mixture they take is essentially a poisonous and deadly agent, — the effect of which upon their disease is to intensify it, and, if long enough continued, to render it positively incurable. Probably, of all the poisons that consumptives take, with a view to relief from their ailments, there is none that operates so certainly to kill as alcohol; and yet grave and thoughtful men — men of whom, as to their philanthropy and general desire to do good, not a doubt can be raised — are assiduous in the administration of it in various forms as a remedy for consumption.

Within a few years, a new explanation of its worthfulness as a medicinal agent has been offered. It has been said that its effect, when taken into the system, is to hinder the rapidity of the change which the tissues undergo in pulmonary disease; and that, therefore, it is serviceable as a medicine in all such cases.

Now, to this assertion, there is no reason to offer any objection. The very properties of the poison which hinder chemical changes from going on in a dead body, do, to a certain extent, produce the same result in a living body. If a fleshy tissue or an animal membrane, unvitalized, can be kept from ultimate changes by being brought into contact with this poison, so the same tissue, when living, can, to a certain degree, be affected in the same way; and it is true, that alcohol, when introduced into the circulation and carried to the various tissues, does hinder the vital changes which these tissues ought to undergo. But, so far from this fact being a reason why consumptives should take this poison as a cure for their diseases, it furnishes a powerful and conclusive reason why they should avoid its use; the difficulty in such cases not being that the tissues are wasted too rapidly, but that reparation, as against such waste, is made too slowly: and therefore, to take into the system a poison, the effects of which are to check such waste, while at the same time it destroys all possibility of increased reparative action, is necessarily to settle and hasten the conclusion of the issue. Just to

the degree, therefore, that alcohol, when taken into the blood and brought into contact with the different tissues of the body, checks their metamorphosis, and hinders the eliminative action of those organs, — whose office it is to carry off whatever waste material there is in the tissues, — and also hinders the nutritive operations of the system, — just to this degree is its presence in the system ruinous. As these are its effects, not only uniformly, but universally, the result must be the creation of diseases which at least tend to the development of consumption, ending in premature death.

It must not be forgotten, in the consideration of the causes that lead to consumption, that these are not always or necessarily hereditary. The habits of living of persons often create such conditions as to constitute a pulmonary diathesis, or predisposition to become consumptive ; and the advocates of alcohol as a remedial agent present it to our consideration as a prophylactic from this point of view. They say, that where in a given instance, from bad habits of living, — such as great exposure to cold under insufficient clothing ; lack of nutritious food ; excessive labor ; want of proper sleep ; want of artificial warmth ; great mental taxation, either in the way of business, thought, or emotional excitement ; excessive sexual indulgence ; too close confinement at study ; or the breathing of impure air, — a living organism has become deranged, and puts on strong exhibitions or symptoms of respiratory involvement, a free use of distilled or vinous liquors, according to the taste of the patient, containing a large percentage of alcohol, will be found a preventive of the establishment of actual disease of the lungs.

This argument has no basis in logic, nor in the facts of the case, as unfolded and determined by scientific investigation : yet its effect upon the popular mind in settling its conclusiveness is immense ; and therefore, among the reasons urged upon mankind why alcohol is and must be efficient to prevent or to cure diseases, this takes high rank. But, as I have said already, it has no sound basis upon which to rest. It is, like all kindred arguments that are offered in favor of the use of alcoholic stimulants, utterly delusive ; and, like all delusions, its tendencies are to the injury of those who believe in it. Let us

examine it a little minutely in the light of calm reason, as determined by physiological law.

First, Such is the nature of alcohol, that, no matter with what substance it may be mingled, it retains its distinctive properties. Thus, if mingled with water and sugar, it is alcohol still; if mixed up with food, it still is alcohol; if introduced into the blood, its nature is unchanged; if found in any of the other fluids of the body, as it has been found in the urine, it is the same unaltered substance.

Second, When mingled with other substances, its effect upon them is either to change the relations to each other of their constituent elements, or to alter the nature of those elements; itself remaining unchanged. In this way, according to the substance with which it is mingled, it either hastens the decomposition of such substance, or entirely prevents it. In many instances, its effect is powerfully antiseptic. In this particular, there is no poison in the whole department of toxicology whose chemical operation upon substances with which it may be brought into contact is more powerful than that of alcohol, if we except common salt. Even the commonest mind can understand the effect of alcohol upon the human tissues, when it discovers that such effect is to stop all those vital changes, which under the living economy, when unobstructed in its operation, are steady and continuous. Suppose, for instance, that a human body, from causes to which I have alluded above, has been so related to life, that a tendency to consumption has been established, more or less decidedly, within its organism. Undoubtedly, this susceptibility has, in great measure, grown out of, and has come to depend largely upon, the intervention of causes that have already checked, more or less, the vital changes ordinarily induced through the functional activity of some of the organs. What, then, must be the natural and legitimate result of taking into the circulation a substance, whose effect, so far as it produces any, is not to overcome the indications already exhibited of imperfect change in the tissues, but to fasten and fix that condition so as to render the resumption of healthy changes less possible than before? The bare statement settles the question; and phy-

siologists and pathologists, who are candid and sincere, are unitedly coming more and more to the conclusion, that the effect of alcohol upon the bodily conditions of any person predisposed to consumption or of a consumptive diathesis, so far from overcoming such predisposition or breaking up such habit of body, is to fix it and for ever fasten it upon such person as a permanent and unchangeable condition. If this view be true, it can easily be discerned to how large a degree the free use of spirituous liquors by our people helps, not only to create consumptive tendency in those who indulge in it, but greatly to increase such tendency, and, in uncounted instances, to change it from a mere tendency into actual and fatal disease. It may be said, therefore, of alcohol, as of all substances whose ordinary and necessary effect upon the living organism is to break down its activities in the direction of carrying on and consummating those vital changes whereby waste materials are carried out of the body and recuperative materials are introduced, that it is, and must necessarily be, injurious to the health of whosoever partakes of it; because such effect, in its ultimate bearing, is, in pathological phrase, to *fix* such condition, and make it permanent and constitutional, insomuch that all the vital forces must thereafter accommodate themselves to it; thus shortening the life of the person in whom such condition exists.

Before concluding this point, I will call the attention of my readers to another argument, sometimes presented by the advocates of alcohol as a prophylactic to consumption. They say that its effect is to protect the living body against morbific agencies that exist *outside* of itself; declaring that this stimulant aids to keep the body in high condition, and renders it less liable to the influence of miasmatic poisons, and to the changes which it must undergo in great exposures to cold and damp. This view is often presented and advocated by men who are not in favor of the *habitual* use of alcoholic liquors. Even Dr. Macnish, in his "Anatomy of Drunkenness," says that he is persuaded, that while in the tropics stimulating liquors are highly prejudicial, and frequently occasion (while they never prevent) disease, they are frequently of great service in accomplishing the latter object in damp, foggy countries, especially if

fatigue, poor diet, agues, dysenteries, and other diseases, are to be contended against. "In countries subject to intermittents," he says, "it is very well known that those who indulge moderately in spirits are much less subject to these diseases than the strictly abstinent:" and he cites two cases, — one, of a regiment where the officers and soldiers, who took brandy-drams in the morning, and smoked, escaped the fever which was so destructive to the British troops generally; they having been led into the practice of indulging in alcoholic liquors and tobacco, because of the habits, in these respects, of the natives of the place, who generally insisted upon doing so before going out in the morning. His second illustration is the case of a regiment, quartered in Upper Canada in 1813, which, by some accident, was prevented from receiving the usual supply of spirits; and, in a little while, more than two-thirds of the men were on the sick-list from ague and dysentery: while the very next year, on the same ground, and almost in every respect under the same circumstances, the men had their usual allowance of spirits, and the sickness was extremely trifling.

It is clear enough, from this statement, that Dr. Macnish was not at all justified in deducing from these premises the conclusions to which he came, — that exposure to morbific agencies rendered an allowance of spirits necessary; but that, on the contrary, the want of spirituous liquors to which the regiment was exposed in Canada proved to be a valuable testimony to the disadvantage of the habitual use of alcoholic stimulants; because, under his own statement, it appears, that, when the troops that had been accustomed to it were deprived of their usual indulgence, their bodies showed extraordinary susceptibility to the diseases which were indigenous to the locality. All that this illustration of his proves is, that, where persons have been for a considerable time in the use of spirituous liquors, their vital forces become so habituated and accommodated to the presence of the alcoholic stimulant and poison in the blood as to be unable to protect the system against malarious influences whenever the stimulant is withdrawn. Besides, it is well known that persons who use alcoholic stimulants, and rely upon them for protection against disease,

habitually neglect all those considerations, having reference to the preservation of health, which prudence and common discreetness would dictate.

Dr. Carpenter, in his "Prize Essay on Alcoholic Liquors," under the head of "Supposed Uses in sustaining the Vital Powers," corroborates, I am happy to say, the views which I here present. He remarks, that, in localities where pestilential poisons are indigenous, no condition of the system is so obnoxious to their influence as that which is natural to it on first rising in the morning, when the stomach is empty, the pulse comparatively feeble, and the heat-producing power nearly at its minimum. It is within the experience of most persons, that nervous and muscular exertion is less efficiently sustained, and extreme cold less successfully resisted, at this period than at any other; and hence the recommendation of experience, to "take something to keep the cold out of the stomach," comes into practical operation. But it does not follow that alcoholic stimulants form the best means of protecting the system against the influence of morbific agents: on the contrary, strong reasons may be offered to show that other means, properly employed, would be quite as efficacious at the time, and would have a much more permanently beneficial effect.

Under this view, then, it would seem that the advocates of the use of alcoholic liquors as a protection against consumptive conditions, because of their influence in guarding against morbific agencies generally, are not warranted by the facts of the case. So, in *every* direction, the arguments in favor of their administration prove to be unreliable; while, on the other hand, the evidences of their destructiveness to life and health are unmistakable.

CHAPTER X.

CAUSES OPERATING ON THE MOTHER DURING PREGNANCY, AND THOSE WHICH ARE INDUCED AFTER BIRTH.

A PREGNANT woman may be said to be in extraordinary, though not in unnatural conditions; and, because she is so, she is more than usually susceptible to impressions from external objects. The habit of the American people, of making little or no distinction between the life of a woman when she is pregnant and her life when she is not in this condition, is productive of ill results, not only to herself, but also to the children she may bear: and as I am considering, at present, those causes which predispose persons to take on pulmonary diseases, it is legitimate, under this view, to take into account the causes which operate on the mother during the fœtal life of her children; inasmuch as, whatever may be her conditions during this period, they must necessarily affect, in greater or lesser measure, the physical as well as the mental and moral characteristics of her offspring.

There is not enough attention given to the influences that affect women when pregnant. Let me present a few of the liabilities under which they labor; and, first, those which affect their health, or are likely to do so.

When a woman finds herself to have conceived, if she watches her physical conditions, she will soon see that it requires more care than usual, on her part, to maintain her ordinary health. The circulation, soon after conception, begins to be arranged to the new conditions under which she is placed. In a very little while, blood has to be determined to the uterus and its adjacent parts; and as a consequence, unless it is supplied by the food which is introduced into the stomach for blood-making purposes, she loses not only in flesh, but also in strength and in her power to endure atmospheric changes. Many women, soon after becoming pregnant, find themselves

quite unable to resist such changes, without having, in consequence, violent re-actions, resulting in colds, difficulty of breathing, coughs, and now and then in inflammation of the lungs. Catarrh, also, is a frequent attendant upon pregnancy, and accompanies the woman through the whole period of gestation; giving way only after the birth of her child. These derangements in and about the respiratory organs might be prevented, if proper care were taken on the part of the subject, by protecting herself with additional clothing, and taking more than her ordinary quantity of food: for, strange as it may seem, a pregnant woman will find herself able to dispose, without difficulty, of at least one-third more nutriment than she could possibly use up when in a good state of health, but not pregnant; nature providing for the need by superadded ability of the digestive apparatus to dispose of food. So, though the conditions of a pregnant woman are extraordinary in respect to her physical health, they can be met and answered without difficulty, in the way in which I have suggested, if she is not herself thoughtless and careless in the matter.

Of all the states of body in which a pregnant woman may find herself, there is none more necessary to a healthy constitutional and functional life in her children, so far as she bears any relation to such life, than that which she shows in her nutritive and circulatory conditions during gestation. If she lacks quantity of blood, or if it is poor in quality, she may almost assuredly conclude that her babe will be one, who, during its own life, will be susceptible to external impressions that are unfavorable to health, and especially in the direction of taking on diseases of the blood-making and blood-purifying organs. If she lives upon insufficient or innutritious food, she will be quite likely to give her child a predisposition in this direction, which will be the labor of his life to guard against, or the bane of his life should he be unable to guard against it. As a general thing, women are open to censure in this particular direction. They scarcely ever wear clothing enough, or eat food enough, to make good the extra draught which the development of a new organism within them makes upon their systems. In respect to external clothing, they are, even in their ordinary

states, abnormal. I know of but few women who seem to understand and appreciate the uses of clothing for purposes of warmth. Their relations to it, or its relations to them, seem to be considered by them from an entirely different point of view; and to such an extent is this carried, that abnormal conditions of the circulation, especially of the lower portions of the body and of the locomotive organs, are early established, and frequently continue through life. Bad as this is at any time, it is made worse by being continued during the period of pregnancy; women scarcely ever making any particular change in their clothing, with a view to added warmth, during this period.

In respect to food, pregnant women cultivate the notion, that they need preparations that are particularly and specially adapted to their new condition; which notion has intensity given to it by the idea, commonly believed and inculcated, that it is to be expected of a woman in the family-way, that her appetite will be variable, fitful, quite capricious, and difficult to gratify; and that, therefore, she is entitled to consult the appetizing propensity, and have for her diet *any thing* for which she may have a longing, without reference to its ability to supply nutrition for her own body, and for the organism to which she alone can give growth. Women in this condition, therefore, are likely to eat food which is innutritious, but exciting; and, as a result, to become thin in flesh, sensitive, fanciful, nervous, easily frightened, and readily over-persuaded to do things which their sober judgment disapproves, especially in regard to physical taxation. This impression under which women generally rest — that, during the gestatory period, they are not, and ought not to be, expected to have uniformity of appetite, or simplicity of taste — is a very unfortunate one, and reflects consequences that are of great import to the children they bring forth. It is a notion, too, without any sound basis upon which to rest, either in the facts of the case, or in the nature of the conditions under which pregnant women labor. Their appetites *may* be just as regular when pregnant as when not; with the simple addition, that there is a call for an increased quantity of food, and perhaps also for food which

has in it the highest elements of nutrition. But to have such food so prepared as to contain constituents which furnish no nutrition, but which subject the digestive organs to over-labor in order to rid the system of the foreign and irritating materials, is to do great injustice to the health of the persons eating it, and to help to establish, in the children they may bear, constitutional tendencies that are very deplorable.

It would be less a matter of regret, that women, when pregnant, set at work causes so powerful in determining the conditions, as respects health, of their offspring, if it were not so generally the case, that the tendencies thus created are to the development of pulmonary disease. It is a very instructive fact to consider, that a much larger number of the persons who have dyspepsia, liver-complaint, constipation, piles, and diseases of the reproductive organs, die of consumption than of any other form of disease, unless they are killed by drug-medication. Probably not one person out of twenty, who dies of an acute disease, would die of it if he did not take any medicine; and probably not one person in twenty, who has liver-complaint, dyspepsia, piles, or any disease of the nutritive or depuratory organs, dies of any other disease than pulmonary or mesenteric consumption; and, generally speaking, consumption of the bowels ends, before death, in consumption of the lungs.

Now, to start out a child in its physical life with such a predisposition to take on diseases, which, in their concluding exhibitions, usually merge themselves in destructive diseases of the respiratory organs, is a very unhappy affair on the part of the mother; and yet it is a common thing, and very easy to be done, though, fortunately, quite as easy to be avoided. There is no more difficulty in giving children entire freedom from predisposition to any disease than there is in attaching it to them. All that is needful is that there shall be on the part of the mother a proper understanding of the laws of life and health, and especially of the law which governs the transmission of the conditions as well as of the qualities which she or her husband may possess.

The next important point worthy of consideration is, that, in addition to all due care of her bodily health, a pregnant wo-

man should secure to herself the best possible relations to mental and spiritual health. Women are often unhappy during pregnancy. If organized so as to be of high mental susceptibility, and accustomed to find gratification for their intellectual nature in extended social relations, the impossibility of doing this, especially during the advanced stages of pregnancy, sets back upon them depressingly, and they become dissatisfied; and, as a large majority of women find themselves in maternal conditions without any intention on their part of becoming so, they look upon the narrowing of their social activities with great disfavor, and cultivate a spirit of dissatisfaction in regard thereto. Not infrequently do pregnant women go through the whole period, feeling as if they had been outraged by their husbands in being compelled to take on such a state; and are so displeased with it, as to disease and derange the brain and the organic nervous system. They become, therefore, the subjects of congested brain, and show imperfect digestion and assimilation; and not unlikely exhibit, during the entire period of pregnancy, such irritable conditions of the uterine organs as to make their lives very burdensome and wretched. Whenever an instance of this kind occurs, — and I assure my readers that they are not by any means infrequent, — the effect upon the child is inevitably to relate it to organic and functional life from points that render it extremely liable to take on diseases of the respiratory organs. Many infants have died of inflammation of the lungs, between the ages of three months and three years, whose deaths were just as much to be laid at the doors of their mothers as they would have been had they actually murdered them. During the whole fœtal life of such children, their mothers were at work — unconsciously of course, but none the less successfully — to bring their lives to a premature close.

Mental irritation during pregnancy is, therefore, greatly to be avoided; and so is spiritual unhappiness. The emotional nature of woman, through which her affections express themselves, are more than ordinarily susceptible during the gestatory period, and especially during the last part of it. A woman in this condition, therefore, should be placed where opportunities for expression of her emotions and affections shall be given her;

and these should be tendered to her in more than usual measure. Her husband should be particularly kind, gentle, and attentive to her; not alone from the view of the personal gratification or comfort of his wife, but quite as much because of the influence which she will and must necessarily exert upon the child to whom she is soon to give birth. If a father wants his child to be amiable and good-tempered, to be generous and whole-hearted, to be intellectual and intuitively sagacious, to be robust and free from liabilities to disease, especially from liabilities to pulmonary disease, let him take great care of his wife during the last four months of her pregnancy. In all that pertains to her happiness, and which is founded in reason, let him be particularly zealous. She should have as much of his time as it is possible to give, and his evenings should be spent at home. He should read to her, join with her in her recreations, see to it not only that she has regular and habitual out-door exercise, but, if possible, accompany her in her daily walks and rides. He should be sure to be at home early at night, and to go to bed when she does; but not to sleep in the same bed with her, if, from any cause, he is suffering from fatigue, irritation, or great spiritual depression. As the influence of the mind and heart over the physical conditions of the human body may be very efficient either in the direction of sustaining or of destroying life, and as a great many persons have died of consumption from its influence in the latter direction, it much concerns parents to see to it that the mother is so situated as not to be unhappy in her spiritual relations during the latter months of her maternity. I do not think that husbands are sufficiently impressed with the need of looking after and caring for their wives, from the consideration, that as their circumstances during pregnancy are, so, in all likelihood, will be the constitutional predispositions to health and happiness of their children. If this view is at all worthy of the thought of my readers, in respect to women who are not of a consumptive habit; and if such women, though not consumptive, can yet so shape the physical conditions and fix the physical characteristics of their offspring, as that these, under any circumstances unfavorable to health, will be almost certain to develop in them actual con-

sumptive diseases, — how much more important does it become in the cases of women who are of consumptive habit or who are scrofulous, whose fathers and mothers and brothers and sisters have died of consumption, and who themselves give unmistakable signs of consumptive diathesis! A pregnant woman who is by descent scrofulous, and so disposed to take on diseases of the nutritive and respiratory organs, can no more avoid carrying over this particular quality of her physical nature, — she being situated, during her period of pregnancy, as most women are, — than an eagle, with his wings clipped, can avoid staying on the ground. Therefore, when it is taken into account that a large proportion of the women of our country, who are, as we say, "natives," are scrofulous in greater or lesser degree, and are therefore unfit to bear children who shall be free from this hereditary curse, unless great pains are taken, before their birth or after it, to eradicate the scrofulous or consumptive taint from the system, one can get a glimpse of the significance of the views here presented.

Every woman who is at all liable to the manifestation, in her own person, of scrofulous or consumptive disease, should utterly refuse to have children, unless such relations to life can be had in her own case, with the consent of her husband and through their united efforts, as shall be in the highest measure available for keeping in check her predisposing activities in the act of conception, during the period of gestation, and in the growth from infancy to adult age, of the children she may bear; otherwise she and her husband may readily settle the event of such issue beforehand, and conclude that they are to go through all the trouble of having children, and rearing them up to a period when they come to be related more or less intimately in various ways to their parents, only to have them smitten down by consumption, and die of it almost as soon after it manifests itself, as the lily dies after it has been bitten by a frost. If men were as careful of the health of their wives when pregnant as they are of that of their brood-mares, much less transmission of pulmonary disease, or of predispositions to it, would be witnessed than we now see.

I conclude this view by saying, that all women who wish to

bring forth healthy children should see to it themselves, and should have their husbands' aid in the effort, that their physical health and their mental and spiritual conditions during pregnancy are in the highest measure natural and favorable; for only in this way can securities be had in the way of protection against disease in their children, and guaranties given that they shall be long-lived and useful men and women.

CHAPTER XI.

CAUSES WHICH ARE NOT CONGENITAL, BUT INDUCED AFTER BIRTH.

Unhealthy Milk while Nursing.

All writers on the transmission of qualities from parents to children admit the influence which the milk of the mother has upon her child during the period of nursing. I give more significance to this than many physicians do; because, more than they, I have watched its specific effects. It has been a practice of mine — having a good deal to do with children, especially during their early years, from a period immediately succeeding their birth — to watch and make note of the causes that have produced particular conditions; and my opportunities for observation have led me to definite conclusions in regard to the influence which the mother has in determining the physical states of her child while it derives its sustenance from her, and her alone. Making all due allowance for the predispositions to scrofulous or pulmonary disease which the mother has established previous to the child's birth, I think there has been ample evidence furnished me to justify the assertion, that, of all the causes that operate to establish a strumous or pulmonary diathesis in children, none is more powerful than the milk of a consumptive mother or nurse. It seems reasonable that it should be so; for, if food has any thing whatever to do with the production or the prevention of tuberculous consumption, it must have its full if not its greatest effect in the case of a newly born infant whose food consists of a secretion from the blood of a scrofulous mother. The effects on an infant, in rendering it not only susceptible to consumptive disease, but liable and likely to take it on at an early day, may be easily inferred from the effect which the mother's milk produces in other directions.

If the mother drinks narcotic beverages, and the child nurses her, it becomes stupefied or intoxicated, — showing that the narcotic poison, having penetrated to the blood, has been eliminated therefrom by the mammal glands, and secreted in the milk ; and the child, drawing this milk from the mother's breast, comes under the influence of the poison. If the mother takes food which particularly irritates the nervous system, making *her* irritable, or giving her exaltation of this system in any particular direction, the child, after having nursed her, puts on like irritability, and susceptibility to external impressions. If a child nurses a mother sick with fever, it also is very likely to become sick. If the mother has taken powerful medicines, and the child nurses her, soon thereafter the constituent elements of these medicines will have passed more or less into the secretions of her breasts ; and, when the child draws nourishment therefrom, it will be likely to be affected by them quite as much as the mother herself. So, if the mother is in the habit of eating food which contains such constituents as to deprave the blood and make it scrofulous, or so to derange the general conditions of her physical structure as to make it scrofulous, then, during the period of nursing, like conditions will be found in the secretory department, whereby milk is furnished for the child's nourishment ; and, partaking habitually of this milk, it will become affected in all its bodily conditions in directions corresponding to those which the mother herself shows. Many children exhibit these effects in unmistakable forms. They show them in external sores, appearing in different parts of the body ; such as sores about the face, on the scalp, in the region of the large joints, in rough and scaly conditions of the skin, &c. They show them also in nasal catarrh ; and, early in life, in inflamed throat, inflammation of the eyes, sores in and behind the ears, on the calves of the legs, and on the ankles. More frequently, perhaps, than in any other direction, they show the scrofulous or consumptive habit of body in depositions of tubercles in the region of the mesenteric glands ; thus exhibiting unnatural largeness of the bowels, with a tendency to unnatural growth of the head, and deformed conditions of the chest and backbone.

Scrofulous mothers, therefore, who do not wish to fasten irrecoverably their own conditions upon their children, should never nurse them; nor yet should they put them to nurse at the breasts of women who do not give the clearest possible evidence that they are healthy, and that they are also of good strains of blood: for, if they lack either of these conditions, the child will assuredly, to some extent at least, take on the characteristics which the nurse herself manifests. If she is unhealthy, she will assuredly make the child unhealthy; and even though it may have come into the world without any hereditary taint, or predisposition to consumption, the nurse, if diseased in this direction, or predisposed to such disease, will be sure, through the food which her breasts furnish to such child, to give activity to all those forces in its nature which directly tend to the production of a predisposition to consumptive disease and of the disease itself. So, if she is coarse in fibre, and low in her intellectual and moral elements of character, a fifteen-months' nursing of an infant at her breast will so divert the organic elements of the child's nature from the right direction as greatly to deprave it, and render it altogether more probable that the qualities of character it will show will correspond in grade to those of the nurse.

I have already said enough about food to show my opinion as to the effects which different articles of food have in determining the qualities of blood of those who eat them. It may, therefore, be readily understood by my readers, that the food which a nursing woman eats has much to do with settling the question, whether or not the child that she nurses will be made particularly liable to take on pulmonary disease, and to die in after-years of consumption. There can be no doubt, it seems to me, in any well-grounded mind, that insufficient as well as unwholesome food predisposes those who eat it to scrofula, both external and internal; and hence, as has been remarked by a celebrated writer, there is associated with its use, in many instances, the use of spirituous liquors, which renders the injurious influence more marked, particularly when the nurse is so circumstanced as to eat of gross foods and to drink stimulating drinks during the period of her nursing.

Improper Food in Childhood.

Mothers in the United States wean their children at an earlier age than is usual in European countries; and there would be some objection to be urged on this score, were it not for the fact, that so many mothers are constitutionally consumptive, and that, the longer the period of nursing is, the more decided are the effects which they produce upon their children in rendering them liable to take on this particular form of disease. If they were intelligent enough to wean them early, and substitute the more simple and easily digestible substances of solid food, their offspring would be great gainers thereby. But, with us, the habit of mothers, on ceasing to nurse their babies, is to begin immediately to feed them, to some extent at least, with such food as is quite unfit for children; inasmuch as many kinds of food given to them are positively unhealthy when eaten by adults. I desire to call attention to one particular article of diet, which forms, in large portions of our country, a staple of food, and of which children just weaned are permitted to eat. I allude to swine's flesh, or pork, as we commonly call it. In the rural districts, in the families of farmers, mechanics, merchants, and laboring men, very large quantities of pork are eaten, in proportion to the amount of other kinds of flesh-meats or of vegetables or fruits used; and, where there are young children in such families, they are generally permitted to eat either of the flesh itself, or of the oil which has been expressed from it by cookery. They are permitted, also, to eat of articles of food in which has been cooked this oil of the flesh of swine. Bread is soaked in it, and preparations of dough are fried in it, before being eaten. Pie-crust is made tender by kneading lard into it; and so with a number of articles of food, which are habitually used by the senior members of families, and used, to some extent at least, by children.

Now, it seems to me that there is evidence enough to satisfy even the most sceptical, that a free use of pork induces such conditions of the blood and tissues of the human body as necessarily to establish in it a consumptive or scrofulous diathesis.

Unhealthy food given to and eaten by children, is, therefore, a predisposing cause of consumption; and parents should be particularly careful to guard against its use. An American writer of no mean note, speaking on this subject, says, —

"There can be no doubt, we think, that the use of pork has a tendency to produce scrofula and many cutaneous diseases. The Shakers and Communists of our country have wisely abandoned its use. It is somewhat remarkable, that whatever was regarded as unclean by the Mosaic Law is still thought to be unfit for food, with the single exception of swine.

"If scrofulous affections are not actually generated, they are at least aggravated, by its use. A friend of mine went to the South, where he was so situated for a year as to have fat bacon constitute almost the only animal food of which he partook during that time. His skin, which was before smooth and fair, became darker colored, rough and husky to the feel; to which succeeded sores and boils, which maturated and discharged, leaving obstinate ulcers of an unhealthy character, while his general health became much impaired. At the end of the year, he returned North, where, upon a change of diet, he soon recovered, and has had no return of this cutaneous affection. We have observed other cases of the same kind; and therefore would enjoin entire abstinence from this gross kind of food, at least upon all those who are predisposed to or already laboring under a scrofulous diathesis."

In weaning a child, however, on account of the tuberculous conditions of the mother, and in the substitution of solid or semi-solid food instead of the mother's milk, care is needed not to run into the opposite error, which would frequently establish worse conditions for the child than if it had not been weaned. In many instances, on breaking up the nursing state, cow's milk is substituted as a part of the child's food. Provided the animal from which the milk is taken is in healthy conditions, this is not very objectionable: but in cities and large towns, where milk is bought at the door from a peddler's wagon, there is a great risk run in giving it to children; for it is either so watered, as, in proportion to the whole quantity taken, to be so deficient in the nutrient elements it contains as to make it unfit for nutritive

purposes; or it may contain such elements, as, when taken into the system of the child, produce, or tend to produce, diseases which are scrofulous, and which therefore, if not cured, will ultimately end in consumption. Where cows are fed from the slop of grain-distilleries, their milk has been found, upon analysis, to contain relatively but a very small quantity of butter, and this of a whiter color than is natural; while more curd and whey are found in it than can be obtained from the milk of healthy cows fed upon healthy food. Such milk contains also, according to one writer, a larger quantity of epithelia, as well as some distinct granules, and others higher colored, than pure and healthy milk. This writer says that the sale of such milk, which is quite common in our cities, should be prohibited by law; for the nature of fermentation and distillation is to abstract from the grain all the fecula and sugar, — the principles that are more convertible into milk and butter, — leaving nitrogenized compounds, and also the caseine and earthy matter. Animals thus confined become diseased, tuberculous, and scrofulous; and there can be no doubt that the use of such milk tends to the development of consumption in the human subject. It is a well-known fact, that a much larger proportion of the children of the poor in our large cities are early affected with consumption, in some of its forms, than of the same class in the country. Physicians who have had an extensive dispensary practice for several years, have offered, from time to time, a multitude of facts in support of this belief.

But parents should not only see to it that the food the children eat is of a healthful kind, but also that they have sufficient of it. Insufficiency of food tends directly to the production of consumption: and while it is not true, as a general fact, that children in the United States do not get enough to eat, it may be true, that they do not get enough nutriment in the food which they do eat; and so, for want of proper thought on the part of those who have them in charge, they may suffer in health, and, if constitutionally scrofulous, develop pulmonary disease. There is a great fault, and a general one, in the management of children, in respect to their times of eating. It is said, and with a good degree

of force, that a child needs to eat oftener than an adult; but it does not follow that a child is in such need of food as to be permitted to eat at all times of the day, without regularity, or without reference to the wants of his system. A greater number of children become diseased from over-eating, or from eating too frequently, than from being compelled to take their meals at too long intervals, or from having an insufficient amount of food. If, as has been suggested in a previous portion of this work, the nutritive organs, when deranged, may reflect their disorder upon the lungs, and thus establish consumptive conditions of that structure, a child permitted to eat at all times, without reference to the wants of its system, may, in a little while, so establish abnormal conditions of the stomach, liver, and bowels, as to force the lungs to take on similar conditions from pure sympathy; and if such child is constitutionally scrofulous, or predisposed to take on diseases of the lungs, under such indulgence the disease is almost sure to show itself. Children who are over a year old do not need to eat more than six times in twenty-four hours; when they are five years old, four times a day are sufficient; when they are ten years of age, three times a day are quite enough: and there should be no such habit tolerated as that which is so common amongst them, of eating four or five regular meals, and then eating as largely as they wish of whatever they may be able to procure between meals.

The food best fitted for children, no matter what their temperaments or constitutional predispositions may be, is a farinaceous and fruit diet. Parents make a great mistake in permitting their children to eat the flesh of animals. Whatever may be thought of the necessities for its use by persons of adult age, children not only do not need it, but are actually injured by its use; and, therefore, should not be permitted to have it on any occasion. Nor should they be allowed to drink any thing but water, and this soft and pure. If milk is given them, it should be as food, and not as drink; and, therefore, the amount of it which is used should be regulated by the necessities of the system for the nutriment which it contains, and not because, as a food, it is fluid in its kind. Where fluids are

needed in the bodies of children, water is the only one fit to be drunk; and, of this, children should not only be permitted, but educated, to drink largely. If care were had in this direction in the management of children, there would be very much less sickness and death amongst them than at present.

Dr. Barron Howard, an English writer of some celebrity, speaking of the way in which the children of the operatives in large towns are fed, says that "many of those laborers who regularly receive high wages are constantly in a state of the greatest poverty, and even bordering on starvation. Their children live much on innutritious and indigestible food, and are often compelled to eat articles of bad quality, or such as are rendered unwholesome by deterioration or by being kept too long. The parents are not infrequently intemperate in their habits; and, instead of purchasing wholesome food for their families, they spend the greater part of their wages at the public-house. The effect of the intoxicating liquors they consume is to produce a temporary excitement of the whole system, which is succeeded by corresponding depression; and thus they lose all relish for plain nutritious food, and their appetites can be stimulated only by something savory. This kind of food they give to their children, as well as eat it themselves; and, as it does not afford sufficient nourishment to repair the losses which the body is continually sustaining, great languor and debility are the consequences. By this mode of living, the digestive organs become impaired; and the function of digestion is so feebly and imperfectly performed, that much less nutrition is extracted, even from the indigestible and impoverished diet they use, than would be the case if the digestive organs were in a healthy condition." He adds, that scrofula in all its various forms, and consumption as an ultimate effect, may be mentioned as diseases prevalent among the destitute poor, and which frequently originate in deficient food.

In considering what influence particular kinds of food may have in causing scrofula, and so tubercular consumption, I am of the impression, that, for children, vegetables are not in the highest degree healthful; and, of these, I know none to which, as a staple article of the diet of young children, I object more

strongly than I do to potatoes. The potato has in it no large amount of nourishment, in proportion to its bulk; and children who are fed upon it habitually, and in large quantity in proportion to the whole amount of food they eat, do not develop robust physical frames. There is nothing in it calculated to generate, in the body of a person eating it, scrofulous conditions, except so far as these may depend upon insufficiency of nourishment furnished to the body; and I do not know that the potato is more liable to criticism in this respect than other vegetables, only so far as it has come to be a necessity with some families, and is regarded with great favor by almost all.

Grains and fruits constitute an unexceptionable diet, even for very young children; and a child two years old may be fed upon preparations of wheat, and sub-acid fruits, and be kept in the most healthful and vigorous conditions; and a child so fed, other circumstances surrounding it being favorable to health, will grow up free from sickness, and as vigorous, energetic, well-balanced, and substantial, as his or her constitutional capabilities will permit.

CHAPTER XII.

SLEEPING IN THE SAME BED WITH CONSUMPTIVE PERSONS.

From time immemorial, it has been understood to be unhealthy for young children to sleep in the same bed with their grandmothers. The exact reason of this, very few have known; but the fact has been observed and accepted, and in many instances acted upon.

Various reasons, each good in itself, may be offered why children should not sleep with aged persons; and first and foremost may be regarded the effects growing out of the physical contact of the parties.

The law of transmission of qualities, by bringing two living organisms into close contact under the operation of the absorbent structure, has come, in latter years, to be pretty well understood by medical men. Though clouded and befogged in some measure by the reasonings of the mesmerists and the speculations of the psychologists, it nevertheless exists as a great truth, that two living organisms brought into close contact do mutually feel the influence of such nearness, and are affected more or less thereby. As the electrical conditions of these two bodies happen to be, so will be the effects produced on either or both by their contact. The rule of transmission of influence in general is, that the stronger shall detach life-force from the weaker, to its own advantage and the other's detriment, — on the principle that the stronger is the positive body, and the weaker the negative one; the positive absorbing, and the weaker yielding. Thus, if you take a babe in its undetermined and undeveloped conditions, and place it by the side of an aged woman in bed, conditions are established, by the necessities of the case, whereby the delicate structure is affected, and placed in unfriendly relations to health; and, if it be brought into such contact with

her body frequently or habitually, it will pine away, while she will revive and seem to grow more vigorous. It is not always, however, that the ill effects upon the child, of thus being brought into close and continued contact to an aged person, are visible in loss of flesh: indeed, these are more likely to be seen in the irritability and excitability which its nervous system exhibits. The nutritive system may resist the ill results of such unhealthy relations longer than the general nervous system: and so, while the child seems not to lose flesh, it becomes ill-tempered, capricious, fretful, and difficult to govern; and shows such susceptibility to take on unpleasant external influences as to attract the attention of the parents, and indicate that the infant is, to say the least, unwell.

This law of giving forth nervous energy, under electrical conditions, by one person, and receiving it by another, is the secret of the success of the mesmerists and biologists in producing those abnormal mental states which are so frequently seen to be brought about by the efforts of peripatetic lecturers; and is not by any means confined to persons who exhibit extremely opposite conditions, as an infant and an aged person sometimes do. Men in the full vigor of health, and women of adult age, are often seen thus to affect each other. The line of transmission is much more easily determined by the line of opposite sex than by the line of sex respectively. Men affect women, and women affect men, more readily than persons of the same sex affect each other.

Only a day or two since, I received a letter from a woman, stating that her health had been gradually yet steadily failing from the time of her marriage; and that, until she read an article of mine on "Sleep," neither she nor her husband nor her doctors had been able to offer any solution of the fact. After reading the article mentioned, she became suspicious that she might be suffering from sleeping with her husband. She contrived for a little while to occupy a different bed; and to her great gratification, and to his great surprise, she began to improve. She stated her view of the matter; but her husband was indisposed to give any credit to it: so she returned to the same bed with him, and continued to occupy it, until, in the pro-

gress of time, her health became so much impaired as to induce spasmodic convulsions, and twitchings of the limbs, with morbid imaginations and horrible dreams; all of which symptoms gave way when she again left her husband's bed, and slept for some time alone.

Another illustration of the general correctness of this view was furnished in the fact, that, at the time of their marriage, the husband of this woman was in quite feeble health, while she was pretty well; and that, since their marriage, he has continually gained in health, while she has entirely or nearly lost hers.

In my own practice, I have observed a great many instances of the operation of the law of transmission of nervous energy from one person to another by physical contact; and so certain am I that it is extensively and very efficiently operative where the conditions are favorable, that, as a hygienic physician, I avail myself of this knowledge, and feel called upon to regulate the external relations and associations of my sick guests. Thus I do not allow married persons habitually to sleep together, when either party is a patient of mine; nor do I allow any patient to sit permanently in the same seat at table, with the same persons on either side of him or her; it being a rule with me to change the external surroundings of my patients as often as I can, in order to avoid any such establishment of electrical conditions between parties as to allow either seriously to make drafts upon the other, and thus induce morbid relations between them. I have known a man to sit beside a woman at the table, and to lose flesh constantly, though very gradually, under such close proximity, for some time. When the relations of the parties in this respect became changed, the man steadily gained flesh, and the woman lost it; until finally the parties were separated, and forbidden to hold any association with each other under any circumstances.

An incidental corroboration of the truth of this view is seen in the effect produced by the bringing of sick and well persons together. The sick person seems to be made worse by having a certain party as a nurse, and to be made better by having some other. The reason of this is, that, in the one case, the nurse

absorbs the vital energy of the sick person; while, in the other case, the sick person absorbs vital energy from the nurse.

Children are often related to each other in this way. A boy and a girl, when quite young, sleeping in the same bed, may show the ill results of this intimacy, — the boy gaining, and the girl becoming thin and pimpy.

A very remarkable illustration of the operation of this law happened in my own practice, in the case of a distinguished legal gentleman, who, in the space of twelve years, was married four times; having lost three of his wives by consumption, arising from causes that baffled the skill of the medical faculty brought into counsel in the cases. After his fourth marriage, circumstances so arranged themselves, that I became his wife's physician: and, as my mind had been somewhat interested in an endeavor to investigate the hidden causes that seemed to have operated so fatally to the lives of the women who had formerly sustained wifely relations to him, I availed myself of the opportunities furnished me by my professional relations to this lady to watch the effect of the intimacy which she sustained to him; he being a man of ardent temperament, and very fond of her, as he had been of his other wives, and manifesting his fondness by demonstrations of attachment that were very gratifying. He was a man of large build, of vigorous constitution, particularly social in his nature, and magnetic beyond ordinary degree. Before six months had transpired after the marriage of this lady with him, she began to be delicate, to lose flesh, to become feeble, and particularly sensitive to mental impressions, so as to show, in the main, the same morbid states as did her predecessors. Matters soon came to such a pass as to demand the exhibition of whatever skill I was possessed of: and so, when placed in charge of the whole case, under the expected obligation to search out the cause of the difficulty, and apply a proper remedy, I set myself to work to investigate more minutely the state of this woman's nervous system, with especial reference to her intimate relations to her husband ordinarily; and the result was an expression by me of the opinion, first privately to him, and then to both together, that their usual electrical states were such as to establish between them relations which enabled him,

whenever his body was brought into contact with hers, to absorb her life-force, at the same time retaining his own; and that, if he did not want to have his wife die of consumption, he must adjust himself to her, in this particular direction, on altogether different grounds. I insisted, therefore, that he should abstain from shaking hands with her, kissing her, embracing her, sitting near her at table, riding with her, walking with her arm in arm, sleeping with her in the same bed, or doing any thing to her whereby his body or any part of it should be brought into contact, for any considerable length of time, with her body or any part of it.

Such had been the deplorable results to him, from some cause, in the deaths of the women who had been his wives previously, and such the entire failure of his medical advisers in their efforts to prevent such results, that I felt myself at liberty to be persistent in the presentation of my views, and authoritative in my practical exposition of them; and neither he nor his wife felt exactly disposed to deny my right to insist upon my application of what I supposed to be the only remedial means, even though they were unable to appreciate their value. They therefore yielded to my wishes; and in less than a fortnight the woman's health began to revive, and in two months she was as well as she had ever been in her youth. Thereupon the old relations were established, and her health began to fail in consequence; when they both consented to resort to the conditions I had previously imposed, and the woman's health returned. Two or three subsequent attempts were made to resume their former relations, each of which was followed by like impairment of health on the part of the wife: until they at last accepted my solution of her sickness, and of that of his former wives, as the true one; and ever after, until his death, they lived in the conditions that I had urged and insisted upon.

The lady, though now well advanced in years, is a woman of greatly preserved beauty and fine health, and feels that she owes her life to the clearness with which I discerned the cause of her difficulties, and the fidelity with which I urged it upon her own and her husband's consideration.

Now, where there is a constitutional tendency to the develop-

ment of scrofula, and so of pulmonary consumption, in a given person, it is not well for any one of feebler general build, more delicate nervous structure, or less vigorous nutritive energy, to sleep in the same bed with such person; as impartation of poisonous exhalations can occur under such circumstances. Children, therefore, should not sleep with aged persons who are scrofulous; nor, in fact, with aged persons at all: nor should they sleep with their parents if either of these be scrofulous, nor with any relatives of this habit of body, nor with hired men or girls. It sometimes happens that half-brothers and sisters are so related, that one is scrofulous while the other is not; they having different fathers or mothers, as the case may be. The parent of the one may have been, while the parent of the other may not have been, scrofulous; and, of course, the children should not sleep together. Nor should married persons, one of whom is and the other is not scrofulous, sleep in the same bed habitually; though they may sleep in the same room. The reason why it is more unfriendly to health for persons, thus related, to sleep in the same bed, than to live and sleep in the same room with each other, is simply the greater intimacy and closer contact which such act imposes. Where two persons lie in the same bed, the same cover is over them. The exhalations of the body of one mingle with the exhalations of the body of the other; and, as more or less re-absorption of such exhalations takes place, so they are commingled; and to the degree that the party who is not diseased absorbs these mingled exhalations, is he or she poisoned thereby. I have known instances in which I have not the least doubt that consumption was superinduced by this cause. On no account whatever would I lie, or allow a child of mine to lie, in the same bed with a person of consumptive or scrofulous habit; yet the practice is uniform, and well-nigh universal. Everywhere husbands are to be found sleeping with their scrofulous wives, wives with their consumptive husbands, children with their consumptive mothers, and brothers and sisters who are not, with brothers and sisters who are, consumptive or scrofulous in their habit of body. Clerks in stores, boys and girls at school, mechanics' apprentices, students at theological semi-

naries and at college, are in the habit of sleeping together, without reference to the fact, that morbid conditions, and especially those which are created by scrofula or incipient consumption, may be transmitted from one in whom they already exist to his or her bedfellow who is yet not affected by them, but only in such conditions as predispose to them. There is not, by any means, the same danger, and, if care is taken to ventilate the room, there is no danger, of "catching" consumption by occupying the same apartments; but, even here, it is necessary to preserve healthy external surroundings. The air of the room inhabited by scrofulous or consumptive persons should be kept very pure by constant and thorough ventilation. If this is done, there is no danger from parties living in the same room, or sleeping in the same room in separate beds; but even with this precaution, on account of the great susceptibility to take on disease growing out of our ordinary habits of living, it is not safe for them to sleep in the same bed.

For myself, I regard the securities against disease which are furnished me by my very simple and natural methods of living to be of priceless value; and nothing could tempt me to live in a manner which would place my physical organism in such relations to life and health as it formerly sustained, in the direction of its predisposition or susceptibility to take on disease. Now I fear not disease: formerly I feared it constantly. Now nothing but the most severe and long-continued exposure would render my body liable to "catch" any disease: formerly, owing to my habits of living, my liabilities in this direction were imminent. As most persons, from the same cause, possess such liabilities, there is vastly more necessity for their being particularly careful not to expose themselves in the direction of "catching" consumption (for this, though an unscientific, is a very significant term), than there would be if their habits of living, in every direction, were in accordance with the laws upon which health and life depend. This habit of sleeping with consumptives must, therefore, be taken into account, and guarded against, if extensively successful measures are ever to be brought into play for the prevention of the spread of this terrible malady.

CHAPTER XIII.

BREATHING IMPURE AIR IN CLOSE ROOMS, SHOPS, FACTORIES, PRIVIES, &c.

PURE atmospheric air is made up of oxygen and nitrogen gas, in the proportion of twenty parts of oxygen to eighty of nitrogen. Writers on the subject affirm that the vital element is oxygen gas, and that nitrogen is combined in so large proportions simply for the purposes of modification and qualification of the smaller constituents; declaring that, were it not for this combination, the effect of the oxygen on the blood and tissues of the animal frame would be to excite them to such action as speedily to exhaust and destroy their coherence, and so put an end to life. As all organized bodies are composed of a few cardinal elements, — the differences between such bodies being mainly owing to the different combinations of these elements, — so atmospheric air is made up of specific relative quantities of these two gases. To vary their relative quantities is to make a different compound; and to the degree that the constituent parts are differently related is their product less available for the purposes for which air is created. Now, it is very easy to change this combination to altogether a different compound, and take this into the lungs, and yet live for a good while. Very many persons do this: for, in a great variety of ways, atmospheric air may be made to contain other constituents than those which actually belong to it; and, in the act of inspiration, such additional or different elements may be taken into the lungs along with the air, may deprave the blood, and so affect the health of the tissues of the body; or, if not in this way injurious, such substances, when taken into the lungs, may irritate their mucous surfaces, or affect the air-cells in some other way unhealthily, or affect the coats of the small blood-vessels, thus laying the foundation of disease. When I come to treat of con-

sumption more directly as a disease in itself, the importance of pure air will be discussed more at large. At present, I am more particularly interested in showing how impure air may provoke such conditions of the system as to end in consumption, and to give the reader some suggestions as to the prevention of such results.

Among the predisposing causes which are powerfully efficient in establishing the consumptive diathesis, air that is impure, no matter by what means it has been made so, should have large consideration; for just to the extent that pure air tends to promote health and sustain life does impure air tend to promote disease and shorten life.

Of the many ways in which conditions of the human body that end in consumption are brought about, the breathing of impure air in close rooms, in shops where persons work, in churches where they attend divine service, and in privies, to which, under the calls of nature, they have to go, is one demanding particular attention. Very many of our people occupy close rooms, in which they sit for the most part during each day of their lives. Especially is this true of men whose pursuits compel them to thought. The clergyman in his study, the lawyer in his office, the banker in his counting-room, the physician in his consulting-room, are illustrations of this; and it may be well for me to elaborate the liabilities to which thinking men, in whatever particular department of literary labor they may be found, rest under from this cause.

Clergymen constitute a class of our citizens, who, from the nature of their profession, are more severely taxed in the performance of their duties than any other class in society; for they have not only to exhibit a good measure of intellectual ability, but, in addition, they are generally so related to the duties they perform as to be involved more or less in the exercise of their emotional natures. To deal with the depravities of mankind, showing themselves as they do in individual and social forms, and arising as they do from want of proper knowledge, and to deal at the same time with such conditions of the heart as grow out of a warped and ill-educated exercise of the affections and passions, must necessarily so relate a man to

life as to tax him in an extraordinary measure in the direction of the expenditure of vital force. A minister of the gospel, therefore, who has the spiritual welfare of a parish or society or community in charge, if he is at all equal to the place he holds, must inevitably be greatly taxed by the duties that rest upon him. No exhibition of nervous energy can ever exceed in intensity or quality that which one manifests when his spiritual nature is involved in the discussion and handling or in the managing of human conditions. The sorrows of the heart are vastly more difficult to control than the sufferings of the body. Pain resulting from abnormal conditions of the vital forces is usually within the reach of remedies; but the achings of the soul not infrequently arise from causes so peculiar in origin, so difficult to understand, and so nearly impossible to direct and control, as to make the task of him, who expects to regulate and change their action, such as will challenge, in the largest measure possible, the exercise of all the powers of his intellectual and spiritual nature. That clergymen break down so frequently as they do, is not, therefore, a matter of wonder to the thoughtful and candid mind. Besides their labors, both in respect to those duties which are to be made public on special or set occasions, such as preaching on the sabbath, their parochial duties are of a very severe character; and yet, in both directions, they are of such a nature as to confine them largely within doors, and render their liability to breathe impure air, and thus to deprave and deteriorate their blood, much more than ordinary. All the hours in which a man occupies his study in the preparation of his discourses, and very much of the time that he is engaged in delivering them, is he shut up within tight walls, without opportunities to breathe pure air for any great length of time, unless he himself takes great pains to secure such air; for not one house in five hundred is so arranged as to allow air which has become impure to pass out, and that which is pure and fresh to take its place. A man, whose duties are of such a nature as to confine him a large proportion of his working-hours in a room lacking means for proper ventilation, is so circumstanced as necessarily to lay the foundation for depraved conditions of the blood and a general weakening of the

tissues, and especially of a letting-down of the conditions of those structures by which vital energy represents itself more particularly; causing him, after a while, to exhibit that morbid condition which is described by the term "nervous debility." Besides, a man, who thinks and feels deeply upon the subject of which he is thinking, necessarily establishes that relation between the nervous and the circulatory systems as almost inevitably to determine blood away from the external surface, and to lodge it in more than usual degree in the inner or deeper tissues of his body; and, when this is the case, he will become sensible of the necessity of artificial heat in order to keep up a comfortable degree of external warmth. Thus the place where he sits is kept at a degree of temperature so elevated, as, sooner or later, to render him very susceptible to atmospheric changes, and therefore to increase greatly his liabilities to sudden suppressions of the external circulation, and the establishment of such conditions as are denominated by the "taking a cold." Add to this the fact, that just to the degree that the room in which he sits is heated is the air which he breathes rarefied; and that at each respiration, in proportion to its rarefaction, does he procure a less quantity of oxygen, and so aerates his blood in a less thorough manner than health demands, — and one begins to see how steadily and effectively operative are the conditions in which he places himself to the establishment of a habit of body directly tending to the production of pulmonary consumption.

Oftentimes, too, will it be found that the air is rendered more impure by the imperfect combustion which goes on by his burning fluids or oils, whereby he procures light during his evening or morning thought or work.

Now, the clergyman, as a student and worker, is a good type of the men in other professions who find themselves compelled to be shut up in rooms a large part of their time, in order that they may successfully perform their labors. The lawyer spends much of his time in his office; the teacher, in his schoolroom; the literary man and the artist, in their studios: and throughout the entire ranks of the thinking and studious portion of our people will this liability to the breathing of impure air

be found, and frequently under surrounding circumstances more than ordinarily calculated to make its effects deleterious.

Clergymen, from the nature and dignity of their office, and the acknowledged obligation under which they rest, — to set a good example in all matters pertaining to a pure life, — are less exposed in one particular direction than men in the other professions are. I allude to their general freedom from the very destructive and unhealthy habit of smoking tobacco. Lawyers are particularly given to this; and to find a lawyer's office, the floor and walls of which are kept clean and neat, and free from an effluvia such as arises from the stubs of cigars and quids of tobacco collected together in an old spittoon, is a rare sight. Probably, ninety-five out of every hundred lawyers in the United States smoke or chew, or smoke *and* chew, tobacco; and to enter their offices at any time of day, when one may hope to have an opportunity to avail himself of their services, is to find them breathing impure air, and this of such a deleterious nature as to render it quite impossible, that, for any great length of time, they should have either health of body, clearness of brain, or any thing like intuitive and instinctive perception of right and wrong. Thus it comes to pass, that while, from the very nature of their profession, it might well be expected that they should have more lucid conceptions of moral questions, and be able to appreciate the fitness of things more readily, than the mass of mankind, there is no class of men, holding at all equal intellectual rank or social position, who, in all that pertains to the maintenance of truth and the overthrow of error, are so poorly related as they are. To such an extent is this true, that the common mind has come to the conclusion, that an *honest* lawyer is a *lusus naturæ* which cannot be found. In this, however, the common mind is wrong. Legal gentlemen are no less kindly disposed toward eternal principles than other men are; but from their habits of living they become obtuse, and cannot, in the nature of the case, make those close discriminations which depend upon a healthy body, a clear brain, and a quickened spiritual nature.

Perhaps, of all the liberal or learned professions, as they are called, more clergymen and lawyers die of consumption than

any other classes. In part, this is owing to the severe taxation to which their professions subject them; but more particularly to the bad methods in which they relate themselves to life. It will not do to assume that thinking is not healthy. The brain was made to think, and can stand any task-work in this direction that may be put upon it, provided always that the laws of life and health are regarded with a fair degree of attention. Clergymen do not break down, therefore, from the amount of mental labor which they are required to perform, large and taxing as this is; nor does any other class of men find their health give way simply from this cause: but rather for the reason, that in the performance of their labor they overlook the great vital fact, that all work, no matter what it may be, should have its periods of suspension; that these should be regular, and adapted to the constitutional vital force of the worker; and that they should be filled out by recreations of a healthful and pleasant character, and by opportunities for entire and absolute rest.

In the whole range of my acquaintance, I know but few clergymen who have any knowledge of recreation. Play, to a minister of the gospel, seems next to the commission of positive sin; and, to a lawyer of any standing, amusement which involves sport seems to be so unworthy of the position he occupies, and to infringe so essentially upon his dignity, as to be utterly unworthy of his consideration.

Now, in-door life is, at best, an artificial affair; Nature never having intended that any man should *live* in a house. That he may stay there a good period of his time, is perhaps, the surroundings being favorable, consistent with the maintenance of health: but that his life should work itself up between close walls was never designed by his Creator; and for the very good reason, that to spend it thus is to use it unthriftily, and bring it to a premature close. To live healthfully, and in a high degree satisfactorily, — not only as regards bodily sensations, but also as far as the intellectual and moral faculties are concerned, — one must have opportunities to spend a large portion of his time out of doors: and would men whose pursuits are studious, and whose habits are reflective, but consider that they could greatly add to their opportunities for out-door life, and yet have around

them comforts, pleasures, and even luxuries, as well as the means of improvement which they all so earnestly desire; if, in all directions, they would simplify their habits and manners of living, improving their methods of expressing power, and becoming unconventional, simple, and natural, — they would be able to perform more labor than they now do, and would be free from disease. But as society is now constituted, and as they accept without protest its expositions of what is right or wrong, what is proper and what is improper, what is fashionable and what is unfashionable, they find themselves compelled to perform their various duties at a great disadvantage, and suffer in health greatly thereby.

What is true, in this direction, of men who think, is equally true of men who work; with the modification, that no man who merely labors with his hands, using his thought-force in minimum quantity, can ever wear out as rapidly, or be as readily predisposed to take on disease, as one whose business involves him in constant brain-sweat, or in an almost uninterrupted expenditure of his nervous energy in the way of thought. A shoemaker — representing, if you please, the whole mechanical fraternity who labor in close rooms — will, therefore, live much longer amid unhealthy surroundings than a literary man can; because the ill effects to which he is subjected come to him, legitimately, in but one way. He sits in a warm room, in a bad posture, and breathes impure air; but he works at a trade, which, in itself considered, is not unhealthy. Now, one may live a good while under such circumstances, and not suffer very serious ill consequences: of course, these will ultimately show themselves in more or less severe forms; but the day of reckoning may be long stayed, and come only at a very remote period.

A distinguished writer, who visited Lapland with the express purpose of seeing for himself what were the effects of living in huts filled the whole year round with smoke, and into which pure air was permitted to enter only through the crevices and cracks in their walls, presents his conclusions upon the subject, in, as I think, a very rational manner, when he declares that "the morbid effect of breathing impure air is in a ratio exactly

proportionate to the mental activity of the persons breathing it; and that the very low type of intellectual attainment which the Laplander shows, enables him to live under circumstances, which, so far as health depends upon thorough aeration of the blood, are extremely unhealthy, with almost complete impunity." In going through the villages in which the inhabitants of that region congregate, and spend their lives, he found not a single house in which he himself could live without great discomfort; and, for a while during his residence there, he was compelled to spend more time in the open air, for the sole purpose of overcoming respiratory congestion, than he otherwise should have felt himself called upon to do: while the natives seemed to live with the most perfect unconsciousness that their physical relations, in this respect, were violative of the great primal laws upon which life and health depend. Upon examination, he found that consumption was a disease almost unknown among them, and that their ratio of longevity ranked higher than that of most civilized countries; and he concludes with the statement of the opinion, that, to the degree that the mental faculties of a human being are permitted to lie dormant, is nervous energy appropriated for the purpose of resisting and keeping down any physical conditions which in their nature are calculated to produce disease.

I have no doubt in my own mind, that this view, to a certain extent (and perhaps to the extent to which this writer presents it), is true; and that no greater mistake can be made, than that of persons who conclude that the thinker has an easy life, while the life of the worker is a hard one, greatly to be deplored, and, if possible, to be avoided. If statistics show any thing, they go to show, most conclusively, that persons who work with their hands, and who have but little to do with their heads, are more favorably related to longevity than those who work with their heads and their hearts, and do but little with their hands. From considerations of health alone, therefore, thinking men and women should feel themselves obligated to gather up all those recreations which are amusing, pleasant, instructive, and reviving, while at the same time they are innocent, and appropriate them without let or hinderance: and, if conventionalism

or etiquette or custom or social opinion asserts its right to place these under ban, the thinkers in such a community should make an assault upon such habit, custom, or opinion, and break it down; insuring to themselves the liberty to use all the means in their reach to recreate and recuperate their physical energies against the taxations to which they are subjected.

If the working-man is engaged in an in-door employment particularly sedentary in its character, then he, too, should have his hours of recreation; and this may come in the form of sports, or in a diversification of his industry. The shoemaker may hoe in his garden, instead of playing ball on the green; but the minister or the lawyer or the teacher or the man of letters should not change from taxation of the brain to taxation of the muscles in the form of work or employment. His muscular exercise must come in the form of play, or else he so diverts nervous energy from those organs in his body which have been imperfectly related to health while pursuing his studies, as ultimately to dispose them to a habit of imperfect action; and, whenever any organ in the body has taken upon itself the habit of an imperfect exhibition of its activities, it becomes particularly susceptible to positively diseased conditions.

Upon all persons who are compelled to spend much of their time in the house, I would, therefore, most earnestly impress, —

First, The necessity of having pure air to breathe, whether they pass their time in their offices or workshops or factories or close rooms.

Second, The necessity of living, in all directions, very simply and naturally.

Third, The importance of their spending as much time as they can possibly devote to this purpose in active out-door exercise; and, —

Fourth, The importance of having this exercise come in the form of sport, and not through responsible labor or by "taking exercise."

If they will do this, and they have constitutional predispositions to consumption, either by inheritance or from the imposition of unhealthy conditions in early life, they may not only

keep these tendencies down, and so pass through life with comparatively good health; but they may entirely overcome them, so that their constitutional relations shall be such as tend to health instead of to disease.

It is not, however, in private rooms and offices only that the occupants are exposed to the breathing of impure air, but also in churches and factories, where persons congregate in large numbers.

There has always seemed to me to be a very irreligious *air* in our houses of public worship. These are sacred places, — temples, as they used to be termed, — where people expect, or which they visit as if they did expect, to meet the Divine Presence, and be blessed by it. Just what fatuity has rested upon Christians up to this time to induce them to believe that between nature and revelation there exists a feud, showing itself in actual hostility, and that, in order to be pious, they must take sides with revelation against nature, I know not; but that they act as if they were under special obligations to be unnatural, in order to be religious, is as obvious to a close observer as any thing can be. This feeling works itself out in every direction; and in none can it be more plainly seen than in the way in which religious persons, on a sabbath day, relate themselves to health and its laws. Why meeting-houses should be built so that the congregation shall be compelled to breathe impure air all the time, and, as is now-a-days becoming fashionable, be shut out from the sunlight, and deprived of its healthy and exhilarating effects, seems strange to a candid and sincere mind; yet not one church in a hundred can be found so constructed as to enable its occupants to have any thing like pure air to breathe, or fair opportunity to enjoy the sunlight. They huddle themselves together in close pens like sheep, and do but little else than breathe each other's breaths, and listen with a very superficial devotion to the services of the hour; going away as little impressed thereby as is possible, and not one in five hundred of them partaking of the anointing of the minister, which, if he is a good man, will have been given him by God for their especial benefit. Really, I do not suppose that the ministers of the gospel, who undertake to represent the divine will, to expound the divine word, and exhi-

bit the divine life, to the people among whom they are placed, are successful in communicating their own spiritual gifts to one in a hundred of those, who, from sabbath to sabbath, gather in the churches of our land. This is very deplorable; for just to the degree that a public representative of the divine will and the divine life finds himself unable to communicate his gifts to those who need them, is the relation an unhappy one, and fraught with injurious results both to himself and the people of his charge. No man can ever have a great spiritual endowment conferred upon him by the Divine Wisdom for a given end, who is not himself the worse for that endowment, if he finds himself unable to accomplish the end. Power of any kind bestowed upon a human creature for any purpose, has, if any thing prevents it from being used for such purpose, an ill tendency; and he who carries it about is necessarily the worse for having it imposed upon him. Every minister who stands in the pulpit, and cannot reach the hearts of his people, is made unhappy in spirit thereby.

One of the laws which God has established for the transmission of spiritual life from one man to another, is that the conditions of both such persons shall be in conformity with physical law. If a minister be a sickly man, suffering under bodily infirmity, and seeks to communicate from the pulpit, not simply the divine will, but the divine affection, he is, by the very nature of things, a less efficient agent for this purpose than he would be if his conditions were those of perfect health. Neither his brain nor his heart can become a medium for the transmission of the divine bestowments, as they would if his physical nature were rightly related to health. If his congregation is made up chiefly of invalids, and he is a robust man, they can never receive such impressions from him as they could if they were in health. If both the minister and the people are free from any bodily sickness, and yet gather themselves together under such circumstances, and in such relations to their physical comfort, or to the operation of any of the laws of physical health, as to render these more or less inefficient, they, by these very conditions, rear barriers to their own receptivity, that may be found impregnable and impassable.

This is very plainly seen in other directions. If a man becomes intoxicated by having introduced alcoholic poison into his blood, so as to affect his brain, the presence of such poison is a complete bar to his reception of any thing like spiritual impressions from on high, and is so regarded. God's spirit not only *does not* work in the heart of a drunken man, but, while he is drunk, it cannot. Suppose, then, that a congregation come together with a view of being spiritually benefited, and the relation of the air they breathe to the blood that circulates in their veins is such as seriously to impair its electric, magnetic, and nutritive conditions: how, in such a condition of this great vital fluid, can they hope, for a moment, to have any thing like healthy conditions of brain? And, if they cannot have these, how can they have their emotional natures rendered particularly susceptible to divine impressions? A man breathing carbonic-acid gas in a church, instead of atmospheric air, can in no wise be so related to the perception of truth, or the reception of the divine love, as he would or could be if his physical conditions were changed, and he were permitted to breathe atmospheric air instead of carbonic-acid gas. There are, then, two great ill results flowing from the breathing of impure air in houses of worship: one, that the health of those who breathe it is impaired thereby, and the foundation laid in many instances for positive disease; and the other, that the spiritual conceptions of the persons breathing such air are greatly blunted, if not, for the time being, destroyed.

It is very seldom that a hundred persons can be gathered together without having a considerable number of them suffering under more or less advanced stages of pulmonary disease. Recollect that scrofula is a household disease, to be found in almost every family. Recollect, also, that the ultimate manifestation of scrofula is pulmonary consumption, and that the intermediate stages of its progress show more or less involvement of the pulmonary organs. From this point, one can judge of the correctness of my statement, that very few congregations of a hundred persons can be found, without having a considerable number of them laboring under pulmonary consumption, in its early or advanced stages, by the practical

exhibitions made upon such occasions. How seldom is it that a congregation assembled together on the sabbath is not disturbed by the coughing and expectoration of one, two, three, or half a dozen of its members, in various parts of the house! Shut up all the windows, close all the doors, rarefy the air so that there shall be but slight opportunity for getting oxygen into the lungs, and then set this congregation of one hundred or five hundred, as the case may be, to breathing. In ten minutes, the air becomes foul; the oxygen is more or less consumed; carbonic vapor from the lungs mingles with the body of gaseous fluid to be taken in at every respiration; and so do the consumptive particles emitted from the lungs of those having the disease. God only knows how many persons have begun to be consumptive from just such exposure as this, when attendant on his worship. There are various ways of committing murder; and there are also various ways of committing suicide. The wickedness of such a mode as this is heightened by the outward sacredness given to the action by the occasion. It is as much worse for a man to violate the laws of life and health when he is engaged in some special act of piety than it would be were he not so engaged, as it is for him to be a hypocrite instead of being simply disingenuous.

I confess that I have a liking for public worship: I feel that to myself it might always be a means of great benefit. But I hold in such disfavor the arrangements made for its enjoyment, because of the disregard of the laws of life and health manifested under the present order of things, that only when important occasions urge upon me to do it, do I venture into a house of public worship.

What has been said about churches is equally true of factories and schools. I am happy to say, that, in respect to ventilation and the general comfort of factories, great improvement has been made within the last twenty years; and the effects of such improvement upon the health of those who labor in them have been quite marked, and continue to be visible in every direction. Still, there remains a great ignorance as to what is absolutely necessary for the prevention of consumption in the cases of those who work in factories. In cotton-factories,

persons who are at all predisposed to this disease are affected by the inhalation of the invisible particles or motes of cotton that are in the air they breathe. The running of looms, the picking of cotton, the weaving of it, all detach fine and impalpable particles from the substance worked; and these are inhaled. In some instances, where persons have died of consumption, and *post-mortem* examination has been had, the mucous membrane of the air-passages has been found loaded with a collection of these particles. In rooms where the work performed necessitates the detachment of these motes, great pains should be taken to have the ventilation so thorough, and the circulation of the air such, as to allow them to be carried higher than the mouths and nostrils of the persons occupying the rooms; thus preventing their inhalation.

In woollen-factories, the health of the operatives is not infrequently affected by the poisonous exhalations which they inhale, caused by the poisons used in coloring-processes. The dye-house of a woollen-factory is a very unhealthy place for one who is scrofulous: so is the loom, where the yarn is woven into cloth; which yarn has been saturated with poisonous materials, which have been incorporated as constituent elements into the dyeing or coloring matter with which it is stained.

Too much care cannot be given to the selection of healthy departments, in woollen-factories in which they may be employed, by those who are hereditarily predisposed to take on scrofulous or pulmonary disease. If the overseers of such institutions could be led to understand the best means of preserving the health and life of those under their charge, they would give them, both in the forenoon and in the afternoon, — between breakfast and dinner, and between dinner and supper, — intervals from labor, of from ten to twenty-five minutes, during which they should be not only permitted, but obligated, to go out and breathe fresh air. More work would be done by this plan, because of the increased magnetism and improved electrical conditions of the workers, than is now done by working without intermission; and a far better relation of the nervous energy to the wants of the system generally, enabling it to resist morbific causes more effectually, would be the result.

What is true of factories is quite as true of schools. In New England, in the Middle States, and in the Western States, notwithstanding the great ignorance prevailing, in various forms, in regard to the best means of preserving the health of children at school, or of students in the higher seminaries of learning, one habit has always been of very essential service. How it came to be so universal as it is, how it was established, what was its origin, I do not know; but, whoever first conceived the bright thought, its general adoption has been productive of immense benefit. I allude to the rule or custom which permits the children to go out in the forenoon and in the afternoon, about the middle of each session, for ten, fifteen, or twenty minutes, to engage in any exercise or amusement they may choose. Beneficial as this custom is, however, it is not as well calculated to produce its most healthful results, under the arrangement which separates the sexes, and sends the boys out by themselves and the girls by themselves, as it would be if they were permitted to go out and play together, for a length of time equal to that which is now given to both (or even to each), every day. Even as it is, however, the custom is highly useful, and should be encouraged and perpetuated.

Schoolhouses used formerly to be built without any reference whatever to the necessity of having pure air; but a better state of things is gradually coming to exist, and improved ventilation is now secured.

Girls suffer much more than boys, both in factories and in schools, under the influence of causes predisposing to consumptive disease, by reason of the very foolish and wicked fashion which obtains throughout Christendom in respect to their style of dress.

It is sometimes the case, that children, if not particularly instructed to the contrary, find their way to that most unhealthy and undesirable attachment to a household, the privy, for purposes of amusement and play. It is well that parents should be thoughtful about the matter; for, from want of knowledge how to deodorize the mass of defecation that accumulates in the privy-vault, the air of such a place becomes exceedingly unhealthy, and furnishes as effective an influence in deranging

the healthy conditions of the blood, and determining any latent poison that may be in the system into active exercise, as any mass of decomposable matter could possibly do. Young children, therefore, should not be permitted to make such a place a point for assemblage for any purpose other than that which nature institutes; and then they should be taught to make their stay there as short as circumstances will permit. Privies might be built so that there would be little or no effluvia rising into the body of the house; but carelessness prevails in this matter, and will continue to prevail, until a very much better philosophy, in regard to the means of preserving health and preventing disease, obtains on the part of those who have it in charge.

In regard to in-door employments, both active and sedentary, there is no rule whereby their relative injurious effects can be determined, except upon general principles; and these may be stated thus: that those trades or employments which demand a sitting posture, while at the same time the body is bent, in order to have the worker perform his or her duty well, are more likely to induce derangements of the respiratory organs, directly or indirectly, and thus, sooner or later, to establish diseased conditions of these organs, than those employments, which, while they keep the person within doors, allow of more or less physical action, and do not keep the body in one given position or attitude for any considerable length of time. The trades of the shoemaker, the needle-seamstress, the saddler, the watchmaker, the tailor, are cases in point, as against those of the blacksmith, the tanner, the carpenter, or the furnace-operative. In the former cases, the work demands that the operative shall not only sit the whole or nearly the whole time, but that his position shall be constrained and unhealthy; while, in the latter, the workers are not required to remain for any great length of time in one position, but have to change about, thus facilitating an equal distribution of the circulation. However, in both classes of trades, operatives must suffer from want of proper aeration of the blood, on account of the impurity of the air they breathe; but, other things being equal, he whose pursuit affords him the best postures and the freest motions is in the best circumstances for the preservation of health.

It would be only common prudence for persons of either sex and of scrofulous habit of body, if they wish to prevent their constitutional bias from working itself out in diseased conditions of the system, to take into account the influence which any particular trade or employment has in compelling the operative to take unnatural bodily positions in order to be successful in the work to be done.

Bad, however, as the tendency of any pursuit may be in the direction of impairment of the health of those who follow it, its deleterious effects may be greatly guarded against, and to a good extent overcome, if the person or persons engaged in it can secure frequent, regular, and habitual out-door exercise. There is no general conception of what an effectual recuperative influence, as against debilitated conditions of the nervous system or disturbed circulation, out-door exercise may be made to wield. But, when used for any such purpose, it should never be in the form of work, but always in that of recreation; and I shall lay great stress upon this, when I come to that part of this work which bids me treat of the means whereby consumption, as an actual disease, is to be palliated or cured.

The same may be said of the influence of sunshine, which, as a health-preserving agent, is of the utmost consequence. Here, too, I beg leave to refer the reader to what I shall have to say upon this point, when I come to present the true method of treating consumption.

These are very determinate influences in preventing or provoking this disease; and consequently, when properly applied, in enabling a person already suffering from it to recover.

CHAPTER XIV.

CAUSES OPERATING TO PRODUCE CONSUMPTION IN PERSONS PREDISPOSED TO IT, ORIGINATING IN THEIR CONDITIONS OF MIND.

In a previous chapter, I have incidentally alluded to the popular impression, that amongst the causes which operate to depress the vital powers, and thus to induce disease, that of over-labor of the physical frame is more efficient than any cause growing out of taxation of the mind. Thus it is generally believed, that, when a person is at all indisposed, to labor with the body may be very injurious to him; while to study is very easy, and nothing more than a pastime. I have frequently heard laboring men and women say, "If I had to work no harder than such a one" (speaking of some one whose pursuit necessitates thought), "I should consider my lot to be very fortunate."

Nothing can be more fallacious or ill-founded than this conclusion; for the liability to ill health is much greater, other things being equal, among students, or men and women whose pursuits or professions call for the exercise of their brains mainly, than it is or can be among those who exercise chiefly their muscles. Of all the causes that predispose to consumption, there are none so powerful as those which originate in too long-continued strain of the mental faculties, whether these be directed merely in channels of thought, or have their sweep through the deeper grooves of feeling or emotion. Statistics go to show most incontrovertibly, that a larger proportion of the pulmonary difficulties under which our people suffer is to be found in the ranks of those who have large brains with feebly constituted organic nervous systems,—thus giving them a predominance of the nervous over the nutritive system,—than among any other class in the community. Such persons usually have large heads, especially in the frontal region, though not infrequently in the occipital as well; moderate-sized bodies; and,

generally, an inferior type of muscular development. These persons are to be found in great numbers in this country, in proportion to our whole population; and they are constitutionally and instinctively given to thought: so that, if left to their own inclinations, they are sure to choose such professions as involve mental activity, while at the same time they do not call for severe or long-continued physical exertion. It is remarkable, when we consider the willingness of our people individually to labor, to see how readily, and with what a degree of preference, they seek those spheres of occupation which do not necessarily demand much bodily activity. If, as between two modes of carrying out ends successfully, one gives a good prospect of securing, under judicious handling, to him who follows it, fine position and abundant rewards, though, at the same time, of involving him in continuous physical labor; while the other offers no better, or even not quite as good, prospects of success, but does not require much physical labor, — almost uniformly, young men or women will choose the latter in preference to the former. It is not always, nor commonly, therefore, that the youth of our land, in seeking for themselves permanent professions, trades, or employments, choose them for the greater opportunities they present for enabling them to follow out any particular department of thought, or any particular idea or ideas; but because, in addition to this, they present opportunities for gaining a livelihood without any great amount of bodily labor. I apprehend that the freedom from bodily toil which teaching affords is the real secret why so many young men and women follow it as a profession. To teach, they think, there is need only of intellectual culture, with a fair ability to communicate what they know to their pupils; while it gives exemption from all severe bodily labor. To sit in a schoolroom eight hours a day, and teach children, seems far preferable to stretching one's muscles in a hay-field, or in a mechanic's shop, or in a kitchen, or anywhere else demanding such use of the muscles if work is to be done.

If this view of the causes and considerations that determine so many of our young people into occupations that involve them in sedentary lives be correct, then, at the very outset,

one may discern the germ of the ill health which almost all such persons sooner or later show. I have given quite close attention, under very broad and favorable opportunities for observation, to the health of the young men and women of our land; and I am prepared to say, that at least ninety out of every hundred of the youth of the United States, from the age of fifteen years upward, are in ill health. A great many are in this condition who are under that age; but, when they have reached well into their teens, ill health comes to be their ordinary and ruling condition, and in some direction will they manifest this. Not infrequently do diseases appearing at this early age show extensive complications; but, whether this be so or not in the majority of these young invalids, they show, in some special manner, habitual ill health. And where scrofula is a constitutional basis, determining to some extent the quality of their organizations; or where, from other causes, they show a constitutional bias to ill health, — there may be seen, by the experienced physician or close observer, the juttings-out of manifestations of incipient pulmonary disease. Long before a red spot on the cheek is seen, or a cough is heard, or a chill is felt in the morning, or loss of flesh is noticeable, or sleepless nights set in, or extreme perspiration when lying down is observed, will the physician, if called to examine the case, be able to discern clearly the steady march of that insidious foe, whose final blow blasts the hopes of the patient, and breaks the hearts of his friends. I am surprised at the blindness of parents and guardians, ministers of the gospel, and educators in schools, in respect to the securities for health with which the human body is organically furnished, and which it carries about for its defence and protection against disease. As though life had not its laws, — and health, its conditions; as though to live indifferent to these, or in a manner subversive of their authority, was not as sure to bring along, earlier or later, its penalty, in the shape of disease or premature death, as any other violation of the laws, having reference to material bodies and their relations, brings its penalty. It should be understood, by persons who have any responsibilities to sustain in respect to the health of others, — saying nothing in regard

to the maintenance of their own health, — that while the brain is made to subserve, among other great ends, the task-work of thinking and feeling, which, for any reason, it may be necessary to undergo, its susceptibilities to unhealthy conditions are large, and its liabilities quite numerous; and that, while it is not likely to be disturbed by any reasonable amount of thought or feeling (provided, always, that its correlations are healthful, and the other organs in the body are made to do their specific work healthfully), it is not only probable, but certain, that it will become disturbed, deranged, and greatly debilitated, if its special labors are put upon it, while no sustaining power or corresponding sympathy is furnished it from other departments of the frame. As, for instance, if the brain is worked like a gristmill all the while, and no sustaining power is furnished by the stomach, then it is quite certain that diseased conditions will show themselves, and very likely at no remote period.

What is true of the relations of the stomach to the brain is also true of those of the liver, the lungs, the bowels, the skin, and the muscle. A man who is so circumstanced, that his liver must become essentially and positively inefficient in the performance of its functions; who so surrounds himself with external conditions, that the processes of respiration are quite imperfectly carried on; or whose skin becomes half-dead for want of proper attention, or whose muscles become flaccid and feeble by reason of the lack of opportunity to accumulate and exhibit vigor, — can on no ground hope to keep his brain in such health, if it has its work to do in the way of thought or emotional expression, as he could were each of the organs of his body kept in a healthy state, and harmoniously related to all the rest.

While, directly considered, it may not be true, that the nervous system, of which the brain is the seat, is unhealthily affected by the fact that it has to undergo much labor, it *is* true, that it cannot bear this task-work while the body is subjected to such conditions, that no one of its other organs can have fair opportunities for performing its labor, or fair conditions for maintaining healthy action. Indirectly, therefore, the brain may become diseased, and that quite easily, from causes dependent

in some degree upon the length and intensity of its labors: and as all study involves thought, and thought is born in the brain, so the person who sustains, to the work he seeks to do, the relation of a thinker, should never forget, that it is not through the exercise of his intellectual faculties alone that he is likely to become unhealthy, but through the correlative conditions which other organs of his body are, through his sedentary habits, made to sustain to his brain; and that, therefore, if he wishes to think a good deal, and to have his thought healthful, and available for specific uses, an obligation rests upon him to take care of the health of his body at large. At the outset, then, he should understand, that a cardinal law of his nature is, that his physical frame, as a whole, should be regularly and habitually compelled to activity in the way of vigorous exercise; and that, whenever, from any cause, this law is overlooked, and the body is pretermitted its daily activity, every organ in it readily takes on abnormal conditions, and these are brought to bear sympathetically upon the brain, and so bring it to the common level. A capital illustration is furnished in the case of a dyspeptic, whether man or woman, who shows such conditions of the digestive organs as indicate inability to take care of the food through which the body is to find its supplies as against the waste which is going on all the while. The moment the stomach comes to be so related to its offices as to perform them imperfectly, so soon does the brain begin to show incapability to manifest its activities in normal directions. It is as impossible for a dyspeptic to think successfully for any length of time, as it would be for a man without arms to chop cord-wood for a livelihood.

So, too, do the sympathetic relations between the brain and the other organs of the body show themselves in the cases of persons who exhibit any form of reproductive debility or well-established disease. In fact, such are the intimate relations between the reproductive and the cerebro-nervous systems, that even extraordinary taxations of the former, though it be in a healthy state, re-act upon the latter. A woman who is in the gestatory state is necessarily incapable of long-continued or

profound thought. Her relations to life, at such a time, work themselves out through her spiritual or emotional faculties; and her intellectual organism has to take a subordinate position. The great vitative processes could never be maintained and fulfilled, if her labor was of a nature to demand extreme intellectual action. Still further proof of the correctness of this view can be seen in as many different directions as there are ailments of a severe character to which human beings are subject. One cannot think with the bilious colic, nor under a fit of the gout, nor while suffering from some wound which involves him in great pain. The brain, notwithstanding it holds such organic life-relations to the remaining portions of the physical frame, is also largely open to re-actions under any morbid conditions in which any of the other organs of the body are involved. In no way, however, can the brain be compelled to exhibit vital action sooner than through a disturbance of the circulation; and a healthy state of this is absolutely dependent upon muscular exercise. No man or woman can have his or her circulation maintained in a state of equilibrium, who indulges habitually in inactivity of the muscular system. This deranged, its derangement affects the brain. This disturbed, the power to think is destroyed, and the thinker finds himself unable to pursue his vocation.

But this is by no means all. Whenever, from any cause, the brain becomes related to the mind so as to be an imperfect medium for the unfolding of thought, or the recognition of ideas, it is already so abnormal as to be quite incapable of determining its energies in directions where these are needed for the purpose of enabling the other organs of the body to maintain their natural or healthy conditions. Brain-disease is very common among the people of the United States. Its manifestations of derangement are multiform, and well worth the study of medical men: in fact, they so affect human action and determine human conduct, that they well may challenge the closest investigation, and demand the most familiar understanding of them on the part of all persons who have to do with the regulation of human relations or the management of human affairs. The statesman, the minister, the legislator, the teacher, the

parent, the guardian, can never know how to keep down the passions of mankind, hold in check their unbridled propensities, regulate their social feelings, or direct and shape their physical relations, in the best way, so long as they fail to comprehend the wondrous machinery which God has placed on exhibition in the human brain, and which is of so exalted and refined a nature as to make it not only susceptible, but liable, to a variety of abnormal conditions, and therefore capable, to a great extent, of diseased phases.

The organic sympathy between the brain and the lungs is very great. Whenever the lungs show an unhealthy state, the brain immediately seeks, or is forced, as it were, to corresponding conditions. It is very instructive to witness how soon, after one places himself where he is compelled to impose upon his respiratory organs the imperfect exercise of their functions, the brain manifests its sympathy with the lungs. Let a man puff into his lungs, and out again, a half-dozen times, air which is unhealthy, and the electrical or magnetic or vital conditions of the brain are changed. Immediately upon the imperfect aeration of his blood, his power to think becomes deficient. No matter whether he is aware of it or not, the fact exists; and, if the condition is continued long enough to show the result, he will become conscious of it.

Of course, in proportion to the sympathy which exists between the brain and the lungs must be the sympathy which exists between the lungs and the brain. If the brain becomes enfeebled when the lungs are disturbed, it follows, by parity of reasoning, that, when the brain becomes deranged or diseased, the lungs must be affected unhealthfully; and such is the fact. Let a man have a congested brain, and his respiratory activities are qualified thereby. Let him get such extended derangements of that organ, as a whole, as to cause indications of greatly lessened power; and if there is such a constitutional predisposition existing as to force the lungs, under circumstances favorable thereto, to take on pulmonary disease, such disease is then and there sure to establish itself. How many persons of fine organization, with more than common intellectual endowments, and much more than ordinary capabilities of appreciating

truth, of cherishing high and liberal views of life, of sustaining comprehensive social relations, and of being very useful members of society, have broken down their brain-power by bad habits of living, and have passed into consumptive states and died! The records of the race would show such causes of premature death to have been more efficient than almost any other; and, when one comes to look at it, it is really a matter of astonishment to notice how large a proportion of those who die, all along from infancy to old age, have their deaths induced by exhaustion of the nervous system, expressing itself through the nutritive and respiratory organisms.

It therefore becomes a matter of great importance, that children at school, students in all the professions, professional men, and persons whose business in any direction subjects them to daily, habitual, and long-continued thought, should offset the taxations to which their nervous systems are subjected, by exercise of an active and muscular kind, and which is directly calculated to aid every organ in their bodies to make those vital changes which must be carried on in order to have them in possession of permanent health. Just what this exercise shall be, has been suggested in a previous chapter; yet it is of so great importance in the direction of preventing disease and maintaining health, that I feel justified in discussing it here more elaborately: for, of all the means of preserving health and preventing the development of disease which our people should use, there is none with reference to which they show such obtuseness, nor of the utility of which they show such imperfect conceptions, as they do in the department of recreation and amusement.

CHAPTER XV.

RECREATIONS AND AMUSEMENTS.

Carlyle has said that work is worship: and with the same pertinence it might have been said that play is prayer; for if, under any sense of obligation or duty, one finds himself called upon to exert his powers of body or mind to such a degree as to fatigue them beyond that point of taxation which allows of ready recovery from fatigue, work has nothing of the worshipful in it. All the divinity there is in it concentrates itself, then and there, in the playful; and the only possible way in which re-establishment of vigor can be secured is through the influence of conditions that amuse while at the same time they recreate. Throughout the whole domain of living nature, God has established and made visible the necessities of change: so that reflecting minds long ago concluded that action and re-action were equal; and that, with whatever intensity one exerts himself in the expenditure of energies that are vital, to the same degree must he relieve himself from such intensity of effort, and secure corresponding relaxation, in order to preserve health. Rest, therefore, becomes the great handmaiden and counterpart of labor; repose, of activity; quiet, of excitement; sleep, of wakefulness; food, of hunger; supply, of waste: and, by passing through these conditions sucessively and intelligently, the organism preserves a healthy balance. In the very nature of things, play becomes as necessary an element in the maintenance of bodily or mental health, and the cultivation of spiritual goodness, as work or prayer; and it is only by acknowledging this cardinal truth that any thing like steady, solid, substantial health can be had. It is one of the very best relations which man has, as yet, had opportunity to know or comprehend, — this of recreating himself; making himself over *anew*, as it were; re-energizing himself, reconstituting himself, regulating himself; and all

this by play, by amusement, by relaxation, by occupying himself with things, which, while they divert, do not distract, — while they interest, do not fatigue him; but give full sweep to his intrinsic living forces to make good his system as against the wear and tear of the duties, the labors, and the cares in which his life involves him.

I have great reverence, and am glad to cherish it in my own consciousness, for the opinions of others; and the rules and regulations which grave and wise men, in times past, have seen fit to establish for the government of human conduct, presumptively commend themselves to me, by a law of my own being: so that, where others oftentimes see much to criticise in the habits and customs of former ages, I see much to admire. In the characters of the earlier New-England settlers, I discern in large degree the constituent elements of manliness and virtue, of patriotism and piety; but no stretch of the imagination which I can exercise will at all cover the amount of mischief which has resulted to the people of the United States from the teachings of the Puritans on the subject of recreations and amusements. The position they took, and the fidelity with which they illustrated it, have been of fatal influence to the lives of hundreds and thousands of persons; and, to-day, the notions which the religious portion of the people of the United States hold, and the feeling which they cherish, toward recreations and amusements, public and private, which in themselves are not only innocent, but worthy of the patronage of the good, tend greatly to the production of disease, and, in a large number of cases, actually become the great provoking and exciting causes of severe sickness, frequently resulting in death. While we grow in almost every other direction in the use of means whereby we may be benefited in our material and spiritual health and prospects, we have as a people not only not done any thing in the way of securing to ourselves healthful relaxations from business pressure and responsible cares, but we have not even *conceived* of the necessities therefor. True, persons do, in larger numbers than formerly, break away from their round of daily labor, and for a few days, or at most for a few weeks, seek what they are pleased to call "relaxations," and which to them may be so; but

almost all the exhibitions in this direction that are to be seen are in their very nature deceptive, and, still further, exhaustive of vital force, rather than recreative. I admit that there is much of the recuperative sometimes to be found in diversity of labor, in changing from one form of work to another, and especially if, in so doing, one can allow himself to feel in different relations to the thing to be done; for the spirit in which an individual seeks to accomplish an object may constitute a turning-point, as to whether the labor to be performed is recreative or ruinous. But while it is true, that, in larger numbers than formerly, a portion of the people of the United States annually seek, each in his individual way, relaxation from the pressure of business and care, the great majority still remain so related to life as to be without any well-regulated and healthful opportunities for rest and recuperation. From morning until night, from one week's end to the other, from the beginning of the year to its close, they have nothing before them but work, and the consciousness of positive and pressing duty. Under such circumstances, it is impossible for persons to have health. Nature has concluded that view, and shuts us up by a dire necessity to the suffering of such maladies as make life by no means pleasant, and certainly unprofitable.

As I have before hinted in previous chapters of this work, by far the larger moiety of our whole population is out of health. With no propriety can it be said that they are healthy: with the most perfect propriety can it be said that they are in ill health; and to the want of cheerful, exhilarating, and refreshing amusements and recreations, is it owing that they so generally fail to compensate themselves for the expenditure of vital force, to which, by the necessities of the case, their nervous systems are daily subjected.

This view becomes of more significance when we take into consideration the constitutional susceptibilities to consumption, and the actual liabilities to disease, in various forms, of that portion of our people who are, by organic causes, predisposed to sickness, and who, therefore, cannot have health, except under such arrangements as will give them with great regularity the very best opportunities for recovering from the fatigues to

which in any pursuit they have to subject themselves. Wherever there is a person who shows such constitutional relations of his nervous to his nutritive system as are indicated by large mental and motive and inferior vital temperament, — such as we often see in the case of a man or woman who has a large brain and small body, with small muscles upon its bones, — such person is, by organic conditions, — I mean by conditions that enter into the very foundation elements upon which life rests, — so related to health and life as to render the former impossible, and the latter quite as much so, for any great length of time, unless frequent intervals of repose from toil of body or brain, or of both, can be had, and these, too, with a great degree of precision and regularity.

When it is remembered that this particular style of build is the prevailing type with our people; that we are noted for the largeness of our brains, and the comparatively inferior size of our muscles; and that diseases which involve morbid exhibitions of the nervous and nutritive systems are the prevailing maladies in the United States, — one may get a glimpse of the truth of the position herein taken, that our sicknesses spring in no small measure from our lack of opportunities for recreation, and that our health can be improved only by a great increase of such opportunities; and that, therefore, in every community, this matter of presenting its people with means for amusing themselves, and thus recreating their strength and health, should be considered as of very essential and cardinal importance. Especially should the religious element take the matter in hand; and the more pious the people of any given community, the more should they be determined to have healthful amusements not only recognized, but enjoined as a duty. Ministers should preach from the pulpit in favor of play, especially such play as involves out-door exercise; play which is sportive; which brings together, in order to the proper enjoyment of its advantages, great numbers of persons; and which renders the presence of persons of both sexes and of different ages necessary. Not only our children and young people should play; but our grave and dignified men, our patriarchs (what few of them there may be at any time in our midst), and our men and women of all ages,

should play, and play in public too, — becoming again little children. In arranging the conditions upon which health and life to a human being can be insured, Nature has never contemplated the spending of such a period of time as is measured by the earth's revolution on its axis in continuous and uninterrupted work; and if childhood is that period of a human life wherein irresponsibility is indicated, and manhood is the converse of it, then Nature has never, in any of her arrangements, provided that a human being should live for twenty-four hours as a man. Every man and woman, therefore, are bound to have some period of each day during which relaxation from bodily or mental task-work shall be theirs; and such period is not to be entirely appropriated to unconscious conditions, but some part of it to the exercise of the bodily powers and mental faculties and spiritual instincts, in directions quite contrary, if not antagonistic, to those in which duty and responsibility exert their influence. Recreations should not be of such a character, as, when pursued for any considerable length of time, to impose additional fatigue upon the body, or additional work upon the brain; but they may be of such a nature as to involve the use of the muscles or of the brain, or of both, in moderate degree: indeed, they must do this in order to be comprehensive. A man's natural bent of mind, his tastes, his preferences, should be consulted, and have their weight, in determining just what form of amusement he shall enjoy. One man likes hunting; another, fishing; another, pedestrian entertainment; another, horseback-riding; another, rowing on a lake; another, dancing; another, carriage-riding; another, ball-playing; another, pitching quoits; another, rolling ninepins; another, billiard-playing; and so on. Whatever form of recreation one prefers, let him pursue it, provided always that he can induce others to join in it; for amusement, to be of the highest advantage, needs to secure the use of the social forces.

It is a curious and very instructive fact, how large a proportion of amusements and opportunities for sport and play, which are in their nature perfectly innocent, society has laid under ban. Pious people are horrified at the idea that a minister of the gospel should have a good horse, and ride up and down the streets and out into the country, every morning, like Jehu.

They would be entirely startled out of their propriety, if they were to learn, that, instead of going to see some sick or sin-smitten parishioner, he had taken his fishing-rod, and spent four or five hours in angling up and down a trout-brook; or had taken his gun, and wandered off into the woods for the purpose of shooting game. Still more would they feel outraged in their sense of propriety, if he were to be caught on the public square playing ball, pitching quoits, or spending an evening quietly, after his day's labor, in the house of some friend, playing an innocent game which has been denominated by some wiseacre a game of "hazard," and therefore particularly calculated to imperil the future and eternal welfare of every one having any thing to do with its management; and as, in every village whose inhabitants are desirous to have at least good morals prevail, and as much piety as is possible, the clergymen are expected to take the lead in exemplary conduct, to forbid a minister of the gospel the right of recreating himself in a healthful, playful, and innocent manner, after the labors to which his duties each day subject him, is, in effect, to forbid every man, woman, and child in the place, who respect religion, and honor good morals, from doing the same. Amusements, therefore, have grown to be regarded with jealousy, suspicion, and disfavor, by all good people; and, as a natural consequence, they are placed under the protection of, and enjoyed by, those who have no great sense of moral or religious obligation resting upon them in regard to their conduct; and so they are warped from their true and legitimate bearing — the re-invigoration of those who assist in them — to that of dissipation and debauchery. To such a degree has this been carried, that the very term "recreation" or "amusement" or "play" has come to be suggestive of dissipation, of looseness of life, or of positive debauchment of morals.

Such is the result of straining out a gnat, and swallowing a camel, when one puts his lips to the fountain of life to quench his thirst. It should be borne in mind, and especially by Christians, that, by the very terms of their allegiance to their Master, they are not only permitted, but enjoined, to partake of, and make over for their benefit, whatever things are honest, whatever things are true, whatever things are innocent, and whatever

things are of good effect; and that they make, in matters pertaining to the divine life, a great mistake in refusing to appropriate for their own use and benefit all plays, sports, amusements, or recreations, which in their nature tend to refresh, improve, and invigorate the bodies and minds of those who use them. After all that has been said to the contrary, this world is a beautiful world, worth living in for a long time; and the means of happiness which it affords those who know how to apply them are abundant. God is very good and very gracious to his children, and has not left them without a witness of his love. The air, the sky, the earth's green surface, the beautiful hills, the bright mellow light, the sounds they hear, the sights they see, the pleasures they can make their own by their touch and by their taste, all are provisions of a wise and kind Parent for their happiness.

Why, then, should those, who feel a desire to acknowledge their obligations to him, pass through the world as mourners; go up and down the streets with elongated countenances and lugubrious faces, stern or sad? All this is very foolish, not to say nonsensical; and is totally indefensible from the point of logic, piety, or common sense. It may justly be characterized as a prejudice, having no foundation in reason; or as a whim, springing up from the depths of a morbid imagination: and all good men and women should combat it, and resolve to cast it forth, to be trodden evermore under the foot of mankind.

Of amusements and recreations which involve exercise of body, there are several quite worthy of note, from their prophylactic effect. Let me call attention to some of them.

Walking.

In alluding to the benefits of physical exercise in my work on the "Sexual Organism," I incidentally called the attention of the reader to walking and its value; but for the purpose of protecting a person, who, from congenital or superinduced causes, is particularly liable to take on consumptive conditions, I know of nothing in the whole round of physical exercise so good as habitual, regular, and vigorous walking. What horseback exercise is to a person actually suffering from incipient or advanced

consumption, pedestrian exercise is to one, who, having it not, is yet predisposed to it; and the reason for giving the preference to this over exercises taken under different conditions, can be made obvious, I think, to every one who is willing to give the matter proper attention. In no direction can any exercise be brought to bear, that produces so thorough and uniform a circulation of the blood throughout the whole body as that of walking. This may be made apparent by trial. To stand perfectly still, and use one's arms in any way, or number of ways, will not secure so thorough and complete a circulation throughout the whole frame as walking will do. Any mechanic, whose avocation is such as to compel him to the use of his arms and the muscles of his chest and trunk, will find that it is much more difficult on a cold day for him to keep up such an external circulation of the blood as to insure warmth throughout the body, than it would be were his arms to swing by his side, in a relaxed muscular condition, while he walked vigorously. The face becomes flushed from walking; the fingers fill to the tips with blood from walking; the feet are warmed by walking; the whole external surface assumes a healthy glow from walking.

As consumption, among the other conditions precedent to its actual existence, must have that of congestion of the internal blood-vessels, and, of course, a bloodless condition of the external capillaries, nothing is better as a preventive of the disease than that exercise, whatever it may be, which tends directly to maintain a proper circulation of the blood and to prevent internal congestion.

But, besides the mere physical benefits derivable from walking, it insures, indirectly, such intellectual and moral results as to render it superior to almost any other form of exercise. The habitual pedestrian will be found to be a man or woman of serene temper, genial disposition, hopeful in feelings, courageous in purpose; and, besides these, will be found to be educated, in more than usual degree, to the possession of all the special senses, and their individual and collective uses on ordinary and extraordinary occasions. Such a relation of the higher faculties to the physical organism is very promotive of health.

Directly, the tendencies are to the staving-off and keeping in abeyance any disease to which the person is particularly susceptible, or under which he or she may be actually laboring.

A great fault in the education of our boys and girls is to be found at this point. For the last thirty years, pedestrianism has gone, to a great extent, out of use; and I may say that it has gone out of fashion. Young men, now-a-days, fail to recognize the value of their own organs of locomotion, and substitute for them those of animals, or those which are mechanical. No young man thinks of walking ten miles: he goes either in a carriage or on horseback, either by rail or by boat. To walk is not at all congenial to him; nor does it comport with his notions of self-respect. If this be true of young men, it is so to a still greater extent of young women; and yet, in the organic relations to this act of walking, woman is no way inferior to man. She can not only endure as well as he the fatigues consequent upon walking, after having had an equal training to the exercise, but the beneficial effects arising from it are quite as great in her case as they are in his; for she needs it quite as much as he. All members of society, whose daily life involves them in uninterrupted sedentary employment for many hours each day, should so arrange their relations to business as to have secured to them daily opportunity for vigorous exercise by walking. Its beneficial effects are not to be seen alone in the equalized circulation of the blood which it produces, but as well in the improved magnetic and electric conditions of the brain and nervous system which result from it. When it is remembered that liability to abnormal conditions, productive of severe disease, may be greatly weakened and kept in check by having a healthy nervous system, one can readily perceive that daily pedestrian exercise must be valuable just to the degree that, under it, the conditions of the nervous system are kept or rendered healthy. A scrofulous boy or girl, a boy or girl with a large head and feeble nutritive system, may be protected against the development of consumption by being subjected to regular, well-established, and sufficient physical exercise by walking, so as to have it really amount to a positive guaranty against the disease, provided other important conditions are ob-

served; and, for want of such exercise, such boy or girl may be left so unprotected as to cause consumption to show itself at or about the period of adult age.

It is getting to be fashionable in our cities and larger towns to procure proper re-actions, as against the fatigues arising from obligatory labor, by gymnastic exercises. For my own part, I have a dislike to them. They are valuable only when they are used as therapeutic instrumentalities. As securities against, or preventives of, disease, — especially in the cases of persons predisposed to pulmonary consumption, — I regard gymnastics, except in the way of passive movements, as decidedly injurious. There is nothing gained in expanding the chest and enlarging the muscles, when this is done at the expense of nutritive or nervous energy, so as really to leave the system unbalanced; for mere physical health is far from being *human* health. One may be as broad-shouldered and as large-muscled as a giant, yet be far from being in good health. Human health contemplates the development of all the faculties and powers of a human being; and to be all bone and muscle, with inferior brain, is quite as unfriendly to the growth of one's nature as a whole, and, in fact, to the maintenance of one's longevity, as to be all brain and no muscle. Having, as a people, already gone to one extreme, — that of developing the nervous force to the detriment of the nutritive, — we are now engaged in the opposite process, and are quite likely to run to the other extreme: so that, by and by, we may be able to show a class of men and women who are remarkable for the muscular strength, robustness, roundness, and vigor of their bodies, but with diminished intellectual faculties, and still more depreciated spiritual capacities. It is quite as easy to cultivate the animal in man, at the expense of his intellectual and moral nature, as it is to cultivate these at the expense of his physical health. The gymnastic school of reformers, if not set to thinking in directions different from those in which their minds now run, will, in course of time, overdo the whole matter; and we shall see two results from their efforts, — one, in a class of persons using gymnastics to excess, and consequently to their own injury; and the other, in a class of persons who will use them to such a degree, as that, while greatly productive

of increased vigor of body, they are also productive of decreased power of the higher faculties: for it does not necessarily follow, that a man's brain, in its power to become a medium for mental impressions or for the use of the mental and moral faculties, keeps pace with the increased size of his muscles.

For all persons predisposed to consumption, severe labor of any kind is detrimental. Their labor may be continuous, and they may become fatigued; but their work must not be oppressive in its taxations, nor productive of violent re-actions: if it be so, its effect will be exactly contrary to that which is desired, and which would be produced were the opposite course followed.

The Movement Cure.

Within a few years, there has been brought to public notice, as having large therapeutic uses, the application of gymnastics in and under special forms; though the name that has been given to the processes employed is "the movement cure."

Those who have studied it, and made themselves familiar with its operation, speak highly of it, and show, in not a few instances, satisfactory effects from its application. Undoubtedly, as a prophylactic and therapeutic agent, it may be made of great value; but its worth must be qualified by the recognition of it as an instrumentality hygienic in its character, and therefore applicable to those who are in health as well as to those who are diseased.

The great objection in my mind is, that its advocates, while presenting it as a specialty, seek to impress upon the popular mind that it is also a universal specific. They say that any and every disease can be cured by the use of movements, active or passive in character, and made of a specific or general application. On this point I have nothing further to say here; because I am not discussing just now the treatment of consumption, but only those conditions which induce it: and, while very decidedly opposed to the use of general and irregular gymnastics, I certainly have no reason to object to the application of movements, which, in producing muscular exercise, induce changes in the relations of the several organs of the body, or of any

of them, to each other, or of any one organ to the office or function which it is called upon to perform. Any feeble young man or delicate girl, who is threatened with consumption, may find a very excellent preventive in the use of gentle muscular exercise, brought to bear under the direction of some intelligent person.

Dancing.

For persons predisposed to consumption, I regard dancing, when properly regulated, as of great importance. It may be properly termed walking to the sound of music: that is all there is in dancing. The prejudice against it which we entertain grows out of the manner in which dances are usually conducted. Its effects upon the health of persons who participate in it are highly beneficial. It reaches the body, and aids it materially in developing and producing such changes as it needs; and it also affects very healthfully the social nature of those who join in it. I do not now think of any other physical exercise so *inspirative* as dancing. In this respect, it is much superior to simple walking: the emotions respond to the music and the act of dancing.

It has been objected against this exercise and amusement, that it is particularly calculated to arouse passional feeling, and therefore unfriendly to virtue and good morals. This is by no means a necessary inference,—that an amusement like dancing, which stirs up the passions, is consequently unfriendly to virtue and good morals. The passions were made to be stirred up. It would be a queer course of reasoning to argue, that to find one's self in love was to be in conditions unfriendly to morality and virtue: human experience is opposed to any such view. And yet very few persons can be found, who have ever felt in them the sentiment of love keenly alive, without having had their whole passional nature more or less involved. The organs of the passions and of the social sentiments are so nearly together, as to render it quite difficult to have the latter aroused, without the former becoming at the same time stimulated into a greater or lesser degree of action; yet no one ever hesitates to express his affection for any object, simply

because, mingled up with the sentiment or feeling of affection, there is a modicum of passion. Dancing, as an exercise, tends to draw out the social nature; to inspire one, to quicken him, to energize him, — making him feel the glow of the social forces, as they run through the various intellectual and moral currents of his being: and, when under the influence of these feelings, the passional nature may also be found accompanying them as a twin strain of sensations. If so, it does not follow that one is not to do any thing to arouse to forcible and vivid expression the social faculties of his being, because, if he does, the propensities also will be made temporarily active. He is bound to train himself into such control of these as shall compel them to work harmoniously together; thus making his recreations a means, not only of increased physical health, but also of purifying, invigorating, and permanently strengthening his higher powers.

Conducted as it is by many, and indeed by most persons, dancing is open to severe criticism; and can find no defender, except in him who justifies dissipation; nor any advocate, except one who prefers to do wrong, if temporary pleasure is gained thereby, rather than to do right at the expense of this pleasure. Public balls, where persons dress unhealthfully, and excitement rises to a high pitch; where fatigue is induced by violent physical exercise; where sleep is broken up; where food is eaten at late hours; where exposure to very great and severe atmospheric changes must be had; where the moral sentiments become subservient to the passions, and the intellectual becomes enfeebled by the exhaustion of the bodily frame, — can have no countenance from any physician, who understands, in creditable measure, the laws of life and health. But pleasant evening dances, of a homelike character, with a few friends, — enjoyed for an hour or two, and made to subserve the purposes of social interchange, of amusement and recreation, the throwing-off of the care and burdens of every-day business, — may be made a means of doing great good; and should be practised, in every household and neighborhood, where the people desire to have good health, and high intellectual, moral, and social culture.

Horseback Riding.

This exercise is excellent for all persons; but particularly beneficial for persons of scrofulous habit, with large brains, small muscles, and inferior vital temperament, who are so organized, as, if they ever have disease of any particular organ, to be especially liable to affections of the lungs. As far back as we have any well-recorded opinions in respect to the influence of hygienic agents for the cure of consumption, horseback exercise has been in universal favor among medical men. When I come to present the best methods of treating the various morbid conditions which persons, who are afflicted with consumption in its various stages, show, I shall refer to the opinions of distinguished medical men in favor of the hygienic or healthful effects of horseback exercise for consumptive invalids. My object now, as my readers will readily understand, is to call attention to it as a means of preventing the development of this disease; for, even at the risk of repetition, I must remind them, that it is altogether a wiser and safer course for one, who is predisposed to consumption or any other disease, so to arrange his relations to life that this predisposition may be kept inert, than it is to wait until it has manifested itself, and then seek to overcome it by any means.

While other exercises are quite as valuable to persons of robust build, and of the bilious or lymphatic temperament, horseback exercise is preferable for persons of the nervous or sanguine-nervous temperament. Especially is this exercise beneficial to persons of the male sex and of the consumptive diathesis. The aid rendered by it to the circulation, and especially to the circulation through the lungs, provided the exercise be not violent, but regular, steady, and habitual, is of the highest order.

But, in order that the best effects may be derived from it, the position which the rider assumes upon the horse must be taken into account, as well as the expenditure of energy demanded by the exercise in each case, and the conditions that immediately succeed the effort.

A person of consumptive habit should never ride a horse of so hard a gait as to produce a feeling of congestion in the lungs when riding, or immediately thereafter. Hence, if, on commencing to ride, he finds the motion of his animal to be such as to produce a feeling of constriction, or burdensome fulness of the lungs, the animal should be changed for a better one, or else his gait should be changed, so that the rider may be free from the sensation to which I have referred. True, a new beginner may have this sensation, when, on becoming accustomed to the saddle, he does not feel it; but, whether at the commencement of the exercise or at any stage of it, if he becomes sensible of this particular feeling in and about the lungs, it should be a warning to him to so relate himself to the effort as to be able to perform it without any such sensation. In several instances, I have known hemorrhage of the lungs to be induced in from twenty-four to thirty-six hours after a horseback ride; the sufferers having become oppressed in the lungs, while riding, with a sort of difficult breathing, which forced them to cough in spite of all the resistance they could offer.

Another thing against which the horseback rider should carefully guard is riding with long stirrups. Every person who takes the exercise for the purpose of aiding his circulation, and especially with reference to the circulation in the lungs, should be careful, when riding, not to let the weight of the body come upon the hips or the buttocks, or the inside of the thighs; but should have his stirrups so short as to be able to rest the main weight of the body upon the feet,—pressing the sides of the saddle with the legs, and resting only lightly upon the nates.

The Mexican saddle is far better than the common one for consumptives to ride upon; for it has a high back, and the person riding can partially stand upon his feet while at the same time he sits upon the extreme back part of the bulge of his body, and thus secures freedom from pressure upon the great arteries as they descend, and the veins as they bring the blood back; thus getting the benefit derivable from the motion in all departments of the circulation, without any such constriction as to derange it, either in its outward journey from the heart or in its return thereto.

For new beginners, animals which have a short, well-established, yet easy gallop, are the best fitted. The trot is a taxing gait to the rider, though perhaps not so extremely so as the rack or pace. Superficial observers make a great mistake in supposing, that, for a patient with feeble respiration, the pace is the easiest gait to which a horse can be trained. A very slow amble is an easy gait; but a pace that has any considerable degree of speed in it will disturb the circulation more than the hardest trot to which one can possibly be subjected. Providing the horse is well trained, a gallop is, as I have before said, the easiest gait at which a novice in the exercise can ride. The position of the rider should allow the most unrestricted circulation of the blood; and it is quite as important that he should also have opportunities for full respiration. Very bad habits of breathing can be established by horseback riders, — habits very much to be deprecated in all cases, but especially in the cases of persons who have feeble lungs, or who have, from any cause whatever, congested conditions of these organs. The dress of the rider should always be loose, — waistband loose, vest loose, shirt-collar loose; and the neck-tie, coat, and overcoat so large, as, when buttoned up for protection against the weather, to leave to the wearer the fullest opportunity for full and deep breathing. If one is accustomed to taking short breaths, he should, when he begins to ride on horseback, educate himself in this direction to longer and deeper inspirations than usual. It is much more difficult, one will find upon trial, to take in a long breath, than it is to expire it: and therefore there need be no particular care on the part of the rider to breathe the air out of his lungs slowly; because every motion of the horse tends to aid the abdominal muscles and the diaphragm to eject the air, but does not in any way assist deep inspirations or intakings of breath.

It is much easier to knock the breath out of one's body, as the pugilists say, than it is to get it into one's body. Horseback riding assists decidedly in the expiration of air; whereas all the aid to inspiration derivable from it is indirect, — in the strengthening of the muscles of the back and shoulders, in aiding the liver to perform its office freely, in strengthening the

stomach, and assisting that peristaltic motion of the bowels which produces a desire for stool.

I have no doubt that this exercise, which may be termed "active-passive," is by far the best of which we have any knowledge at present for the protection of persons, predisposed to consumption, against the upspringing of positive disease; and it is valuable simply because it is active-passive. The effort is one which involves exercise of the will on the part of the rider, but only to such an extent as insures pleasant employment of his mental faculties, and particularly of his special senses, and thus diverts his attention from any unpleasant conditions under which he may be laboring; while, at the same time, it exempts him from any such action of his muscles as would be productive of exhaustive fatigue. Though he may get tired on horseback, the fatigue is not like that which is induced by walking or working. A feeble person, who should walk until he was tired, would not so readily fall asleep thereafter, and be refreshed by it, as would he who had become fatigued by horseback riding.

Such, then, are some of the considerations which I offer to the reader in favor of horseback riding for those who are predisposed to consumption, and would prevent its positive development; and if those who have it in its incipient or more advanced stages would keep the progress of its development largely in check, and thus secure to themselves a good many years of life, which, but for such care, they would not be likely to enjoy, they cannot call to their aid a more important influence than that of habitual riding on horseback.

If I have not overrated the importance of this particular exercise for persons of feeble habit of body and of consumptive tendencies, what shall I say of the general style, fashion, or posture, in which our women ride? I do not know where to find language to express my detestation of the *slavery* to which society dooms woman in all matters pertaining to healthful life. Why it is that Christian men — and, for that matter, men who are not Christians, but who certainly are largely endowed with good sense — should fail to perceive the criminality of the course they pursue in respect to the use of hygienic instru-

mentalities by women for the preservation of their health, or for its restoration, I confess I am unable to determine. Was there ever, or is there, any thing, pretending to carry along with it means whereby utility or pleasure could accrue to the persons adopting it, so ridiculously absurd as that which society has established as the rule for woman in her posture, when riding on horseback? If the Enemy of all good had set himself to work to invent a means whereby pain should be born of pleasure, or whereby evil should come out of that which pretended to be good, it seems to me, that, in this matter, he could not have achieved a more decided success than he has, in making it the customary, fashionable, and only "proper" way for woman to ride as she does.

There are insuperable objections to this style of riding, — objections based upon physiological laws.

In the first place, no man would allow a daughter of his to sit at her desk, for one hour a day, in the posture that she has to sit when she rides on horseback; and, if school-benches were made so as to compel girls to sit in this way, the outcry would be universal, and every man's common sense, and every woman's too, would rise up against it, and find utterance. One man would say, "I cannot have my daughter sit in that way: the first thing I know, she will have a crooked spine." Another would say, "I cannot have my daughter sit in that posture: the first thing I know, she will have varicose veins in the legs." Another would say, "I cannot allow my daughter to sit in that way: the first thing I know, she will have debility of the reproductive system." Another would say, "My daughter must not sit in that position: the first thing I know, she will have congestion of the lungs." Another, "My daughter must not sit in that way: the first thing I know, she will have congestion of the liver and kidneys." Still another would say, "I will not have my daughter sit in that posture: the first thing I know, she will have irritation of the spine." Each and every one of these would have good cause for saying so; for there is no disease to which I have thus alluded, that cannot be brought about, or that would not inevitably be induced, by postures, long continued,

such as women are *compelled* to take when they ride on horseback.

If this be so, and if parents would be justified in crying out against the adoption of this posture at school, how much more justifiable would they be in declaiming against it, when the person assuming it is compelled to keep it five feet in the air, on a horse's back, and while the animal is in motion! The jar that the whole spinal column receives, when riding on a horse that trots or canters, is enough to produce congestions of the base of the brain, such as may at any time cause fatal disease; and I hold it to be physically impossible for any woman to ride on horseback for any considerable length of time, with comfort, in the fashion common to our people. Put her on to a side-saddle, and let her ride for pastime half or three-quarters of an hour, and she may not suffer from it materially; though, if she be a feeble girl, and predisposed to lung diseases, or if she be of a highly nervous and sensitive temperament, you may depend upon it that she cannot ride for an hour a day without being far more injured than benefited by it. This is so true, that American women are simply amateurs in horseback riding. They ride for pastime, to pass a leisure hour, for a temporary enjoyment; not persistently and habitually, as there is a great necessity for their doing, — a greater necessity, even, than there is for men, because the sphere of their activities is much narrower, and less varied or diversified, than that of men. The abdominal muscles are so related to their office, when a person sits as a woman sits on a side-saddle, that they cannot perform it efficiently; and they therefore become flaccid, and permanently lose tone: the result of which is, that mechanical displacements of the bowels and the organs in the pelvis take place. To put a woman on to a side-saddle to ride a horse, and force her to sit there for any great length of time, is certain to induce disease of the pelvic organs.

But this is not all. Every person, who rides as women ride, necessarily subjects the kidneys to unnatural excitement; inducing in them congestion, and oftentimes irritation. Immediately upon this unhappy effect being produced, the bladder sets up sympathetic relations with them; and, as a still further conse-

quence, irritation of the neck of this organ takes place, making the person a great sufferer. Medical men are aware of the fact, that no woman can ride on horseback, for any thing like the same length of time that a man can, without having much more sensibility of the kidneys and bladder induced thereby. This is entirely attributable to the uncomfortable and unnatural posture in which she is placed when riding. Now, women who are of a scrofulous habit of body, and constitutionally liable to the development of consumption, might be immensely benefited by horseback exercise, if there were Christianity enough among the people to allow nature to indicate just how this exercise should be taken. If women could have dresses fitted for the purpose, and could ride astride as men do, horseback riding might be used not only as a means of occasional relief from the monotony of life, but it might be elevated into a national characteristic. If girls and women were permitted to ride as men do, they could ride as well as men can; and, to a very much greater degree than now, they could have opportunity for this exercise, so that they might establish such a regular and persistent habit of horseback riding as would be of immense benefit to them therapeutically.

A gentleman came to me a few years ago, and said that his wife was a feeble woman, and he did not know what he could do for her. She did not seem to have any disease, but only appeared to be generally ailing. He had taken the advice of a good many physicians in regard to her; and they all agreed that there were no indications of any particular disease, but only of a lack of vitality. "Fortunately," he said, "for her, they had forborne to advise medication, and suggested to her that she should get out of doors as much as possible, not work too hard, and make the best of her circumstances." I asked if any of them had recommended her to take horseback exercise. He said that two of them had; that she was passionately fond of a horse, and that he had a good one; but that it hurt her so much to ride, that she had to give it up.

I then said to him, "There is no exercise so good for your wife as horseback riding; and it is idle to say that she cannot endure it."

"What do you mean?" said he. "We have made two or three fair trials of it, and each time the exercise made her sick."

"I don't care for that," I replied. "Did she not ride on a side-saddle?"

"Why, yes! How would you have her ride? You would not have a woman ride astride, would you?"

"Yes, I would; and if you will go home, and buy a Mexican saddle for your wife, put it upon your horse, make her a pair of pantaloons, and seat her upon the saddle, I will be bound, that, in less than a month's time, she will be able to ride five miles out and five miles in (ten miles in all) before breakfast, and that the particular difficulties under which she labored when she rode on a side-saddle will not trouble her at all."

"Well," said he, "that is curious."

"Oh, yes!" I replied: "it is curious. Almost every thing that is natural is curious with us. We have so far departed from common sense and God's idealism, that, the moment a proposition according with the fitness of things is made, we are either startled out of our propriety by its affirmation, or we call it curious. You live in Texas, and must have seen the Mexican women ride."

"Oh, yes!" said he: "the Mexican women ride as men ride."

"Go home, then," I said, "and have your wife ride in the same manner. You can do it if you will. You will not have very great pressure to contend against, or prejudice to combat. You are pretty near the border of Mexico; and, as you hardly recognize the Mexicans as civilized, I advise you to adopt, in this respect, their barbarism. I will make a prescription for your wife, if you will agree to follow it faithfully for six months. Do not allow her to work in the house to a degree that will cause fatigue. Insist upon her wearing the American costume when walking and doing her work; permitting her to wear the long dress only when she has nothing to do in the way of active exercise. See to it that she lives on simple food, avoiding all stimulants. Put her on your horse in the posture I have suggested; and, as she becomes accustomed to the saddle, have

her ride from ten to twenty miles a day. Bathe her body twice a week in water of a mild temperature. Let her eat only two meals a day. Let her retire early at night, and get up early in the morning; taking a ride before breakfast. Pursue this course faithfully; and, at the end of ninety days, write me, and tell me what are her conditions. I will lay you a wager that she will show such improvement as will perfectly astonish you, and your doctors also."

"Well," said he, "I will try it. If she will agree to it, I will assist her in every way I can."

I did not hear from him for nine months; but, when I did, he wrote me that his wife was able to ride forty miles a day, and could walk ten miles without much fatigue. Within one month of her arrival at home, and her adoption of my prescription, she had gained in strength, and had not seen a sick minute since that time. At the time of writing, she was, he said, a strong, energetic woman, performing all her household duties with the most perfect ease and self-possession; and what was most curious to both him and her was, that, the very first time she rode in the Mexican style, she noticed she enjoyed entire exemption from the irritations which had been such exciting causes of suffering when she rode upon her side-saddle.

One of the most influential editors in the United States has a daughter, a feeble girl of scrofulous habit of body, who is now fourteen years of age, and has been trained to horseback riding ever since she was eight years old, and has never ridden on a side-saddle. In talking with him on the subject, he said he had determined that she should not be subjected to the risks of organic injury, to which she would be exposed if she were made to ride as women generally ride; and he saw no other way in which he could secure to her such certain and extended benefits from out-door life as from horseback riding. He had, therefore, purchased her a gentle yet spirited pony, and dressed her up in a costume proper for the exercise she was to take, and for six years had made her ride daily from one to five miles in the same position in which a boy would ride.

He stated this of his own accord; and I was glad to find

that he was a man possessed of so much good sense, responsibility, and reliable independence.

O fathers! if you had the right view of what is due the daughters to whom you have given being, you would assert their right to be independent of custom and fashion, and to enjoy, to the very fullest degree, all the rights and privileges which Nature accords to them equally with the other sex. But, for want of thought on your part, or for lack of courage, you train them up in ways of living that are destructive to health: and, when pulmonary disease shows itself, you bring in all the artificial skill that the medical profession can furnish; without ever thinking, that for want of reverence for Nature, and obedience to her commands, this terrible calamity has come upon your children, most likely to end in the loss of their lives and the breaking of your hearts. May God have mercy on you! for you may depend upon it, that, when this matter comes to be submitted to the judgment of the All-wise, a fearful reckoning will be had with those who have forsworn Nature.

As facilities for public travel increase, moving from place to place by walking will come to be less and less in vogue. Even now, as I said before, our people walk much less than did those of a preceding generation. As walking goes out of fashion, riding in carriages or on horseback will come into fashion. Now, beneficial as carriage riding is, it is vastly inferior to horseback exercise for persons of feeble habit, provided the latter exercise can be had in a free and natural way. When hygienic principles reach a point of progress to command popular attention, this question, of how women shall ride on horseback, will have to be reconsidered; and then first one, then another, then hundreds, then thousands, then millions of men will come to see what an outrageous abomination the present style of riding for woman is, and it will pass into desuetude, and be reckoned among the follies of a previous day.

I am not unaware, that, by many who may read this, I shall be regarded as quite eccentric, not to say fanatical. I am willing to take the consequences of what I have written. I did not surrender myself, heart and brain, to the hygienic philosophy of maintaining health and curing disease, without understanding

at the outset, that this philosophy, fairly expressed and lucidly expounded, must make terrible havoc of the notions, the ideas, the prejudices, the feelings, and the convictions of the great mass of our people. Scarcely a habit or custom or mode of social or individual activity with us is natural; and, as a matter of course, he who takes Nature for his teacher, and insists upon it that the intrinsic life-force of the human body, and the hygienic agents naturally related to that body, are the great material means whereby health is to be maintained, must make up his mind to cross the paths of his fellows. His is a mission very much like that of the Saviour. He comes, not to bring peace, but a sword. Everywhere he finds falsity or falseness; everywhere, insincerity or sophistry; everywhere, shams instead of living realities: and he has no alternative but to give blows and to take them. This is my mission: I mean to strike, and take the consequences. Particularly in every direction where woman's interests are involved do I mean to show myself faithful to her welfare; to plead her cause as a true advocate; and to insist, as far as the scope of the subjects I am discussing will permit, upon her right not merely to live, but to live healthfully, and thus be of some service as a rational creature, and honor her God and her own nature in the relations into which she enters.

CHAPTER XVI.

THE INFLUENCE OF DRESS IN PRODUCING CONSUMPTION.

I KNOW of no reason why, in matters pertaining to human progress indicating a knowledge of what pertains to human comfort and human good, men and women should have made such advancement in many directions, and yet have remained so ignorant on a subject of so much importance as that of dress; unless it be that they have been, and are, accustomed to regard this matter chiefly from the point of fashion. While it is true that dress may justly be considered in two aspects, — that of utility and that of ornament, — the latter, it seems to me, has come to be regarded as of prime importance, insomuch that its usefulness is only slightly and incidentally considered.

I have no desire to decry fashion in dress, except so far as the rules and routine which it imposes are unfriendly to health. If I am to view it as a matter of taste, I care not whether one or another style of dress is worn; but when one subverts and destroys the health of those who wear it, while the other, if adopted, would be promotive of that health, I am opposed to the former, and in favor of the latter, without reference to the question of taste.

Beginning with children's dress, I have this to complain of, — that parents act in ignorance of their needs in early infancy, and not infrequently subject them to such discomforts and hardships as to make them sick. Many a baby has had a belt put around its abdomen so tightly, as practically to render the action of those muscles, in the function of respiration, impossible; and, as they are intended to serve a very important purpose in this vital act, to so bind them down as to render them inert, is to begin to abnormalize the organic energies of the child, and to lay the foundation of such imperfect action of the respiratory machinery, as in later years to demonstrate that the influence

of such conditions, in producing consumption, has been by no means inconsiderable.

Parents act unwisely, also, in regard to the clothing of their children when in bed. It is a common thing for two, and even three, children to sleep in the same bed; the covering being none too abundant for the children sleeping on the outer edges, while it is oppressive to the one sleeping in the middle. Often, too, they are permitted to sleep upon feather-beds with feather-pillows, and these so full as to raise the head out of its natural relations to the rest of the body: thus the sleepers are almost sure to inspire the air that comes rushing from under the bed-clothes loaded with the exhalations of their bodies, — thus necessarily depraving the blood as it passes through the lungs. Besides, from the postures they assume while in bed, they establish the habit of breathing quite inefficiently; not filling the lungs to more than two-thirds their capacity, and leaving the lower portions of them so inactive as to render them practically useless.

Dress, considered in its relations to health, is more open to medical criticism as worn by girls, than it is as worn by boys. I do not know how to account for the universal fatuity that exists upon this subject; for it is nothing but infatuation or stultification that marks the conduct of parents in regard to the clothing of the bodies of their daughters. I do not think there is a subject connected with human well-being, and bearing intimate relations to our social natures, upon which there is so wide-spread ignorance, or such an entire dearth of conscientiousness and careful thought, as upon the dress of girls and women.

Sensible parents are not to be found outside of the ranks of the dress-reformers. Persons usually act in this direction as if they were not called upon to exercise any discretion, and felt no individual obligation or personal accountability. Judged by their actions, they never seem to feel that they have any thing to do with the matter. What their milliners and mantua-makers declare to be proper, they accept to the fullest extent that the general moral sense of the community in which they live will permit. Outrageous deviations from propriety may be commented upon, and have to pass the ordeal of criticism; but then

propriety in regard to the making and wearing of apparel is declared to be that course which does not involve the violation of modesty. Beyond this, there is no fixed standard or rule by which they may be guided, or upon which they may rely. Fashion settles every thing; and, if it so happen that fashion kills, they submit to it as to a divine providence, — feeling that what the etiquette of the hour or of the season demands, they have no more right to call in question, than they have to break the well-settled statutes which God himself has imposed for the regulation of their conduct.

The body of a female human being is susceptible to all the influences and changes arising from unhealthy external relations, as truly as that of a male human being. At the same time, abstractly considered, I do not think that it is any more so. The vital force in woman is clearly as abundant, and bears as close a relation to her organism, in those directions which involve its appropriation for her protection and the maintenance of her health, as that in man bears to his organism. She may not be as large in bone or muscle, or in body considered as a whole, as he is; but it does not follow from this, that she does not possess intrinsically the power to live as long as he. I am not by any means willing to admit, that, so far as her *securities for life* are concerned, woman is, in any direction, man's inferior; for while it is true, that, in some respects, he is her superior, and to attempt to make her do what he may do without injury would be greatly to her detriment, it is also true, that, in certain directions, he is unable to sustain taxation which she can readily bear. If he is her superior in power to exhibit physical endurance, she is superior to him in the ability to bear mental taxation; so that the scale is pretty evenly balanced.

But, whatever difference there may be between the sexes in respect to their relative ability to bear given things, it is true that they are so much alike in all matters that involve organic law, or its functional exercise, as to be equally entitled to whatever either or both may need in the way of protection: for, while they are separated by those lines of demarcation indicated by sex, and while these differences are radical in their nature, they involve an issue only so far as the exercise of special faculties

is concerned; while the great general principles, upon which the structures of male and female are built, remain the same. Thus, while a man is different from a woman, and a woman from a man, — inasmuch as they are constructed, so far as their reproductive systems are concerned, after different models, — they are, in all that pertains to their general humanity, alike. Every man is born with two hands and two legs, if normally formed; and so is every woman. Every man has a mouth, a stomach, and a pair of lungs; and so has every woman. No man can live without food; neither can any woman. Digestion is carried on in the one, precisely as it is carried on in the other. Secretion and excretion are alike in both. Both need exercise, and both need rest. Both are social. Each is personal. All that pertains to the growth, expansion, and expression of the one, is equally necessary for the other. God makes no difference in his relations to them. Both are mortal. Both need redemption. Both become, or need to become, subjects of the Divine Grace. Neither can answer for the other in any direction where personal obligation is imposed, personal responsibility assumed, or personal duty has to be performed. The diseases to which man is subject are, in the main, those to which woman is subject; and although, from considerations originating in the sex, these may be qualified, yet they are always characterized by such particular and special qualifications as to show that the great general principle of sameness exists between them.

If this be so, — and who undertakes to doubt or disprove it? — then I do not see how any one can offer a good reason for the very great diversity that exists between the methods or styles of apparelling the body of man and those of apparelling woman. I am not at all indisposed to admit the propriety, the natural fitness, of indicating sex by dress. There would seem to be propriety in it. But, admitting this, all that is necessary is to carry the distinction to a point where dress shall be a badge of distinction; and there are a thousand and one ways in which this might be done. It might be done by the bonnet, by the neck-tie, by the breast-pin, by the style of cuff, in any form that fancy or fashion, or the invention of the wearer or of the

makers of the dress, might see fit to adopt; and the style might vary from season to season, just as the styles and fashions now vary.

I am all the more earnest in urging this view, because of the unhealthiness of the dress worn by woman. I have no particular style to offer as a substitute for it. I do not wish to set myself up as the organizer of a style of dress. I have no special gift in this direction; and I am frank to say, that, so far as taste is concerned, I do not consider myself by any means well qualified to state just how female children or grown-up women should dress: but I do feel myself qualified to say how they should *not* dress. I know what is unhealthy, and I know what is healthy also, though I may not dare to say what is tasteful; and while I am willing that every lady should dress herself, or her daughter if she has one, after a manner that shall be by her and by general opinion considered tasteful, provided the dress be healthful, I am not willing that she should dress herself or her child in a way, which, though it be called tasteful, is disease-producing. Neither she, nor her husband, nor society, nor the State, nor the Church, has a right to insist upon woman's wearing styles of dress calculated to produce sickness; and, if this be so, then they are much less at liberty to *wear* styles of dress which not only tend directly to make the wearer sick, but, if worn a long time, do inevitably produce such a result. I insist that the way in which female children are dressed, from the time they are able to go out-doors until the time they die, no matter what modifications their dress may undergo as they advance in years, is decidedly and actively unhealthful. For all practical purposes bearing in the direction of the development of a human body, or of the healthy performance of the functions of any or all of its organs, the dress at present worn by girls and women is unfitted: more than this, it is positively disease-producing; there is no redeeming element in it. If it were only questionable, I should pass it by, and not enumerate it, as I now do, as one of the great predisposing forces in the development of pulmonary consumption; but its influence in this direction is so important, that I cannot pass it by, in justice to those for whom I write.

Permit me to call attention to this matter in detail, and to begin the list by a single statement. Men of observation have often had their attention called to this point, as between themselves and women, — that though more vigorous in health, more robust in frame, with much more habitual exposure to atmospheric changes, they proverbially wear more clothing than women, and complain more of the changes from heat to cold, though not so much of the changes from cold to heat. Thus, let a woman go out of a warm room into a cold one, or from in-doors to out-doors, and she will complain very much less, as a general thing, about the sensational impressions which she experiences, than a man would under the same circumstances; but let her go from a low to an elevated temperature, and she will be likely to complain much more than a man would.

How is this to be accounted for?

Physicians have very witlessly undertaken to explain it on the ground of the superior intensity of woman's vitality. They say that her vital force — or what they sometimes term her vital organism — is much more susceptible of manifesting its activity than that of man, and that in her vital temperament she is more thoroughly and efficiently constructed than he. But facts fail to prove this view, and it is therefore inadequate as an explanation.

What other solution is there, then? I offer this: That from girlhood up to womanhood, and afterward, females are subjected to abnormal conditions of their circulation; and these come, at length, to be so habitual as to constitute a positive state, insomuch that, except in extreme instances, they have little sensational consciousness. Women therefore, in their ordinary conditions, do not know when they are cold; they are by no means as sensible as men are to the changes they undergo: and if, from any cause whatever, the matter is brought home to their consideration, and they are asked to determine the question by reference to their own feelings, they have no standard by which to be guided. A man keeps up, at least in a measure, his instinctive sensibility in respect to his external conditions; and, if subjected to great changes of temperature, his body responds to the impressions made upon it: but woman's does

not; she may be chilly, and not know it. This unnatural condition of her circulation, this constant and uninterrupted habit of being chilly on the surface, at length produces its legitimate result, and causes her to feel uncomfortably warm, even when wearing a quantity of clothing only sufficient to protect her against the exposure to which, from time to time and day to day, she is subjected.

It is a very curious fact, and pregnant with instruction, that, of the whole quantity of blood that circulates through a woman's body, at least thirty-three and a third per cent of it finds its permanent location in those tissues and structures of her organism which lie remote from the surface. As compared with man's, woman's hands are always pale, her legs are bloodless, her face has no color: her skin throughout is generally much whiter than man's. I care not if it be said that this is the result of man's more thorough and habitual exposure to the influence of the air, sun, and rain; or, if you please, to woman's being kept more constantly in the house, where sun, wind, or rain, cannot touch her. Be it so: it does not change the fact. Men have usually a much more healthy external circulation than women; and, this being so, men should be much more sensitive to heat than women. Upon woman's own statement, however, this is not so. As a general thing, she wears much *less* clothing than man, and yet she claims to be comfortable under it; and there is no possible way of accounting for her impression in this regard, except upon the ground that she is unaware of her actual condition. She is abnormally related to the question of warmth, and of the means by which alone warmth can be naturally produced; viz., a healthy circulation of the blood through and over the surface of the body.

In the nature of things, there is no reason why, if a girl were habitually made to wear pantaloons, a vest, and a coat, at her arrival at adult age, she should not be able to wear as much clothing, and of as thick fabric, as a man wears. But, thinly clad from her babyhood, and exposed constantly to severe changes, — as all, or nearly all, girl-children are, — when she arrives at womanhood, she does not know, nor can she judge, what amount of clothing she needs to maintain healthy con-

ditions of her physical organism. I never see young girls walking up and down the public streets with light, thin shoes upon their feet, short stockings upon their legs; with pantalets just below their knees, made of cotton or calico or some other thin substance, — without saying to myself, "By the time you get to be full-grown, you will have no more idea of what comfortable conditions are, as derivable from clothing, than a blind boy would have of the infinite beauties of color." But I go further than this in my reflections, when I see such children; and I am led to feel that at least one-half of them will die before they grow to womanhood, and that one-half of the remaining half will not live to see old age.

Begin where one pleases with the ill habits and methods of life in which our people indulge, — any one of which is sufficient to jeopard their health and render their lives insecure, — and I think that no one can be found holding so efficient a sway in the direction of destroying life and health as that indicated by the way in which women relate themselves, in their styles of dress, to their organs of locomotion; for no part of the body plays a more important part in the maintenance of the general health than do the legs. To dress in such a way as to interfere with the healthy circulation of the blood through these organs, to leave them cold and chilly, is to impair their healthy condition, and to induce diseased conditions: for if one portion of the body be so related to the matter of circulation of the blood as to be in a measure deprived of it, then the other parts of the body must be overcharged with it; and, whenever there is too little blood in the lower extremities, there must be too much blood in other portions of the body. Of all the internal organs particularly susceptible to congestion, the lungs are most liable to it. A man's liver, stomach, bowels, spleen, heart, or brain, will resist congestion longer, under circumstances calculated to induce it, than his lungs will or can; and this is one reason why the lungs so frequently come to be the seat of disease.

It may be said, however, that, far as this view goes, it does not necessarily involve a change in the style of dress worn by woman; it being quite easy for her to wear long skirts, and at the same time clothe her lower extremities with entire warmth.

I admit it; and proceed to criticise the style of dress which adult females wear, for reasons entirely distinct from those having regard to imperfect circulation of the blood in the extremities.

My objection to woman's present style of dress does not depend upon the fact, that such dress subjects the locomotive organs to cold alone; but also upon another fact, that it induces congestion of the organs that lie in the pelvic cavity. Here the reproductive organs especially suffer: and thus, from time immemorial, women have been afflicted with a class of diseases called "female diseases;" and for all time to come, as long as they dress as they now do, and continue the general habits of living in which they now indulge, will they be afflicted with such diseases. They can only hope to be relieved when their good sense teaches them that they cannot violate the laws of life and health without having the legitimate penalty imposed upon them. However, I do not wish to argue this point here, except so far as to affirm, that pulmonary diseases are often the result of reflected conditions of the uterine organs. Between the lungs and the sexual organism there is great *natural*, and may easily come to be great *special*, sympathy. Let a woman dress so as to establish chronic inflammation of the neck of the womb, as thousands and tens of thousands of women do, and then let her fall into the hands of some doctor, who will undertake to cure the disease by some special drug-application, and ten to one she is "cured" of her uterine difficulty, only to find herself laboring under a fixed, irritating cough. Let her then proceed to doctor *this* by the application of some *special remedy*, and she will be almost certain to find her old uterine difficulty come back again. Then let her resort to her former specific; and, if the difficulty disappears under its use, back will come her cough: and so the morbid conditions will vibrate between her lungs and her uterus, until at last it fixes itself permanently in the former; and consumption soon after develops itself in unmistakable form, and the poor sufferer lingers a little while, and dies.

If women were to dress as men dress, three-fourths of those who now suffer from female diseases would, in less than one

generation, be free from them. I know one community, numbering over three hundred individuals, — one-half, or nearly one-half, of whom are women, — the majority of whom were, when they wore the long-skirted dress common to their sex, invalids; yet, upon abandoning long skirts, and adopting "the American costume," nearly all of them who were sick recovered their health. I do not mean to say that their improved condition now is owing *entirely* to their change of dress; but it is owing to this, and to other things which have been largely dependent upon this. I am acquainted with hundreds of women, living isolated from each other, who, years ago, were suffering from uterine disease, more or less marked; and who, by changing their style of dress, have not only rid themselves of all such special difficulties, but also greatly added to their general health. I can also say, that I know of hundreds of women, who, a few years ago, were showing quite well-defined pulmonary disease; and who, by the abandonment of the long-skirted dress, and the adoption in its stead of "the American costume," have entirely overcome their pulmonary difficulties, and are now in good health. I do not say that these women recovered solely because of this change of dress; but I do say, that, by such change, they were placed in those conditions which enabled them readily to overcome their ill habits, and to make such a combination of hygienic influences as proved decidedly efficient in restoring them to health.

So far, then, as diseased conditions of the lungs are ever dependent upon diseased conditions of the reproductive organs, the long-skirted dress is open to criticism. In truth, it is an abomination. It utterly forbids a woman from doing any thing which involves the exercise of her locomotive organs, or the expenditure of vital force, without greatly unnecessary taxation. Take a case as an illustration.

Suppose a woman to be of scrofulous habit of body, with a large head, and, of course, with a highly excitable nervous structure and small muscles. Under such organic relations to life, set her to work in any direction involving thought or physical activity, or both: and, if her duties lie in directions demanding brain-labor, she must have recreation of a physical

kind to offset the fatigues thus incurred; and such recreation should be active. She may not be able to ride on horseback, or to be rolled around in a carriage. If she gets what she needs, then it must be by walking. Let her attempt to exercise in this way, dressed as women generally dress; and, at the very outset, she has to put her muscular force into action under very great disadvantages. Enveloped in folds of cloth, her limbs cannot have fair play; and, in any given exercise to which she may be put, she expends energy in a degree fourfold greater than would be necessary were she *sensibly* dressed, — so dressed as that her legs could have the same freedom of action as a man's have.

But suppose that the labor of this woman be that of the body, instead of that of the brain: then how stands the case?

In connection with my daughter (Miss Harriet N. Austin, M.D.), I have treated over four thousand women for uterine disease; and it is safe for me to say, that, of this whole number, fully eight-tenths put off the long-skirted dress while they were under our medical care or counsel, and substituted therefor "the American costume." In many cases, this was not done at our special solicitation, but of their own accord; and I have never known one of them who failed to confess, that she found great relief on making the exchange. In nearly every such case, the patient has told us, not only that she felt generally relieved, but also that she could take, with the same expenditure of force, four times as much exercise by walking, while wearing "the American costume," as she could attired in the common style of dress. Of course, this feeling of ease extended to every movement of the limbs; so that she had a saving of at least seventy-five per cent of vital power in the doing of the ordinary duties involving the exercise of the organs of locomotion. What is saved in vital energy is an actual and positive gain; for, if not expended, it is at the disposal of the living forces for the overcoming of the morbid conditions under which any portion or portions of the body may suffer. It is as good "practice," therefore, to save the strength of a person of feeble vital energy, and thereby keep consumptive conditions in check,

as it is rightfully to appropriate the vital forces in order to overcome such conditions when they are manifested.

When once diseased, people will usually consent to do almost any thing to get well; but if called upon to live soberly, sensibly, and faithfully, in order that they may not have any disease, they fail, in most instances, to see or appreciate the importance of doing so.

Considered, then, from the point of utility, — first as to warmth, next with reference to entire freedom of the body from any undue pressure upon any part of it, and thirdly as respects the relations it may bear to the expenditure of vital energy, — dress ranks high, either as a preventive of disease or as a producing cause of it, according to the style worn; and just to the degree that morbid conditions of any organ are induced by bad modes of dressing such organ, if it is in close sympathetic relation with the lungs, has dress an important influence in inducing consumption. For this reason, what persons shall wear, how they shall wear it, when they shall wear it, and where they shall wear it, become questions of great significance; and I commend them seriously to the attention of the thoughtful and the earnest.

CHAPTER XVII.

MENTAL CAUSES AS PREDISPOSING TO CONSUMPTION.

Of these, I will first call attention to study in the case of children.

The practice of subjecting young children to confinement in schoolrooms, for purposes of study, from six to eight hours a day, is entirely indefensible, and open to severe censure. For the first twelve years of a child's life, its education should be purely, or nearly purely, inductive: the organs of observation, what phrenologists call the perceptive faculties, are those which should be brought into exercise; and the field for their entertainment and activity is ample. A little creature, introduced into this world to live in it, if rightly related to life, for many years, and becoming capable of sustaining relations to material things pleasurably and with benefit, only so far as its knowledge of their use extends, should be permitted to spend all its time in cultivating its powers of appreciation of these things, and should on no account be required to consider the abstract or abstruse. In another part of this work, as well as in my book on the "Sexual Organism," I have alluded to the fact, that most persons, on arriving at manhood or womanhood, find themselves very defectively educated in their power to observe things in detail. The special senses are the media furnished to human intelligence for the reception of impressions and ideas (in other words, for the acquisition of knowledge) in regard to material things in their minute aspects; yet we so relate ourselves to such knowledge, — from an elucidation of the principles which underlie it, rather than from the facts which go to constitute the practical information we seek, — that when our powers of reflection become quickened, and we reach a position of individual responsibility, and are expected to assume and maintain a personal position among our fellows, our knowledge of things

in their relative bearing is very inferior. God intends that our method of education, and of relating a new denizen of earth to the things of earth so that it may acquire a knowledge of such things, shall be by observation, and not by abstract reasoning. Children reason from effects up to causes: adults, who are developed in the higher processes of thought, reason from causes to effects. School-life for children should, therefore, be mainly of a character dealing with *objects*, and not with the laws and principles by which objects are related to each other, or by which their nature is understood. Object-lessons constitute the true learning for children. To take a thing, and teach a child what it is, where it is to be found, and what uses it may be put to, is to teach him what can be easily comprehended; because, in endeavoring to understand it, the child brings into activity one or more, or perhaps all, of its special senses. This being the rule by which God intends that a child's acquisition of knowledge shall be governed, it fays in exactly with the laws regulating the child's physical development; for wherever, in the pursuit of any study to which he may be put, a boy secures out-door activity, the development of his body runs parallel with the unfolding of his intellect.

On the other hand, where you take a boy, and shut him up in the house for the purpose of teaching him any thing, you necessarily impose such restraints as are decidedly unfriendly to the development of any thing like correct physical conditions or physical health. Our schoolrooms have been nurseries of consumption, to a much greater degree than most persons are aware of or are willing to admit.

Bearing in mind, then, that children in this country are more likely than not to be tainted with scrofula, and consequently to have just that predisposing condition, which, under favorable circumstances, produces the disease, to be developed in after-years, I cannot forbear urging upon those, who have to do with children in any direction, to beware how they subject them to positions of bodily confinement, or to processes of thought while thus confined, such as will, at the outset, task their intellectual energies severely, and so affect their vital powers.

This view does not in any way conflict with the statement

in another part of this work, that, abstractly considered, our people are not injured by too great use of their brains; nor do I now advocate the view, that children should have nothing to do but to run and play. I believe in training a child, as soon as he gives indications of intelligence even in a circumscribed measure, to the exercise of his intellect in such a way as to promote activity of it and acquisitions by it. I care not, therefore, how soon, after the power of thought shows itself, the parent imposes thinking upon the child; only let the thought be such as is within his power of comprehension naturally: and as, by the divine organic law of its constitution, the bodily wants are first taken into account, developing those intellectual powers which sustain the most intimate relations to the bodily organization, let these be the subjects of the child's thought, and occupy his attention, in whatever study it may be thought well to impose upon him.

Until puberty, no child should be subjected to restraint imposing quietude of posture, and entire subsidence of its bodily activity, for more than three hours a day. When the time for the more marked development of the organs of reflection comes, and these show increased activity, the brain and the nervous system become related to the general bodily organization so as to justify the student in closer and more continuous intellectual effort: then the child may be set to tasks demanding not merely observation and perception, but abstract thought, — the exercise of the logical faculties, of the imagination, and of the power of comparing things.

Children's studies should not be too long protracted, nor monotonous in character. What is true in this respect of children is equally so of adults, and particularly so of woman. From the very nature of her organization, and on grounds having particular reference to the maintenance of her health, woman may fairly demand, for she needs, larger opportunity for varied exercise of her mental faculties than man. Here, as in nearly every thing else involving the relative conditions and needs of the sexes, society has done violence to the divine arrangements, and established relations that are at war with the fitness of things. Men are very much better qualified

by organic constitution to endure monotony, whether of labor or of study, than women are. Women need variety: their organization has in it a predominance of the spiritual element; and this demands opportunity, ample and varied, for the full play of the emotions. Yet women are compelled most of the time, from girlhood up, to remain in the house, and are for the most part engaged in routine-labor; which conditions operate as great exciting forces to the development of disease, and particularly of consumption.

It is true, that many men confine themselves, in the same way, to in-door life and monotonous labor; and every man should bear in mind, that if, in his own physical nature, there are any tendencies to consumption, and the pursuit which he follows involves him in study, he cannot afford to allow his intellectual exercise or labor to be, at any given time, too protracted, or marked by too great sameness. If the business in which he is engaged gives him no great variety of intellectual industry, he *must* offset this steady and unvaried expenditure by changes in the direction of his mental labor, so as to secure to himself variety. If he fails to do this, he is sure to have pulmonary disease, unless his life is brought to a close by some casualty before the disease has had time to develop. It is as easy to prognosticate the end of the life of an individual constitutionally predisposed to scrofulous development, and so to pulmonary disease, who pursues an occupation or profession which shuts him up daily to the exercise of his intellectual faculties, as it is to tell what will be the product, at harvesting, of a field which has been sown with white winter-wheat. God's law in the one case is as imperative and almighty as it is in the other.

I have said, in a previous portion of this work, that the mind has quite as important an influence in determining the bodily conditions as the body has in determining the conditions of the mind. Taken as a whole, we are a very material people; and we reason in regard to our diseases as if they were positive entities, or substances, that had by some means made their way into our bodies as rats get into a granary, and which must be expelled, *vi et armis*, by well-

arranged and regularly-established doctoral approaches, in the shape of powerful medicinal remedies. Now, whatever sickness one may show, it is nothing more nor less than a deranged condition of the physical organism, induced by this or that or these, out of a hundred and one predisposing and provoking causes; and those causes which originate in the mental faculties are as powerful in producing such morbid conditions of the body as are those which originate in the bodily organization itself. In fact, as far as I have been able, under the facilities I have enjoyed for observation, to come to any conclusion on the subject, I am inclined to believe that the majority of the maladies with which doctors in this country have to deal have their starting-point in mental and spiritual discontent and unhappiness. It is true, that we live very unhealthfully, so far as bodily conditions are concerned. We are gluttonous; we are wine-drinkers; we are over-workers, — excessive in our expenditure of nervous energy, in all directions, where bodily activity is demanded or exhibited: but if our minds were serene, and our hearts at peace; if no corroding cares, nor unsanctified ambitions, nor unholy aspirations, were permitted to find their way into our inner natures, — the violations of physical law, of which we are guilty, would be resisted much more successfully in their effects than they are at present.

I have had my attention particularly directed to this by my position in a house in which a large number of sick persons are congregated: and in the performance of my daily duties, passing among them and examining and noting down their states, I have been called upon to notice, that notwithstanding this one has congestion of brain, and this one sore eyes; this one sore-throat, and this one bronchitis; this one incipient consumption, and this one dyspepsia; this one liver-complaint, and this one neuralgia; this one rheumatism, and this one scrofula; this one dropsy, and this one piles; this one some local disease, and this one still another local disease, — all these maladies, if not originating in causes that withdraw the life-forces from possessing and using the body for natural and proper purposes, are so acted upon by and related to the morbid conditions of mind which the sufferers show, as to ren-

der it quite impossible to restore them to good health, until a change in their conceptions of what life is worth, and what are its true responsibilities and duties, is made. I should no more expect to win for myself high reputation for successful practice as a medical man, if I failed to take this into account, than I should expect to succeed in any other duty or project where the means I employed were quite inadequate to the end desired. It is, therefore, a habit of mine, and I have found my account in it, to investigate the mental conditions of an invalid, who applies to me for relief, with as close and scrupulous care as I use in examining and considering any bodily ailments of which he or she may be conscious ; and I hardly ever fail to restore my guests, however sick they may be, if their conditions are such as range within the province of the curable, provided I am able to get at their mental and spiritual states and habits, and change them as I may think necessary.

In considering how to prevent the development of consumptive conditions in persons predisposed in that direction, it becomes a matter of great importance to know, and take into account, the influence which, at any time, the mental faculties may have over the bodily states ; and this brings me to the consideration of another phase of this question.

CHAPTER XVIII.

THE INFLUENCE OF UNHAPPY SOCIAL RELATIONS IN PREDISPOSING PERSONS TO PULMONARY CONSUMPTION.

The social forces in human nature are among its most powerful constituent qualities; and, under all circumstances, give tone to individual character. In truth, as between those faculties which are personal, and which have for their aim and end the development of human individuality, and those which have for their end the exhibition or manifestation of collective humanity, the latter bear to the former the relation of quickeners, or guides. It is through the social characteristics that a man's individual characteristics are elaborated and brought into relief, so as to give to him, in small or large measure, personal identity. Hence, in whatever conditions in life he may be found, those qualities in him which unite him to his kind, and prompt him to seek sympathy and connection with it, are great determining powers for good or ill, not only as respects his intellectual and moral development, but quite as truly and decidedly as respects his physical health. Many persons find themselves suffering in their bodily health by reason of their lack of proper association, or from associations that are unpleasant; and so it comes to be a matter of thought and reflection, and frequently of concern, to the physician, when called to investigate the morbid conditions of his patient, to understand just to what extent the influences that have operated to make him sick have been purely mental, or purely physical, or purely social, or a combination of all three.

Among unhappy social causes predisposing persons to the development of pulmonary consumption, there are none more powerful than those which relate to the undisciplined or insubordinate or misdirected exercise of the affections. I have long felt, that the mightiest force in human nature is the senti-

ment of love; and especially so when this sentiment is commingled with, and made to express itself through, the exercise of the physical faculty of amativeness. Where the individual, male or female, finds this high emotional force welling up to the surface, and overflowing into exhibitions of large activity, he or she is sure to be greatly benefited by its manifestation, or correspondingly injured, according as the object toward which it directs itself, or upon which it expends itself, is worthy or unworthy. Unhappy love-affairs kill a great many persons; and these are much more frequent than the superficial observer is aware of, or would, if informed with respect to them, be willing to admit. Love is a redemptive, as it is a greatly preservative force; and those who find themselves in circumstances to enjoy its exhibitions in directions where it quickens their higher natures at the same time that it modifies and chastens their lower natures, are in as normal and healthful conditions as human beings can ever hope to be. But where unhappiness arises from misplaced affection or from disappointment, or from the establishment of permanent relations which prove unhappy (as they oftentimes do), the persons so involved, if of highly nervous temperament, with keen sensibilities and fervid affections, are almost certain to develop morbid conditions of their bodies, that ultimate in pulmonary consumption. I have had my feelings greatly exercised, many times during my professional career, by being brought into close and confidential relations with persons showing consumption in some one of its varied stages; and who, upon being questioned, gave me to understand, that their disappointments in life, the failure of their expectations, the blighting of their hopes, and the ruin of their prospects, had been the canker that had eaten into their life-force, until it had almost yielded, and sunk beneath the attack.

Women suffer more in this direction than men. They, oftener than the other sex, take on diseases that are fatal in character, because of disappointed affection or unhappy social relations. This is not, however, because they can love better than men, nor because they are capable of deeper, more permanent, or more exquisite suffering; but rather for the reason, that their

spheres of life are so much narrower than man's, and the objects of life upon which they can fix their attention are, comparatively speaking, so few, that they have no means whereby to insure re-action against unhappy mental or spiritual conditions. I know it is said that men never die of broken hearts, while women frequently do; and I have no doubt that the statement is true: but it does not grow out of the insensibility of the one sex, nor out of the hyper-sensibility of the other, but simply out of the fact, that, in the case of the one, there is ample opportunity to efface or erase the unhappy impressions by change of scene or occupation; while, in the case of the other, the lack of such opportunity tends to deepen the impressions, and to make them more permanent.

But it is not alone in these essential or cardinal conditions of affectional life that causes whereby disease may be produced lie coiled up; for, in other directions as well, the intellectual and social faculties of human nature may work themselves out through the social elements, greatly to the detriment of the health of those who are compelled to endure and pass through such conditions. Disappointed ambition oftentimes has such a powerful re-active effect as to render the subject of it diseased, and sometimes incurably so. I have known many instances of men, who, staking their whole success in life upon a single hazard, have lost, and from that moment have shown such entire lack of re-active energy and power to overcome their disappointment, as to give, by the diseases which followed, unmistakable evidences of their entire and complete prostration. The strong, full-muscled, broad-shouldered, able-bodied man has, in the course of a few months, been changed into a crook-backed, hoarse-throated invalid; lingering a while, and then laying himself down in the grave, and soon passing away from remembrance for ever. So, too, disappointments in business pursuits, by the dishonesty of associates, or injustice on the part of those from whom we had a right to expect affection, forbearance, courtesy, and charity, all have a more or less efficient influence in determining persons, brought within their reach, from conditions of health to those of sickness.

I think statistics show, that, of persons who die of consump-

tion from causes arising in abnormal conditions of the higher faculties, next to women, clergymen, in proportion to their whole number, suffer in largest degree. There is a good reason for this, not so much in their want of care of their physical health, or their lack of attention to correct physical habits, — for, bad as they are in these respects, they are no worse than men in other professions whose business compels them to continous and persistent thought, as a means of living and of progress, — but because there is something in their profession particularly calculated to exhaust nervous energy, thus inducing morbid conditions of the nutritive and respiratory organs. The fact that a clergyman's duties lie chiefly in considering the spiritual abnormalisms of his fellow-men, and in taking into account their spiritual conditions and relations, is of itself a good explanation of the greater exhaustive effect of the clerical as compared with other liberal professions. The teacher, the lawyer, the statesman, the politician, the social and political economist, all find their higher natures engaged in the discussion and adjustment of the particular departments of human well-being related to the pursuits they follow: but the clergyman has not only all that each of the other professions has to carry, but he has all that they unitedly have; and, in addition, he has to take care of the future of the persons who relate themselves to him as learners, or to whom he may be called as a teacher. A man so situated, with his spiritual nature aroused to a high degree of activity, must necessarily regard as a great blow any failure on his part to attain the ends for which he prays, and to which he devotes himself with such assiduous and untiring labor. The heart is the great quickener of the individual man. It is only when his affections become engaged, and his enthusiasm aroused, that the real strength of his nature is seen. Then he becomes earnest, bold, prudent, devout, and capable of standing up in his place, and meeting his responsibilities with courage and fidelity. Now, just to the degree that all the sublimer qualities of human nature are drawn out under the exercise of the affections, does disappointment affect one's vital force, and either palsy it in the direction in which it expresses itself, or else so subvert all possibility of *any* expression whatever, as to

throw the subject of it entirely off his balance, and leave him the sport of circumstances. Whenever this thing takes place, the ultimate effect of it is great impairment of the bodily powers. I think that very few clergymen can be found, who, at the close of a pastorate beginning in youth and ending only in old age, are able to say, that they have accomplished all that they hoped to accomplish at the beginning of their career, or that they have not failed in so many instances as really to make a retrospect unpleasant. I do not for an instant wish to convey the idea, that they are responsible for any such failure. I happen to be one of those men who really honor the ministers of the gospel, of the United States. They are men for whom, as representing a class, I have a great regard. Not that they by any means reach what, in my own idealism, constitutes the true standard, or that they are free from faultiness; but these arise by reason of the social relations to which they are compelled to submit, in order that they may have an opportunity to do any good at all. The relations of ministers and of the people, in this respect, are not, in my judgment, founded in truth or in the fitness of things; and therefore many good men work their lives out, without any results at all commensurate with their labors.

How, then, shall we consider this matter of the liabilities to the development of pulmonary disease from causes having their home in misdirection of the social faculties of human nature, so that this result may be prevented? Of course, I cannot go into a minute specification of the means whereby, under every variety of unhappy social relations, the person sustaining them shall be able to overcome his liability to physical disease. I can only appeal, on general principles, to the consideration of my readers, and say, that, as consumption oftentimes arises from causes that originate in disturbed conditions of the mind or heart, and as often perhaps where these faculties are active in connecting individuals with their fellows at large, they must see that they establish such relations, at the very outset, as shall be in their nature healthful, and calculated to produce happiness instead of unhappiness.

If I were to prescribe a way whereby woman should escape from the diseases which unhappy social conditions entail upon

her, I should propose to enlarge the area of her freedom, and open up to her so many more opportunities for diversified industry as would greatly relieve her from the pressure of unhappy social surroundings.

If I were to originate means whereby clergymen should be placed in more favorable relations to health, and be protected more securely against those diseases, which, however local in their incipient manifestations, do, in their progress, result in permanently diseased conditions of the respiratory organs, I should seek to place them in such conditions as would permit them to be, under all ordinary circumstances, simply *men*, and only clergymen by special ordainment and at special times: for it is quite true, that our clergymen are persons, who, starting out in life to the attainment of their clerical *status* or position, habituate themselves to the maintenance of it at *all* times; so that, when they become settled in life, their humanity is narrowed down to such a circumscribed exhibition, and their ministerial character is enlarged and pushed into such dignified and exalted activity, that they see and are seen only from their professional aspects. Now, just to the degree that any human being is called upon to perform a duty of high import and absorbing interest, do the laws of his nature impose upon him the necessity of finding for himself occasions and opportunities when he can lay aside his responsibility in this direction, and return entirely and completely to the common, ordinary, and original conditions in which alone human nature can healthily express itself. Every clergyman, therefore, if he does not want to break down early, and to have strong tendencies toward the development of pulmonary disease, should, every day of his life, lay aside his clerical character, and appear in that of a man simply; sustaining toward those with whom he comes in contact the same relations that they do to him, and bearing with them his full share of the concerns that apply to the social welfare of the community.

By this means, I should expect to do a great deal of good in the way of maintaining the health and lengthening the lives of this class of our fellow-citizens.

But this rule applies not alone to clergymen. It relates with

equal force to all the professions in which the expenditure of mental or spiritual force is needed; and I would enjoin upon all who are engaged in such pursuits, that, with the fulfilment of their daily duties, they put off their professional cares and character, and bring into play the faculties of the mind and heart in directions quite remote from those which relate to their professions or pursuits. When the business of the day is done, let the mechanic become a man; let the lawyer become a man; let the minister become a man; let the worker become a man; let the mother become a woman; let the female teacher become a woman: let all of them become simply human, open to all those impressions which human beings are all alike entitled to receive, and which God intends that they shall share in common, — open to all those enjoyments, pleasures, recreations, and amusements, in which all should participate, and which would insure such entire security from physical debility or physical disease as would greatly add to their length of life and usefulness.

I have thus considered, as far as space will permit, the nature and influence of the causes which work so efficiently in laying the foundations of consumptive disease; and, if the reader has followed me through the investigation, he will, I think, at least accord to me the merit of having expressed my views freely. I am as certain that this fell disease can be brought within the range of the staying or checking forces of the human system, as I am that any other morbid condition can be overcome by obedience to the laws of life and health; and if any thing that I have said shall go, though in small measure, to quicken, and set at thought, those who may read it, in respect to the sacredness of those laws, and their obligations to obey them, I shall feel amply compensated for my labor.

The investigation of the causes of the diseases with which the people of the United States are afflicted has been pursued by me for many years with great assiduity and keen purpose, and under as large and favorable opportunities for arriving at sound conclusions as one could well hope for or desire. Perhaps it may not be improper for me to say, that I have been better situated, so far as opportunities to draw correct inferences and

to come to sound conclusions are concerned, than medical men for the most part are, by reason of the fact, that my practice has been very large in the treatment of consumption itself, as well as in the management of such diseases as relate themselves, sooner or later, to consumption: and that in no instance have I given any medicine; never in my life having administered to a man for his relief, under my own judgment, any substance or thing, which, if taken by a well man, would so affect his normal conditions as to derange them, and make him sick. The only exceptions to this rule have occurred in cases where it has been necessary to administer antidotes for poisons; which, of course, are not to be fairly reckoned as medicines, in the technical sense of the term. For the reason, then, that I have had to deal with diseased conditions of the human system, and with their symptoms, in the style and manner in which they show themselves in the absence of the administration of poisonous substances as remedies, my experience has grown up from a different stand-point from that of a man who addresses himself to the restoration of his patients mainly under the use of such substances; and I know that I am speaking within the bounds of truth, when I declare, that, in the range of my professional experience, I have seen hundreds of children, born of consumptive parents, who, by a careful and persistent adherence to a hygienic regimen during their childish and youthful years, have been so completely protected from the development of the consumptive diathesis, as to reach man and woman-hood without the loss of more than twenty-four hours from sickness. This goes to show how wonderfully Nature will adapt herself to making the most of the living forces in any person whose habits of living are conformable to organic and functional laws. So powerfully re-active is the vital principle in children who are consumptive, that if their parents arrange their conditions, so as to make them answer to the laws upon which life and health depend, their securities against the disease will be, in a large majority of cases, increased beyond the highest expectations of those who have not given the matter a candid and patient consideration in all its bearings. So true is this, that one may be justified in even extending the statement, and going so far as to say, that, in two

generations, the descendants of a consumptive stock may be rendered not only free from the diathesis, or habit of body, belonging to their progenitors, but may be so related to life as to be perfectly safe in becoming parents themselves, so far as any fear exists that their offspring may show consumptive tendencies.

CHAPTER XIX.

DISEASES WHICH TEND TO PRODUCE, AND WHICH END IN, CONSUMPTION.

Catarrh.

A COLD in the nose is considered a very simple thing; and, in itself, it is so; but it is not at all uncommon for inflammation of the mucous membrane of the nostrils to arise from derangement of the mucous surfaces of other parts of the body: so that the "taking of cold," as it is called, indicates a more extended morbid complication, than, at first thought, one would suppose. Perhaps a sense of oppression in the head, just above the eyes, with an inflamed state of the lining of the nostrils, and a secretion of thin mucus from them, is attributable oftener than otherwise to bad conditions of the mucous coats of the stomach. Derangement of the lining membrane of this organ can readily be metastasized, or transferred to the throat and nostrils, and produce what is commonly called "a cold;" which easily passes into a catarrhal form, when severe enough to last for a few days. The mucous membrane answers to the internal organs a use corresponding to that which the skin subserves to the body externally, and may as properly be called a skin as the external cuticle is. In truth, scientifically speaking, the two form but one skin, — adapted to the purposes for which they are constructed, each in the best manner, but sustaining so intimate a mutual relation, that neither can be placed in abnormal conditions for any great length of time without causing the other to sympathize with it. I have seen, in a great many instances, the ill effects of an imperfect action of the external skin manifest themselves in the conditions of the mucous coats of the internal organs. From an unhealthy state of the outside cuticle, the mucous membrane becomes deranged, and, in some cases, severely

and seriously diseased; and in numberless instances have I seen the lining membrane of the intestines, or of the stomach, or of the lungs, greatly disordered by the suppression of external cutaneous disorders. Where poisonous ointments have been applied to the external surface of the body for the cure of skin diseases, and these, under such applications, have disappeared, and have therefore been pronounced *cured*, the consequent effects of the suppression of such eruptions have been of a very marked, and not infrequently of a most deplorable character. Catarrh may therefore be produced in other ways than by "taking cold," as it is termed. The determination of humors, or poisonous eruptions, from the skin to the internal organs, may produce such disordered conditions of the mucous membrane as to establish catarrhal disease, and this, too, of a pretty serious nature. Diseases of the mucous membrane of the nasal passages extend themselves, much more frequently than is supposed, to the throat, and, along the track of the bronchial tubes, to the structure of the lungs, producing consumption. All medical writers acknowledge the truth of this view; and, as far as they prescribe for the prevention of the disease, they urge the necessity of care in the direction to which I have alluded above.

There are two kinds of catarrh. One is called a "specific catarrh," — that which appears in the nostrils, confines itself there during its existence, and passes away; the other, an epidemic catarrh, known by the name of "influenza." These two morbific conditions are marked by some specific differences, and are therefore worthy of distinct notice. The former comes on suddenly, and is attended with pain just above the eye-brows, and sometimes in the eyes; inducing redness, if not a blood-shot appearance of them, and such an inflamed condition of the lining membrane of the nostrils as to stop up the air-passages, and prevent the sufferer from using the nose for purposes of respiration. In addition to these is a secretion of mucus, pouring out from the membranes in quite copious quantities at times, and apparently almost as thin as water. This flow lasts, in common cases, for two or three days, then suddenly becomes lessened in quantity, grows

thick in consistency, and disappears. As the secretion ceases, however, in many instances, new symptoms appear, — such as uneasiness in the throat and at the top of the lungs; and sometimes oppressive breathing, accompanied by a dry cough; and not infrequently by many symptoms which are attendant upon inflammation of the bronchial tubes. Where the person is scrofulous, constitutional disturbances, at the very first appearance of a cold in the nose, are seen; and these sometimes progress to such a degree as to affect very seriously the general health. In all such conditions of the system, the mucus from the nose not only flows, but there is, besides, running of water from the eyes, a heat throughout the whole head, and soreness of the back parts of the mouth and throat, which are red. The tonsils also become inflamed, and a sense of tickling in the throat is constant. Fever sets in, and is accompanied by chills or rigors; the chills oftentimes existing throughout an entire day, — reaching their highest point in the evening, and then passing off; being followed by the establishment of a remittent type of fever, usually called "catarrhal fever." When this exists, there are pains in different parts of the body; and the patient shows general debility, loss of appetite, with constipation of the bowels, severe thirst, and a good deal of fulness about the head, indicating congestion of the brain. Whenever one has a catarrh which assumes any thing like febrile symptoms, he is susceptible to impressions of cold, though the skin at the time may be more than usually warm; and, whether he is predisposed or not to take additional cold, he feels that he is so, and lives constantly under that impression. Catarrh, when it is not concluded within a period of six or eight days, passes from an acute coryza or cold to a chronic form of cold; and out of this may spring up inflammation of the bronchial tubes, which may become chronic, constituting what is known to the profession, and to the people at large, as bronchitis. This may, at last, pass into well-defined and serious affection of the small and large air-passages, or at worst of the substance, of the lungs. Sometimes catarrh, in the course of its progress, resolves itself into pneumonia, or inflammation of the lungs. When either of these is the result, the patient thus suffering,

if scrofulous by constitution, or if of high nervous temperament and feeble vitality, is almost sure, if he or she recovers from such diseases, to find that incipient consumption has laid hold of the system. A common cold, therefore, or what is called a simple attack of acute catarrh, carries with it much more significance than at the first glance is perceptible. The habit of the people of the United States, of neglecting themselves when affected with such disturbances of the circulation as to induce local or topical inflammation of the mucous membrane, is entirely indefensible. However, carefulness does not show itself by taking into the system, as remedies, poisonous substances, but in so relating one's self to the disease under which he labors, and to his external life, as to preserve and economize, in the largest measure possible, his vital force. A good stock of nervous energy, or a vigorous brain accompanied by abundant nervous energy, is the very best security against an unfavorable or ultimately fatal termination of a catarrhal attack.

I propose, in the discussion of each topic to which I may call attention, at the close of the statement of what the disease is, to suggest the proper remedy, — the proper hygienic treatment; thus making the reader, as far as I may be able, master of the case: and I offer here the following formula of treatment, made upon such general principles as will allow each person to determine, with a good degree of precision, what is best to be done in his own case.

Formula. — Immediately upon becoming aware that he has taken cold, let the patient suspend all active business, whether of labor or of thought, and place himself in the easiest and pleasantest circumstances for a few days' confinement, and then proceed to take the following treatment: —

First, he should take a sitz-bath, at a temperature of 105°, for fifteen minutes, or until a thorough sweating takes place. Upon coming out of the bath, he should be wrapped up in a wet sheet as in a pack, and lie from thirty to forty minutes. Upon coming out of this, he should take a dripping-sheet at a temperature of 85°; to be followed by a thorough wiping, at the hands of an attendant, with a dry sheet, and

then with the dry hands, until the skin feels soft and pleasant to the touch. He should envelop his throat in a bandage wet in cold water, covered by a dry one; and should wear these all the time that the cold remains. If he be of a robust habit, the chest may be covered with a cold wet compress; this also having a dry cloth over it. The bowels should be kept open by enemas of water at a mild temperature.

The patient should live upon unstimulating food, and this principally in a fluid or semi-fluid form. There is no better article of diet, for one who is suffering from an acute attack of catarrh, than gruel made of water and unbolted wheat-flour (what is commonly termed Graham flour). Where the person has resolution enough to abstain entirely from food for two or three days, especially if he be of vigorous frame, this is one of the very best counteractives to the continuance and progress of the disease that I have ever tried. In all conditions arising from inflamed mucous surfaces, it may be said with a good deal of truth, I think, that the blood has become surcharged with carbonaceous material, and that this is calculated to create and establish inflamed conditions; and that by abstinence from food, or by the use of food which is of an unstimulating nature, the disease is more readily brought within the range of the vital energies than it otherwise would be likely to be.

Foot-baths at a temperature of about 72°, taken every evening, will be found valuable.

If this course is pursued for twenty-four hours, until evidences of marked improvement are seen, and the warm sitz-baths are then discontinued, — the rest of the treatment being still followed, — there will be little or no difficulty in bringing the organism to natural conditions in the course of four or five days, or a week at farthest.

It should be borne in mind, that, wherever there is mucous inflammation, substances taken into the stomach, that are unfriendly to health, only aggravate the difficulty. Hence all poisons, solid or fluid, though they may be used as remedies, have only the effect to change the location of the catarrh. *They never cure it:* they have no power in that direction. A

man, having an acute attack of catarrh, cannot get well by taking snuff; or by drinking alcoholic liquors, or beverages made up of spices and malt-liquors (like flip, or mulled beer); or such drinks as ginger-tea, or hot cider with ginger in it. These act in a manner, the tendency of which is to produce such changes in the forms of the disease, as, when he is relieved from the running at the nose, to cause a dry, hacking cough, with oppression in the upper part of the lungs, and pain in the chest at its lower extremity, with disturbed digestion, constipated bowels, and general feverishness. All physicians agree, that a simple catarrh is a thing which is not at all dangerous; and yet a great many persons who are attacked with it treat it in such a manner as to make it a complicated disease, and not infrequently find, that, in doing so, they have laid the foundations of derangements, which, after a series of months or years, end in consumption.

Chronic Catarrh.

Chronic catarrh is acute catarrh of long standing, and is generally found in connection with a deranged digestion and a torpid liver. I do not know that I ever saw a man or a woman, who complained of a catarrhal difficulty of years' duration, who did not at the same time admit that he or she was dyspeptic, and that, quite regularly and frequently, there were indications of congestion or inactivity of the liver, shown by a dull, heavy feeling in the right side; pain in the region of the shoulder-blades, generally under the lower portion of the right shoulder-blade; and some indications, more or less defined, of rheumatism. Able writers have argued, with a good deal of ingenuity, that rheumatism (both muscular and arthritic) and chronic catarrh are one and the same disease, with such modifications as are necessarily dependent upon the structures affected in each; and that persons who suffer from either are very likely to suffer from both: thus a person, having a long-standing nasal catarrh, will, at certain periods of the year, suffer more or less from rheumatism. What goes to substantiate the truth of this view is, that, whenever an attack of rheumatism is upon a person thus afflicted, his catarrh is

very much mitigated; and, when his rheumatism is relieved, his catarrh becomes aggravated. My professional experience corroborates this view; and leads me to treat chronic catarrh, not as a topical or local disease purely, but as one, which, however originating, has by its continuance, and control of a portion of the structure of the body, at length involved organs whose healthy action is very important to the health in general, and which, whenever they become diseased, are sure to impair the healthy conditions of him who suffers from them. Upon being called to examine a case of chronic catarrh, it is my habit to make a pretty thorough investigation of the conditions of the organs of nutrition and of excretion; and uniformly, though not universally, I have found these in a bad state. My treatment of catarrh has always shaped itself with reference to this fact; and I treat all such cases from the point of the morbid conditions which the liver, bowels, and skin show. As a matter of fact having reference to the result of such treatment, I may say, that in not one case in fifty do I fail to relieve the sufferer: for a great many people do *suffer* from this disease, until their lives are made quite uncomfortable; to say nothing of the fears under which they rest, that, unless the disease can be overcome, it must extend itself to the lungs, and induce organic disease of those organs.

For the treatment of this disease, I offer the following plan of treatment: —

1. See to it that the body is washed, at least every day, in water of a temperature so mild as not to produce a chill, and yet cold enough to give a sense of tonicity to the nervous system, and to induce, if possible, a better glow upon the surface; or, in other words, a better external circulation.

2. Every day, foment the stomach, liver, and bowels, — for a space of time not less than ten nor more than twenty-five minutes, according to the vigor of the person under treatment, — by laying over these portions of the body, cloths wet, and wrung out of hot water, and applied at a degree of heat as high as the patient can bear. The fomentation should be followed by washing the parts of the body that have been covered, in water of a temperature as low as 72° at least, and not lower

than 60° at most, until the pores of the skin have become constringed by the application; when the parts thus wet are to be wiped dry. The patient should always lie down after this, in as comfortable and pleasant a position as possible; and, if he can, should go to sleep. At any rate, he should lie from a half to three-quarters of an hour.

Each alternate day, in the evening, take a sitz-bath, at a temperature of 90°, for fifteen minutes; when the temperature should be reduced to 85°, and continued for ten minutes longer: the bath being taken in a warm room, and the body being wrapped up in an outer covering, so as to retain its normal heat.

On the evenings when the sitz-bath is not taken, a foot-bath at a temperature of 100°, for five minutes, should be had; the temperature to be reduced to 72°, and the bath continued for five minutes longer. The feet should then be well rubbed by an attendant, having been wiped dry; and the patient, dressing the feet warmly, should, if able, walk briskly for five or ten minutes.

The bowels should be kept open by enemas, if necessary.

Not more than three kinds of food should be eaten at any one meal: and these had better be unleavened wheat-cakes, or, as they are termed, "crackers," and Graham-mush, with some uncooked or cooked sub-acid fruit; the former being decidedly preferable, if the person relishes it. On no occasion should one suffering from chronic catarrh eat oftener than twice a day, and never to engorgement.

Whether the sufferer be male or female, there should be entire sexual continence during the processes of treatment. All taxation of the nervous system in any direction diverts energy from the point where it is needed in large measure; and, of excitements or draughts upon the vital force, none is more decidedly productive of ill results than that which arises from sexual indulgence.

One of the complications of chronic catarrh, which is very often — I might almost say, invariably — found, is constipation of the bowels. For this, there is no relief so good as that arising from the use of proper food. Alteratives or cathartics

are ruinous to the healthy condition of the mucous membrane of the lower bowel; and enemas of water become, to a certain degree, inefficient, save so far as the volume of water injected into the bowel serves, by its gravity, to compel a passage for itself, and, along with it, for whatever fecal matter may be deposited within the rectum. But Graham-mush, made of unbolted wheat-meal and soft water, boiled until the meal is cooked and the pudding is of the consistency of corn-meal mush, or what is sometimes termed "hasty-pudding," if eaten plentifully, will overcome, in ninety cases out of ninety-five, costiveness of the bowels which neither medicines nor injections will permanently conquer. As soon as regular daily passages of the bowels are established, the reflex influence of such restored conditions of their mucous membrane will be exceedingly happy upon the inflamed portions of the nasal and pharyngeal membranes. It is a point well worthy of note, how, under hygienic treatment, the free condition of the bowels relieves the catarrhal inflammation of the nose and throat in a person suffering from it, and how a costive condition of bowels aggravates the inflamed surfaces. I have had opportunity to witness the progress of catarrhal affections, from conditions simple and uncomplicated to those which were so far advanced as to have resulted in chronic bronchitis, or bronchial sore-throat, or actual abscesses in the lungs; and I am sure that I do but tell the truth, when I say, that, in a majority of the instances which came under my observation, the fatal termination of this disease was owing more to the severe poisoning of the system, and the disturbance of all its natural conditions, by drug-medication, than to any or all other causes combined. Where persons having acute catarrhal attacks are of scrofulous constitution, and are handled carelessly by the physicians whom they employ,—as in very many instances they are, being subjected to severe drug-medication,—their disease is more likely to be modified than cured, and to show itself in an accommodated or qualified form, but all the more firmly fixed, and therefore all the more difficult to cure. When an acute catarrh has become chronic, it is a cause of so much discomfort, not to say suffering, that the person laboring under it is

unwilling to rely upon the intrinsic energies of his own system to overcome it, but resorts to all sorts of expedients, and seeks relief in every imaginable form that may be suggested to him by any one who can apparently speak from experience. Drug-medication, or quack-medication, in some of its Protean forms, is sure to have "a run" with those, who, suffering from chronic catarrh, know no better than to poison their bodies, and tax their vital energies, in vain endeavors to relieve themselves from a difficulty which can only be cured under the most favorable circumstances by a very strict regard to the laws of life and health. The hygienic method of treating diseases of the mucous membrane is as far in advance of the plan which involves the administration of poisonous medicines, as bright morning light is more favorable to the vision than the deepest darkness. There are hundreds and thousands of men and women — and, for that matter, I think I might multiply the number by ten, and yet keep within the limit of truth — at present in the United States, who are suffering from this disease, the majority of whom will ultimately die of consumption, or of extended complications that will involve the lungs, who, if they would but turn their attention sincerely to the hygienic method of treatment, might be cured, and live to a good old age. It may not be improper for me to fortify so bold a statement by citing a couple of cases as illustrations, especially as they may be of practical benefit to such of my readers as may be suffering from catarrhal difficulties.

The first case is that of a lady, who came to me, some years ago, to see if I could do any thing to relieve her of a chronic catarrh, which had reached so aggravated a development as to make her a great sufferer, and life, comparatively speaking, of little worth. She was a poor woman, and could not afford to put herself under my charge, at the institution over which I presided; and, therefore, whatever I could do for her must be done in such a way as would enable her to proceed with the treatment at her home. She had had catarrh for sixteen years, and, for a portion of the time, had not breathed through her left nostril at all. At every atmospheric change of any importance, both her nostrils were tho-

roughly closed, so that no air could pass through them; and the back nasal passages had become ulcerated, so that purulent matter was secreted, and at frequent intervals dropped down into the back part of her throat, making her sick at the stomach, and rendering her breath very fetid. After hearing all she had to say, I told her I could cure her if she would follow my directions. She said that she would do so implicitly: and, as a proof that she was likely to adhere to her determination, she affirmed that she knew of nothing but the hygienic treatment which remained for her to try; for she had exhausted the entire resources of the medical faculty, regular and irregular. I then made her the following prescription: —

(*a.*) That she should wash her body every morning in water of a mild temperature, have it well rubbed by an attendant, dress herself warmly, and walk at least half a mile, — and, if the weather was pleasant, a full mile, — which she was able to do.

(*b.*) That, at night, she should take a foot-bath, at a temperature of about 72°; and walk from a quarter to a half mile, dressed in such a way as would permit her to walk comfortably.

(*c.*) That she should wear abdominal bandages, night and day, uninterruptedly.

(*d.*) That she should wear upon her head, during the daytime, a wet head-cap.

(*e.*) That she should either wear her hair flowing, or cut it off, so that it should come down mid-way between the upper and lower point of her shoulder-blades.

(*f.*) That she should eat but two meals a day, and that her food should consist of unleavened Graham-crackers, Graham-mush, and uncooked subacid fruits; her drink to be only soft water.

This prescription was to be carried out continuously for eight months, unless some particularly aggravated conditions should exhibit themselves; when she was to seek my advice again, and receive such modifications of her plan of treatment as I might think proper. When seven months and a half had passed away, she made me a visit, and told me, that,

for six week previous, she had had no catarrh. She had gained fifteen pounds in flesh ; was able to expose herself to all sorts of atmospheric changes with impunity, though not imprudently ; and considered herself, so far as bodily and mental vigor was concerned, a new creature. I was intimately conversant with her life and its conditions for five years after her restoration ; and, during that time, she had no return of the difficulty, nor did she have any other sickness.

The other case is that of a minister, — a gentleman of high culture, formerly resident in Massachusetts, at present residing in Maine, and of the Baptist denomination, — who had had catarrh for twenty years, but who, by a course of treatment, extending over several months, under my own personal supervision, and subsequently followed out at home under my directions, has overcome the disease entirely, so that he is as free from it as the healthiest man living. His course of treatment was, in the main, like that prescribed for the lady above mentioned ; and what is true of these two persons is equally true of hundreds who have followed the hygienic treatment under my advice, and have recovered from old and painful catarrhal diseases. Let, therefore, those who suffer take courage ; for Nature is quite competent to relieve them, if they will but listen to her teachings in time.

CHAPTER XX.

EPIDEMIC CATARRH, OR INFLUENZA.

This disease has been known from remote antiquity. It goes by the name of "epidemic catarrh;" and ranges in its visitations over large portions of country, affecting more or less severely most of the inhabitants.

Its history is quite instructive. Its first appearance in Europe was in the year 1239; and the records that have been kept of its successive visitations fix them in the following years: 1311, 1323, 1327, 1358, 1387, 1403, 1411, 1414, 1427, and 1438. It raged in France in 1482, and prevailed throughout Italy and Spain in 1505. In 1557, it went all over Europe; and appeared again in 1580. Throughout the seventeenth century, it appeared more or less extensively in Europe; and in America, at various times, from 1729 to 1800.

A writer in the "New-York Journal of Medicine" (vol. i. p. 65) says that Dr. Webster the lexicographer collected much interesting information upon this subject, in a work entitled "A Brief History of Epidemic and Pestilential Diseases," published about the year 1800. After mentioning the various periods at which it appeared in various parts of Europe, he brings it down to the present generation; and says, that, up to the year 1843, it appeared in forty-four specified and well-noted occurrences. Almost all of these happened after or during severe moist, cold weather, in spring, winter, or autumn: some of them, however, happened during the hot seasons of the year, and some of them during mild winters. He remarks, that, in eighteen out of the forty-four cases in which the influenza was seen, it took place when there was a volcanic eruption in Italy or Iceland; and that, in eleven other instances in different years, it occurred within a few months of such eruptions, — making twenty-nine out of the

whole forty-four; that nearly all the cases occurred in years in which earthquakes were felt, or within a few months of them, preceding or following; and that nineteen instances occurred within a year or a few months preceding or following the approach of comets. He did not, however, consider earthquakes or volcanic eruptions to be the causes of influenza; but only as some of the effects of a common cause, and as evidences of its existence.

It would appear, from all we can gather on the subject, that some of these epidemics have been limited to the American hemisphere, at the distance of three, four, or five years from the appearance of an epidemic of the same kind in Europe. In other instances, it would seem to have spread over the whole globe, and, according to Webster, to have usually begun in America. Thus in 1698, 1757, 1761, and 1781, it spread over the American hemisphere one year prior to its invading the other hemisphere; and that which encircled the globe in 1733, commenced, in America, two months before it appeared in Europe. The epidemic of 1782 invaded Europe from the side of Asia; and the influenza of 1788 in Europe is said to have preceded the same disease in America. That of 1710 proceeded from Africa to Sicily, Italy, and the North of Europe.

The definition of influenza given by a distinguished writer is as follows: "Lassitude; pains in the head, loins, and limbs; chills, with running at the nose; followed by cough, by expectorations from the respiratory passages, by a fever, by great heat at or about the stomach, by pains about the margins of the ribs; the disease attacking great numbers of persons at the same time, and passing into the inflammation of the respiratory surfaces or organs."

It may easily be confounded with acute bronchitis, or with common catarrh of the nose; but it may also be distinguished from them. The difference between an attack of common catarrh and an attack of influenza is to be seen in the more serious affections of the organic-nervous system when influenza prevails. Influenza differs from catarrh also in the fact, that it involves, almost immediately upon its manifestation, the respiratory organs; and deranges, in greater or less degree,

the digestive apparatus: and rheumatism is not infrequently a consequence of its existence. The troubled breathing which attends influenza is much severer than in almost any other ailment of the respiratory organs, except pulmonary consumption. Connected with it are pains in the head; with a sense of sharp, darting, severe pain in the inside of the lower limbs; with great difficulty of coughing at night; and, almost always, an indisposition to sleep. Great physical depression follows it, so that the sense of weakness is extreme; and sometimes the deranged state of the circulation is such, that there appear, in very marked degree, the symptoms of low typhoid fever.

Distinguished medical writers have undertaken to account for the disease in different ways; some attributing it to atmospheric vicissitudes, and especially to the prevalence of particular winds: but this theory has been abandoned, because the history of the disease shows that it has prevailed at all seasons of the year, and under every variety of atmospheric change. One writer says, that, "during its extensive prevalence in the city of New York in the summer of 1843, it was attributed to the combined influences of cold and variable weather, and the humidity produced by the recent introduction and constant flowing of the Croton water; but this opinion had to be abandoned, when it was found that the disease attacked the crews of ships in mid-ocean, where the temperature is characterized by comparatively opposite phenomena."

Dr. Prout, an English author, has left the opinion, that it is produced by some combination of selenium diffused through the atmosphere: a notion supposed to be favored by the fact, that this substance is often associated with silver in volcanic emanations.

The soundest hypothesis that I have seen on the subject is that which affirms that it results from abnormal accumulations of electricity in the air, which, according to physical laws, is always an isolator of electricity. I am very much disposed to believe, that the electrical conditions in which human beings are at times found may account for the disease, under the changes in the circulation which are thereby induced.

From all the facts that have been gathered together, going

to show the nature of the disease, it is evident that it partakes largely of the qualities of epidemic fever. In different persons it shows itself in different degrees of severity: assuming in some an evenness and uniformity, from the time of its first manifestation until the vigor of the system has overcome the attack, and the patient recovers; while in others it is attended by periods of entire intermission, by which the patient and his friends are readily deluded into the belief that he is pretty much free from its influence; when all of a sudden it returns, with greater severity than before. Where the attacks are excessively severe, there is also great febrile excitement, and dryness of the skin, shown at the commencement; and is followed, in the course of twenty-four hours, by severe coughing, accompanied by great soreness of the chest; resulting, if relief is not previously had, in inflammation of the bronchi, or in well-established pneumonia. In many instances, the throat and larynx and trachea are involved, to a degree that renders their ordinary action impossible; and I have known a few cases, where spasms of the glottis have resulted in such a manner as to be productive of great suffering in those in whom they appeared.

The disease often passes from its original into a different stage, but always with modifications. It cannot, therefore, be properly said that influenza, like common catarrh, becomes chronic; but when the disease is not cured, but allowed to fix itself permanently, then, though the form of it is changed, the effects remain, and are to be seen in new involvements, such as inflammation of the larynx, or of the throat, or of the bronchial tubes.

The attempts to cure this disease by the common methods have uniformly failed, or have resulted in complicating it so as to render it all the more dangerous. As I have before said, the digestive organs often become involved with the respiratory organs, so that well-established and severe dyspepsia is a result; and as one of the ill effects of drug-medication in diseases of an inflammatory nature is to set up metastatic or substitutive action, so, where influenza is treated by cathartics, opiates, blood-lettings, or depletory processes by medicines, the conse-

quence is almost inevitable, that, instead of the disease being *cured*, it is simply *suppressed* by removal to some other organ or organs quite as poorly qualified as the mucous membrane of the throat, the bronchial tubes, or the front and back nasal membranes, are to sustain morbid conditions. I would therefore advise those, who may at any time find themselves affected by influenza, to avoid taking for its relief any medicines, which, in their nature and effects, are poisonous and destructive. I know, that, in all such cases, physicians who give drugs would recommend calomel in some form, or James's-powder, or gum-camphor, or some purgative draught, or blue pill, or compound extract of colocynth, mingled with ipecac, taken at bedtime, and followed by a cathartic in the morning. Others would undertake to re-arrange and establish an equal circulation by medicines that act as diaphoretics, and would prescribe a solution of acetate of ammonia, or antimonial wine, or extract of hyoscyamus, mixed with ipecac, and taken at bedtime.

Now, I offer for the reader's consideration an entirely different plan of treatment. At one time, since the beginning of my connection with a hygienic institution, I have had forty-four persons smitten with this disease; and, in seven days from the time of the attack, they were all relieved from it and its effects, save in some cases where a feeling of debility remained for a short time; while those in the neighborhood where I was located, and who were attacked at the same time, and were treated in the usual way, by drugs, did not get over their disease for weeks. Some of them did not regain their ordinary vigor for several months. I have never yet lost a case of influenza, though I have seen a great many persons die of it in its acute forms, and a great many more die of diseases which were the sequel to it; and I am as well satisfied of the superiority of the hygienic over the ordinary methods of treating this disease, as I am of its superiority in the treatment of pulmonary consumption over the merest quack-druggery.

When a person finds that the epidemic prevails in the neighborhood where he resides, prophylactic or preventive measures may be taken. In most instances, where epidemic, infectious, and even contagious diseases exist, preventive measures may be

effectual in protecting one against them. True, such measures cannot be very efficient in the cases of persons whose habits of living are violative of the general laws upon which security in the matter of health rests. A man whose general habits are such as involve him in gluttonous eating, in the daily use of intoxicating liquors, and of narcotics such as tobacco or opium, cannot be so related to life as to have any very great surplusage of nervous energy which may be called upon to subserve a specific purpose. Yet it is true, that vital force, when there is enough of it, and when it can be distributed throughout the entire physical organism in an unobstructed manner, is one of the very best securities against any disease that any person can possibly have. A man in certain conditions can come into a miasmatic district of country, and live there for months, without having a sick day; while all his neighbors will be smitten down with malarious diseases. So, too, such a person may go into a small-pox hospital, and expose himself to the contagion, without being affected by it; while others, no more exposed, will be attacked by the disease. So, out of a group of children, five may have the measles, whooping-cough, scarlet-fever, diptheria, chicken-pox, or any other disease which is specifically contagious or infectious, and the sixth child pass unscathed. The result, in all such cases, must be owing to the relations which the vital force in their organisms holds towards them. This is the protecting power. The conditions are regulated by law, and do not occur at hap-hazard. If persons were to live so as to secure to themselves the highest possible degree of vital energy, and the best conditions generally of which their bodies are capable, they might, in very many instances, prevent the ravages of epidemic diseases; but if they do not know enough to do this, or if they cannot prevent the disease from affecting them in some measure, then, if their general habits of living are in accordance with the laws of health, they are in far better conditions to resist its ultimate effects, than though, in this respect, they were open to criticism.

If, then, a person is attacked by influenza, let him recognize as one of the conditions of its existence, that the internal blood-vessels must necessarily be surcharged with blood, while the

capillary circulation on the external surface is deficient. There must be less blood in the outer tissues of the body, and more in the internal organs, than there ought to be; and, as a result, the mucous surface suffers from congestion, to be followed very soon by irritation and inflammation.

Now, common sense, under such circumstances, would teach a man how to cure himself. Let him proceed to overcome this determination of blood to the internal surfaces of the body, and re-instate the circulation upon the external surfaces. The best thing, then, is to immerse the body in hot water. Nine cases out of ten will be mitigated, and placed within the reach of subsequent careful treatment, so that the patient shall have no serious sickness resulting therefrom, nor any contingent effects detrimental to health, provided, at the first appearance of the disease, he places himself in a tub of hot water, keeping his head cool by the application of wet cloths, and remains there until he sweats profusely. There is no treatment for influenza, in its first stage, so good as a warm or hot bath, taken for a sufficient length of time to secure thorough sweating.

After having taken such a bath, the patient needs to have a cool bath applied to the entire surface of the body by having water poured over him, or by sitting down in a tub of water, and having an attendant rub the body until a sense of coolness is induced; or by having the body wrapped up in a cool, wet sheet, and so going through with what is called "a wet sheet-pack." My own practice has been to follow the hot bath by a wet sheet-pack, and the result has answered my highest expectations. Upon finding a person suddenly smitten by an attack of influenza, showing redness of the face, blood-shot eyes, running at the nose, heated breath, with chills amounting to shiverings, and with pain in the bones, across the small of the back, down the inside of the legs and feet, with soreness of the heels, I have never failed to induce sleep, after having sweated the person thoroughly, and wrapped him up in a linen sheet wet in cool water, covered by a dry wrapper. Almost invariably, after having gone through these processes, a sense of repose would come over him, and he would pass into a sleep as dreamless as that of a babe newly born, when laid away in its cot. He

would generally come out of this sleep quite refreshed, to have his period of relief last three or four hours; when a new attack would come on. At this stage, I have generally repacked the patient without sweating; or given him a dripping sheet, at a temperature of about eighty-five or ninety degrees. Where pain in the chest is an attendant symptom, I advise the laying-on of wet cloths; and, if the throat is particularly sore, fomentations of it by means of hot cloths, changed as often as they become cool, and continued for a space of from twenty to forty-five minutes. When these are taken off, let the patient's throat be rubbed with cold water at the hands of an attendant; or, if there be no attendant, let the patient wet a towel in cold water, and, taking off the wet cloths, immediately apply the cold one, and wear it. Where the liver is involved, and there is soreness in the region of the diaphragm, with a tendency to nausea at the stomach, I have found the application of warm cloths over this region, alternated with icy-cold cloths, a very efficient auxiliary.

In all cases of severe congestion, I think the compound treatment, or the application of heat and cold alternately, — the heat being continued for a considerable length of time, and the cold applied for only a little while, — is a very powerful instrumentality in overcoming such congestions, and equalizing the circulation in the parts affected.

Influenza, like common catarrh, is more to be dreaded in its remote than in its immediate results. Although persons do die of it, and of other acute diseases that affect the respiratory structures, yet very few would die of such diseases if no medicines were given them. The medicines administered by doctors, for the cure of such diseases, induce complications that never would appear under a purely natural, hygienic treatment. It is surprising to me, that intelligent medical men do not have their suspicions awakened to the ill results that must follow from the administration of drugs in all diseases that are of an inflammatory nature: yet they do not; for they blister and bleed and puke and purge and scarify and burn almost as much as ever.

I have no particular interest, in *this* book, in calling the attention of the reader to acute diseases, and the true method of

treating them, except from the fact, that they very frequently run into chronic diseases that terminate in consumption. In many more cases than is generally admitted or supposed, consumption is of a secondary nature. It is not idiopathic, or a disease existing by itself; but it is very frequently a disease springing out of a previous disease: and in such cases, if the first can be avoided, the second will not follow. To teach people how to deal with such diseases, as, when badly managed, run into consumption, is the object I now have in view in calling attention to them.

In the treatment of influenza, beyond that department which merely involves the application of water, the reader must not fail to bear in mind, that all intellectual and physical exertion should be suspended; and that, while there is the least exhibition of febrile symptoms, the nutriment taken should be of a minimum quantity. As in common catarrh, so in this particular form of catarrhal fever, liquid food is preferable to solid; and the patient should be so related to the use of it, as by no means to increase his plethoric conditions. It is far better to deplete by abstinence than by the lancet. Nature indicates the former: physicians use the latter. But Nature, in this as in other things, is greater than her servants.

Bronchitis, or Inflammatory Sore Throat.

This disease arises from an inflammation of the lining membrane of the windpipe; and whether it is dangerous or not depends altogether upon the general conditions of the system of the person affected, considered in connection with the inflammation of the lining membrane of the trachea, or windpipe.

It differs from catarrh chiefly in the parts affected: catarrh arising from inflammation of the nasal membranes; and bronchitis arising from inflammation of the membranes of the windpipe, and air-cells of the lungs.

Writers on this disease divide it into two or three kinds: but such distinctions are, in my judgment, rather finical than scientific; and they are so nicely drawn, that they cannot be of any particular use to the reader; though perhaps it may be well to state them.

First comes common bronchitis, or what is termed "catarrhal bronchitis;" in which only the mucous membrane of the large bronchi and windpipe are affected by the inflammation which constitutes catarrh. Then there is what some writers call "sthenic" or true bronchitis; in which the inflammation is more decided, and extends along the bronchi. There is also asthenic bronchitis; where, from lack of vitality in the patient, the inflammation assumes a passive form, and extends into the minute air-tubes, — interfering with their offices, and hindering those alterations in the blood which are actually necessary to the maintenance of the proper vital exhibitions.

The first form of the disease generally begins with a severe cold in the nose, which soon changes to the throat; though meanwhile it is attended by a secretion of thin mucus, which is blown from the nose, and "hauked" from the throat. When the disease leaves the nasal membranes, and confines itself mainly to the throat, hoarseness commences; slight at first, but oftentimes increasing to such a degree as to render articulation quite difficult, if not impossible: and, when this result is seen, the larynx becomes inflamed; and, if not cared for in the proper way, the inflammation soon becomes fixed, and ultimately chronic, — confining itself to this particular portion of the tracheal structure, and constituting what is called "laryngitis," or inflammation of the larynx. It is at or around this portion of the bronchial structure that ulceration sometimes takes place, causing organic injury; so that ever after, though the ulceration be reduced, the subject of it is afflicted with imperfect vocalization, the voice being weak or hoarse or sibilant.

The tonsils, also, are affected under this particular type of inflammation. When the throat is severely inflamed, there is a feeling of roughness, of which the subject is conscious, and which causes frequent attempts to clear the throat. This is sometimes the first indication of the existence of the disease. Sometimes there is such irritation of the larynx as to establish a cough, which is generally hard and dry. Few persons have failed to meet those who were troubled with this particular kind of cough, in which nothing was expectorated. The chest sometimes becomes oppressed and constricted, so that there is

a sense of soreness about it, especially when the patient coughs, or attempts to draw in a deep, full breath.

In the early stages of the disease, some of the general symptoms that show themselves in acute catarrh and in influenza are attendant. These are lassitude, and achings of the bones, with shiverings; followed by fever, — ending in sweats, and not infrequently attended by severe aching of the head, especially of the back part of it, low down in the neck: the pulse grows quick, and the skin becomes dry. In the course of three or four days, if the attack is a slight one, expectoration commences; and, in the course of a week, the crisis is past, the expectoration ceases to a great extent, and the person recovers, to all appearance, in as good conditions as before.

But, if there exist unfavorable conditions of the general health, it is not safe to rely upon any temporary alleviation of the disease; for it is totally untrustworthy. Oftentimes persons having acute bronchitis seem to be getting well, only to have a relapse, more violent than the original attack. When this takes place, there is great danger that the inflammation may become chronic, and the affection a permanent one: and, if the constitutional tendencies of the subject are scrofulous, the disease is apt to cause the development of tubercles; which, sooner or later, must end in consumption.

The second variety of bronchitis — which by physicians is termed *bronchitis vera*, or true bronchitis — cannot be described in more appropriate language than that of a distinguished English writer, who says, "This more decidedly inflammatory form of the disease is generally preceded by a sore throat; and, as this begins to yield, the morbid action extends along the mucous membrane to the trachea and bronchia: but it frequently, also, commences in these last, — particularly in those who are especially liable to pulmonary disease or to chronic coughs, — and assumes a severe form. After these preliminary signs, sometimes come hoarseness, and loss of voice, and a dry, hard cough; with a sense of soreness, dryness; and heat is complained of, under the breast-bone, preceded by distinct chills: these at first alternate with increased dryness of the skin, and are soon followed by quickened and somewhat laborious

respiration. Sometimes there is a dull pain on coughing; quick, full, and often strong pulse; sickness; loss of appetite; pain in the forehead, back, and limbs; and loss of strength, so as to cause inability to leave the couch or bed: the tongue is foul, the bowels are constipated, and the urine scanty and highly colored. As the disease advances, the frequency of the pulse, the cough, the expectoration, and the general febrile symptoms, increase, as well as a tightness and soreness of the chest; the latter sensation often amounting to an obtuse pain, extending to the shoulders, to the back, and to the attachments of the diaphragm to the false ribs. The countenance becomes pale and anxious, and great oppression and anxiety exist. As expectoration increases, the sense of heat below the breast diminishes. The cough is generally excited by an attempt at full breathing; and from being short and dry, or attended by but little expectoration, becomes longer, more severe, and is accompanied by more extensive expectoration. In some cases, particularly those which are not remarkably severe, each exacerbation of the fever is attended by chills; and, throughout the disease, the sensibility to cold is very great. In very advanced stages of the disease, when it is severe, the tongue is red at the sides and point, and loaded deeply in the middle and base; the breath becomes rattling or wheezing, owing to the air struggling through the mucous accumulation in the bronchi; and the exertions to expectorate are greater. In very extreme cases, this secretion lessens with diminished expectoration; the crisis not occurring earlier than the sixth or eighth day. The chief characteristic of this form of bronchitis is the state of the sputum, which ought always to be carefully examined. When the disease attacks one who never expectorates when in health, the cough remains dry for a considerable time; and those who expectorate habitually, cease to do so when the inflammatory attack is very acute. As long as the cough continues dry, the disease may be said to be in its first stage. In the course of a short period, — which varies with the constitution of the patient, and the treatment employed, — each fit of coughing is followed by the excretion of a clear, transparent, serous, or watery mucosity; which is at first slightly saline,

but afterwards becomes tasteless: it is without odor. As the disease advances, it has a clearer mucus, resembling the white of an egg."

The third variety of bronchitis, or what by Laennec is termed "acute suffocative catarrh," is a variety of the disease, which is more apt to attack very young or very aged persons, and especially those of a scrofulous constitution whose tissues and fibres are lax, or whose constitutions show but feeble powers of endurance, or who have been for a long time subject to coughs. It is by far the least dangerous of the three forms of bronchitis, in itself considered: though it may, on the whole, be regarded as the most fatal; for it confines itself within the range alluded to above, and generally affects those who are poor, ill-fed, and who live in low conditions, having imperfect ventilation of the places in which they live.

This variety of bronchitis, when the disease terminates favorably, begins to show an improved state from the fourth to the eighth day; and indications of improvement are first seen in the sputum, as in the relief of the cough, freer breathing, and less febrile symptoms. In some instances, the crisis shows itself in copious bleeding at the nose; in others, by very free perspiration, and sometimes by a large discharge of pale urine, with greatly lessened expectoration, which, as it becomes reduced in quantity, assumes a thick yellowish or greenish-yellow character.

Now, these three forms of this disease all lay the subjects of them under great liability to pulmonary consumption. No statistics exist, to which I can appeal, as going to show just how many persons who have died of consumption laid the foundations of the disease in acute inflammation of the mucous lining of the bronchial tubes; but indirect evidence can be furnished to attest the truth of the statement, that large numbers of persons who die of consumption first found their lung difficulties to have connected themselves with, and to have grown out of, this disease. There can be no doubt of the truth of this view; because all medical men are brought into contact with persons, who, having a sore throat in the first instance, never get any relief from it that is not merely temporary, and who finally die of consumption.

Pulmonary consumption is, for the most part, the *finale* of bronchial irritation; and as the majority of the persons who die of pulmonary consumption are of scrofulous constitution and predisposed to the disease, and as the mucous membrane is particularly liable to take on scrofulous depositions, so bronchitis, under the irregular and ill-considered habits of living common to our people, shows itself as one of the first forms of disease to which the mucous membrane is particularly subject. It is not always idiopathic in character, but results from disorders — congestive, irritative, or inflammatory — of the mucous membrane of the stomach or bowels. A great many persons are attacked by some form of bronchitis, who have long been in ill health, and have sought relief from their ailments under methods of treatment seemingly effective at the time, but whose real effects have been found to lie chiefly in the line of the production of metastasis, or substitution of one difficulty for another. Congestion of the liver has oftentimes been "cured" by substituting for it an affection of the bronchi; so has dyspepsia; so has inordinate or very severe constipation; so has nasal catarrh; so has inflammation of the eyes.

Bronchitis is often induced, too, by over-taxation of the nervous system. A great many women have bronchitis as a result of too frequent child-bearing and too long-continued nursing. So, too, do they, and men also, find themselves with inflammation of the mucous membrane of the throat and the upper part of the lungs, from too frequent and long-continued sexual indulgence. Mental anxiety, very severe labor, inducing great fatigue and exhaustion, from which the subject does not readily recover, are great predisposing forces to the production of inflammation of the nostrils, throat, and bronchial tubes.

In the hygienic treatment of this disease there need be no variation, practically, because of the different form or type of the disease showing itself. The three varieties of the disease being marked only by such distinctions as physicians themselves would make, the treatment may be, in the main, alike in all cases, and successful in all if successful in either, except so far as difference in vital force is indicated.

In the treatment of acute bronchitis, my practice has been

as follows; modified, of course, by the conditions of the patient, when viewed from the points of age, sex, temperament, and vital energy. No one would treat a child two years old, for acute inflammation of the throat and lining membrane of the bronchial tubes, as he would a man of twenty-five; nor would he treat a man or woman of seventy-five as he would a man or woman of middle age. Making all proper allowance in *this* respect, the treatment should be, in general, as follows: —

(*a.*) Keep the head cool all the time. Keep the feet warm; no matter what means are used for this purpose.

(*b.*) Let the room which the patient occupies be well ventilated, so that he may be insured pure air. Impure air in this disease is a source of great aggravation under any circumstances, and a very powerful predisposing cause toward a fatal result.

(*c.*) Avoid over-feeding. Depletion may be secured far better by abstinence than by cathartics; and whatever febrile symptoms are shown can be managed better by causing the patient to abstain from food, and frequently washing the body in cool or by tepid baths, than by any other means.

(*d.*) The mind of the patient should be kept quiet.

(*e.*) The baths should be regulated by the severity of the disease, and the power of re-action which the patient shows.

(*f.*) A daily wet sheet-pack for the first four or five days after the disease has shown itself, followed by a dripping-sheet (the water of which should be at a temperature of about 80° or 90°), accompanied by vigorous rubbing after the body has been wiped dry; the patient going to bed immediately at the close of the bath, and lying for an hour or two before being permitted to rise or sit up.

(*g.*) The bowels should be kept open by mild injections of water.

(*h.*) When the patient is not under active treatment, the throat and lungs should be bandaged with wet compresses, covered by dry ones.

This treatment will carry those suffering from this disease, in any of its acute forms, through it with more certainty, and more determinate safety, than any form of drug-medica-

tion which the whole *materia medica* of all the schools can show.

There is one symptom connected with the hygienic treatment of acute bronchitis, as it is with the treatment of all acute diseases, especially those which show a febrile or inflammatory character, that is worthy of notice. It is this: that, under this treatment, the symptoms are invariable; and that, therefore, a diagnosis of the disease in its various stages can be made with an exactitude and precision which are utterly unattainable under the drug-treatment. Because, in the first place, no two persons would show the same effects from the use of the same medicine; the temperament, constitution, and life-force of the individuals, respectively, qualifying these in each case: and because, in the second place, no two physicians, however much addicted to routine, would be likely to give to two persons, their respective patients, the same medicines for the same disease. One would give one medicine, and the other a different one; and so an opposite diagnostication would be made by different physicians. Thus uncertainty, and want of precision, would mark their practice. But the hygienic treatment is very much less open to this objection; because all its applications are in accordance with the laws of the living body; and these are always the same, and are only slightly modified by the constitutions and temperaments of different persons: so that the results of the hygienic system of treatment, being at all times uniform, are much more exact, and safer to be relied upon, than those of drug-medication.

Chronic Bronchitis.

As contradistinguished from the acute forms of the disease, this is simply a different and more advanced stage of it. Generally speaking, more extensive complications than are seen in the acute stages of the disease show themselves wherever this form of it exists; for it is obvious to the close observer, that, where any morbid condition of the body exists for a considerable length of time, it must involve other portions of the organism, extend over larger surfaces, and affect different structures, than it would if it had existed for only a few days, or for quite

a limited period. Where inflammation of the throat and of the lining membranes of the bronchi continues for weeks and months (and, in some cases, it does continue even for years), more or less derangement of the vital organs takes place. The lungs grow unhealthy by the sympathy which exists between the mucous lining of the small bronchi and that of the larger tubes; so that, though the bronchial affection originally may have been quite local, affecting only the larger bronchial tubes, ultimately the smaller and finer tubes become affected. Congestion of the lungs takes place; and, at a later stage, irritation; and, ultimately, inflammation. This may be acute, and it may be passive. If it is acute, then you have pneumonia; if it is passive, then you have just that condition, in which, if circumstances are favorable, consumption can be readily made to exist. The liver and stomach are organs which are almost always found in morbid conditions in cases of chronic bronchitis; so are the large bowels; and so, in a very positive and determinate manner, is the external skin. I do not know, that, in all my practice, I have ever seen a person with confirmed bronchitis, in any of its different stages, the integrity and healthy condition of whose skin was not pretty much broken down. As the disease progresses, the external skin takes on extreme sympathy with the conditions of the mucous membrane, and ceases to perform those vital actions which are so necessary to any thing like general health; and the offices which belong to it are transferred to the kidneys and bowels. Thus, where we have chronic bronchitis in advanced stages, we have inordinate urination, or diarrhœic flow, constituting a chronic bowel-flux.

In the treatment of chronic bronchitis, I regard a correct diet as a very important element; and I always make it a point, in such cases, to put my patients upon nutritious yet unstimulating food. I should not expect, by all the other hygienic applications I could make, to overcome an aggravated form of this disease, if I were to permit the subject of it to eat flesh-meats, drink narcotic beverages, chew or smoke tobacco, or use spices or condiments in his food. I am perfectly satisfied that the disease cannot be cured, in any correct sense

of the word, while the mucous membrane of the stomach retains its chronic inflammation, however much the mucous lining of the throat may be apparently improved by local appliances. I know the practice that has grown up under the patronage of a distinguished New-York physician, — that of applying strong counter-irritation to the mucous lining by the use of nitrate of silver : but I have seen so many persons who had been cured by this method, only to have a recurrence of the disease at no distant day, and in very greatly added unfavorable conditions, that I place no confidence in the treatment, but feel that it is totally unreliable ; and, more than this, that it produces, in many instances, results very injurious to the general health, and which are sometimes fatal. I have had, in the course of my practice, over two hundred women, who had previously been treated by the caustic method for this disease, and apparently benefited thereby ; but who, within three months after such treatment, found themselves laboring under such morbid conditions of the uterine system, as to subject them to debility far more difficult to bear than the original disease for which they were treated for cauterization : and I have known a great many men, who had been cauterized for the cure of chronic bronchitis, who have since had either severe dyspepsia or piles or spermatorrhœa as a result of the operation. In one case, an individual had been so poisoned by the application of nitrate of silver, that the lining membrane of the throat had become sensibly discolored.

Diet, therefore, forms with me a cardinal instrumentality for the production of the results which I seek ; because, as the inflammation of the mucous membrane, the stomach, and the œsophagus, becomes lessened, the tendency to improved conditions of that membrane in the back part of the throat, at the top of the windpipe, and along down the trachea, sensibly increases. Of course, I do not make a proper diet the *sole* agency upon which reliance is to be placed ; but it is far more essential than is generally supposed : and I feel, that to my giving it its due importance among remedial agents, in the treatment of this disease, should be ascribed much of the success which has uniformly attended my practice in this direction. I commend

it, therefore, to the attention of the reader, with all the impressiveness I can bring to bear. It is well to urge upon any one, who, having this disease, desires to recover from it, that among the very best means he can use for the attainment of that end is a farinaceous and fruit diet. While baths are good; and gentle exercise in the open air, with great regularity and persistency, is also good, — they are of no more importance than is a proper dietetic regimen.

The general plan for the treatment of this disease is as follows: —

1. I never allow my patients to eat more than two meals a day; and on no account do I permit them to eat after four o'clock in the afternoon.

2. I concentrate all effort to improve the conditions of the system by means of baths within those periods of the day when the vital energies are in reality at their highest point; and as I have made observations upon a large scale, and with a good deal of care, with reference to this particular point, I prefer to make all active administrations of treatment range between the hours of nine o'clock in the morning and one o'clock in the afternoon. Seldom, if ever, unless for purposes purely detergent, do I give a patient, affected with chronic bronchitis, a bath early in the morning, or late in the evening. It is a fashion, I know, with some conductors of water-cures, to give baths in the morning, at ten or eleven o'clock in the forenoon; in the afternoon, at three or four o'clock; in the evening, at six or eight o'clock; and also to permit their patients to eat three times a day. My own practice is entirely different.

3. Persons afflicted with this disease should have, on rising in the morning, a dry rubbing at the hands of an attendant; no water being put upon the body.

4. At ten o'clock in the forenoon, or at any hour between that and one o'clock, I would administer a sitz-bath or wet sheet-pack, followed by a dripping-sheet, or a towel-washing, or a hand-washing, as the particular conditions of the patient might make most acceptable. Such bath should be followed by a period of repose lasting from one to two hours.

5. Breakfast should be eaten between seven and eight o'clock,

and should consist of bread made of unbolted wheat-meal, and not raised by yeast or by any other process; of sub-acid fruits; and, if desired, of a moderate quantity of vegetables. Butter should not be used at all; and on no account would I admit of the use of common salt as a seasoning upon any food of any kind that a patient of mine, laboring under this disease, might eat. Neither would I allow the use, by such patient, of cloves, cinnamon, allspice, mace, pepper, or any other condiment whatever.

6. Dinner should be made of the same, or nearly the same, food as breakfast; and should be eaten at any time from two to three o'clock in the afternoon. After dinner, the patient should have pleasant exercise, and should retire early.

7. A wet bandage, covered by a dry one, should be worn constantly around the neck. A linen jacket, enveloping the whole breast, wet in front, and covered by a dry one, should also be worn all the time.

8. The feet should be kept warm by proper clothing; and, if they sweat, the stockings should be changed twice a day, so as not to allow the perspiration to make the feet cold at the same time that it would make them tender.

9. It is of importance that the bowels should be kept regular; but this end can be measurably attained by the use of the right kinds of food. On no account should medicines be used for the purpose of regulating the bowels. These always do harm instead of good, and should be sedulously and conscientiously avoided.

10. For the relief of any dryness, irritation, or soreness of the throat, that may be aggravating to the patient, warm cloths laid upon the neck, outside, and gargling of the throat at different periods of the day with warm water, alternated with quite cool water, will be found efficient.

Strange as the statement may seem to any physician who perchance may peruse this chapter, it is simply true, that chronic bronchitis, in its simpler forms, will yield, in a great majority of instances, to hygienic treatment, when all drug-remedies fail. Not long since, a case came under my care, where the physician having it in charge had exhausted his resources, and

could give no explanation of his failure, save "*that the remedies which were usually so efficacious in the cure of the disease had been worn out by the patient, so that they had entirely lost their force.*" As though these remedies *ever had any force;* or, if they had, they would not be as applicable to a case for an extended period as they were at the commencement of its treatment. This patient, who was so diseased that he had "worn out" the remedies of his physician under four months of such treatment as I have suggested above, was entirely cured, and enabled to perform his duties as successfully as at any previous period of his life, even when his health was most robust. There is a great deal in knowing *how* to recover from disease; and many persons die because they do not know the secret of life.

Bronchitis, in its acute forms, cannot be neglected or maltreated without passing into the chronic stage. When once it has become chronic, it begins, if not properly managed, to assume such a type, or form of exhibition, as plainly to indicate that consumption is soon to supervene.

If the readers of this chapter will heed the suggestions thrown out with regard to their habits of eating and drinking, of dressing and working, and of undue expenditure of nervous power, without opportunity of recovering from the debility consequent thereupon, they will find that those who have not bronchitis need never have it; and that those who have it already need not die of it, but may get well.

Asthma.

This term is derived from a Greek word, which signifies "to breathe with difficulty." The disease shows several forms, usually distinguished as follows: First, nervous asthma; second, spasmodic asthma; third, humid asthma.

It is not at all necessary, that in the discussion of this disease, and the means of curing it, I should keep in view the above classification; for, as I have said already of other diseases, such distinctions are usually made with reference to the convenience of the medical profession, rather than because of any clear lines of demarcation existing between the different forms of disease.

Nervous asthma is generally to be attributed to disorders of the nervous system, and is quite common in persons who are particularly susceptible to mucous catarrhs, and modifications of nervous influence. It connects itself also especially in the persons of women with hysteria, and is aggravated by causes which induce that morbid affection. The treatment that will answer for the cure of spasmodic or humid asthma will answer for that of nervous asthma also. Spasmodic asthma, when it is seen, as not infrequently it is, in persons of rather full habit, is distressing to witness, and very difficult to control by any special appliances. The paroxysm, once begun, has its regular course in order to reach its termination. In some instances where I have had to deal with this form of the disease, the paroxysm has lasted for days, with but very slight intervals of relief. I know that the paroxysms are *generally* sudden and of short continuance; but the disease is oftentimes of great duration, and, after a while, is likely to become habitual. An English writer says, that, during the spasm, the lungs, upon an attentive examination of the thorax, seem drawn together, owing to the constriction of the air-tubes; and the walls of the chest, being necessarily pressed inward at the same time, generally yield a less clear sound on percussion. This phenomenon arises from the diaphragm being prevented from contracting to its full extent by the constriction of the air-vessels, or from a temporary paralysis of this muscle. The condition of the air-vessels and the antagonizing action of the respiratory muscles, throughout the paroxysm, have a necessary tendency to form a vacuum in the thoracic cavity. The consequence of this is, that a larger quantity of blood is drawn into the large veins within the thorax, and into the venous sinuses and auricles of the heart, occasioning congestion of these cavities, and impeding the circulation through the lungs, congestion of the head, and irregular action of the heart, with various other injurious effects upon the central organs of the circulation. Sometimes rupture of one or more of the air-vessels or walls takes place, in consequence of the violent action of the inspiratory muscles on the one hand, and the unyielding constriction of the air-vessels on the other; and emphysema of the lungs is superinduced.

Humid asthma is contradistinguished, as far as it is distinguished at all, from nervous and spasmodic asthma, by a copious discharge of thick mucus. Physicians differ as to the cause of this symptom: some impute it solely to the accumulation of fluid in the air-passages. It may be remarked, however, that when expectoration occurs early after an attack, and is profuse, the paroxysm is correspondingly lessened in duration and severity. This particular form of asthma may affect only one lung; or, where both are affected, one may be more affected than the other.

When asthma in any of its forms is present, it shows symptoms which greatly simulate other diseases of the lungs and throat; so that it may readily be mistaken for some of them, and they for it. Thus spasmodic affections of the larynx may be taken for asthma; so may severe cases of acute bronchitis, where great expectoration is seen, be mistaken for asthma; so also may croup.

Asthma is quite commonly an inherited disease. Of course there are no temperaments that are free from liability to it; it touches them all: but the nervous-sanguine is more liable to it, and the bilious is less liable to it, than any other. It is asserted, though my own experience does not corroborate it, that men are much more affected by this disease than are women. My own idea, in respect to the liability of persons to be affected by asthma, is, that persons of the nervous-sanguine temperament and of consumptive diathesis, having inherited scrofula from their parents, constitute by far the larger portion of those who are afflicted with it. I know, that, whatever may be the temperament or the constitutionally inherited tendencies, those who live largely in the indulgence of their passions, and are guilty of excesses in eating and drinking and in sexual gratification, are more likely to have it than are persons of temperate habits: and I am sure, too, that where persons of spare habit of body irritate their nervous systems, and weaken themselves, they are almost certain to have that variety of the disease denominated "spasmodic asthma;" while persons of full habit, under the same circumstances, are more likely to have humid asthma. One great exciting cause of asthmatic

attacks, no matter what may be the form of exhibition seen, is muco-nervous dyspepsia. Another cause of it — and, I think, one which has been more frequently operative, in the cases that have come under my immediate observation, than any other of which I have taken note — is suppressed cutaneous eruptions. Nearly every case of asthma, with which I have had to deal professionally, has had connected with it, in its origin and subsequent exhibitions, suppressed eruptions: such suppression having taken place by the application of ointments, which caused the eruptions to disappear; when asthmatic attacks ensued, and continued to return, until, under hygienic treatment, the eruptions re-appeared, when relief was induced. It is not often that asthma runs into consumption, except when the person suffering from it becomes exhausted in vital force. Many persons, who in early life have had asthma in some of its forms, have died of pulmonary consumption, caused, no doubt, by this disease; but it has so happened only in the cases of those who have been so ill related to health, and to the needs of their systems at large, as to have had insufficient vital force to resist the more extended and dangerous complications which have given rise to consumption. Especially does this view present itself as worthy of the consideration of the reader, if he or she is of scrofulous habit of body, or subject, from any cause, to skin-eruptions. It is only, therefore, common prudence, for persons of scrofulous diathesis, who may be predisposed to asthmatic paroxysms, to take care of themselves by the strictest obedience possible to hygienic laws, and habits of living; for they run great risks of becoming consumptive, if not in early life, when they shall have passed its meridian.

I suggest the following treatment in cases of asthma; and I am sure, that, if faithfully applied, it will be found abundantly beneficial to all who may adopt it, provided they are in curable conditions.

(*a.*) If the patient is possessed of moderate vigor, a dripping-sheet may be taken each morning, at a temperature of 90°, in a warm room; followed by vigorous hand-rubbing over the sheet, and upon the skin after the sheet has been taken off. The body should then be wiped dry with towels. Chest-jackets

may be worn to great advantage: the inner one made of linen, and wet in front; the outer one of cotton, and worn dry.

(*b.*) In many attacks of asthma, very great relief is experienced from the application of a wet compress over the whole region of the chest. If the subject shows any susceptibility to indigestion, then perhaps abdominal bandages may be substituted for the chest-jacket, to good purpose.

(*c.*) A wet sheet-pack may be found advantageous as often as three times a week; the patient lying in it from twenty-five to forty-five minutes, and taking a towel-washing or dripping-sheet *following*. Or, if facilities can be had, a half-bath, at a temperature of 90° for half a minute, and 85° for the other half-minute; the body being well rubbed while in the bath, and, upon coming out, until the skin is in a glow, and the patient feels warm after it.

(*d.*) On the whole, the practice of walking immediately after a bath is not as expedient in cases of asthma as it is with persons who are suffering from other maladies; and my own practice has been to have my asthmatic patients lie down after having been bathed, and establish thorough re-action before exercise: it is the surest way of making the benefits derivable from a bath permanent and durably efficient.

(*e.*) The bowels should be kept open, in all cases of asthmatic trouble, by gentle enemas, administered as often as every other day.

(*f.*) The diet of the subject of spasmodic asthma should be unstimulating and unirritating; and he should never eat to engorgement. In a great many instances, I have suggested, to persons who were suffering from asthma, the probability that their paroxysms were frequently brought on, and in almost every case aggravated, by errors in eating, both as regards quantity and quality of food; and accepting my suggestions, and following them out in directions somewhat opposite to their former habits, they have found decided and positive relief.

(*g.*) Asthma arises oftentimes from scrofulous conditions of the system; and the paroxysms are made severe by the incapability of the lymphatics to carry out, through the skin, the waste materials with which the blood is burthened. Wherever a

person subject to asthma has had an eruption of the skin, which has been suddenly suppressed (no matter from what cause), such retrocession of the humor into the blood is more likely than not to establish congested or irritated conditions of the mucous membrane of the lungs, and thus to bring on a spasm.

Hygienic treatment — comprising, as it does, proper regimen in diet and in bathing — has a powerful influence in determining from the internal tissues whatever morbid material may be deposited therein; and, when this is carried out to a degree sufficient to induce eruptions which are marked and quite extensive upon the external surface, the patient is greatly relieved.

I recollect a very remarkable case, in the person of a lady who came to me from a county in this State to be treated for asthma. She was very feeble when she arrived at my house, — so feeble, that it was with the greatest difficulty that we could induce re-actions against the mildest forms of bathing which we could apply: but, by steady and persevering efforts, we succeeded in re-arranging the vital forces, so that partial re-actions could be induced; and from this point she made decided progress. After four or five months' treatment, she was able to endure considerable bathing, administered with a good degree of regularity. Her improvement was manifest; but it was seen more in the lengthened intervals between the attacks, than in any mitigation of the symptoms when the paroxysms were upon her. At the end of six months, she began to show an eruption under the chest-jacket which she had worn constantly; and, from the first appearance of it, not a fortnight elapsed before the whole surface of the body, from the very scalp, to the skin on the bottoms of her feet, were covered with it. This lasted some six weeks, inducing, of course, a good deal of irritation and nervous excitement: but by frequent bathing, and gentle ablutions, applied locally, where the irritation was at any time most severe, the eruption finally died away, and the skin became smooth and of its natural color; when her asthmatic paroxysms entirely ceased, and have not returned upon her, even to this day.

Before leaving this subject, there is one point to which I desire to call the attention of my readers. It is this, — that

persistent and long-continued application of the proper means should be had before discouragement arises. The changes are often slow; but, in the worst cases, if there is sufficient vitality to work them out, they will certainly come to a favorable point, and the final issue be all that could be desired.

Hemorrhage from the Lungs.

There are more cases of lung-bleeding among the people of the United States than among the same number of persons in any other nation. This arises from the predominance of the nervous temperament with this people. All persons with large brains and small muscles, or with large mental and motive force and small vital capital, are liable to diseases of the respiratory organs; of which, congestion is the most common form.

Hemorrhage from the lungs does not commonly arise, as is usually supposed, from the breaking or bursting of blood-vessels in those organs, but from the effusion of blood through the coats of the blood-vessels, — precisely on the same principle that water effuses itself through the coats of a bladder which is filled with it. When effusion of blood from the lungs takes place, it passes from the blood-vessels into the air-cells: and this effusion is oftentimes quite extensive, so much so as to amount to decided hemorrhage; the persons thus affected spitting up, in the course of from fifteen or twenty minutes to an hour and a half, from a half-pint to two quarts of blood, or even more, as is seen in extreme cases.

This effusion, in more than a majority of instances, grows out of one of three causes, — indigestion, derangement of the liver, or nervous debility. A great many concurrent causes may appear in inducing hemorrhage where it arises from a want of nervous energy. Over-labor, sexual indulgence, great mental excitement, every exercise of the passional forces, — such as intense anger, great fear, morbid exercise of the affections, or intense grief or sorrow, — may aid in producing such conditions of the nervous system as to permit congestion of the lungs to take place, to be followed by effusion of blood into the air-cavities, thus inducing hemorrhage. These are the

more common causes that operate to produce spitting of blood. Heart-diseases induce hemorrhage; but then diseases of the heart are very rare, and consequently hemorrhage is not often a result of abnormal action of that organ. Of all the cases of hemorrhage with which I am familiar, or which have come under my notice, by far the majority have had, as the proximate cause, congestion of the brain. I have known a good many persons to bleed from over-eating, or from sudden congestion of the liver. I have also seen bleeding at the lungs produced by constipation, and by metastasis of piles, as I have said in another chapter; but, in most instances, those who suffer from it are persons of scrofulous habit of body constitutionally, and who, in their general habits of living, are, on a large scale, violators of the laws of life and health, particularly in the direction of nervous excitement, and the fatigues which such excitement, long continued, inevitably induces.

The premonitory symptoms of bleeding at the lungs may oftentimes be readily noted. They consist of sudden effusion of the face with blood, headache, coldness of the feet, a sort of suppressed circulation on the surface (as seen sometimes by the disappearance of the veins, as if suddenly collapsed), general weariness, and pain in the chest, with a feeling as if a heavy weight were attached to the legs. The patient shows hypochondria in some instances; in others, a decided tendency to hysteric fits. For some time previous, in some cases, the patient has a dry cough, with troubled breathing at times, and especially with shortness of breath when walking up-hill. The pains are felt in the pit of the stomach, in the right side, in the region of the upper portion of the liver; passing along around into the back obliquely, and fixing itself as a permanent condition up under the lower portion of the right shoulder-blade. Dyspepsia also, if present at all, is aggravated, and is attended by flatulence, and costiveness of the bowels. The urine, under such circumstances, is, in a great majority of instances, pale. Of course, only a few of these symptoms may appear in any given case; but some or other of them are always present, and sometimes they are all to be seen in the same case. Then, again, I have known persons, in whom

none of these symptoms appeared, to bleed at the lungs; though there must evidently have been marked changes going on in their conditions in order to induce such extensive hemorrhage as showed itself.

Perhaps I cannot better describe the progress of the disease, from the first symptoms until the time when the blood is ejected from the mouth, than in the language of another. "As the blood rises to the larynx, a sense of titillation is felt in the trachea, or of irritation in the throat, with difficulty of breathing. A gurgling or bubbling sensation is also felt in the chest; and the blood is either hauked or coughed up, exciting a sweetish, salt taste. As soon as this occurs, much alarm is sometimes caused, particularly in delicate or nervous persons; and several of the general symptoms, particularly those connected with the action of the heart and pulse, are owing chiefly to this cause. When the blood flows in considerable quantity, a feeling of suffocation attends the discharge; the chest is forcibly dilated; the convulsive re-action or cough follows; and the fluid is ejected from the mouth, and pumped from the nostrils. Occasionally, however, the blood is brought up without any effort whatever beyond a strong expiration, which it accompanies in a full stream. The quantity thus discharged varies from a few drops to many pounds."

Dr. Frank, in his "Practice of Medicine," vol. ii. p. 417, says that he had a patient who lost a hundred and ninety-two ounces in twenty-four hours.

Dr. Chapman, of Philadelphia, states that he once saw two quarts come away in twenty or thirty minutes.

Dr. Copland says that he has seen three quarts discharged in the course of an hour.

Laennec says that he has known thirty pounds to be lost in fifteen days; and, in a very extraordinary case, ten pounds in forty-eight minutes.

When the quantity lost is not great, it is apt sometimes to be frothy. This is simply because there are bubbles of air mingled with it. If the amount lost in a large space of time is large, the patient suffers from faintness; and, in some instances, the sense of syncope may be very sudden. There is a very

great difference in the exhibitions immediately following a hemorrhagic attack in different persons. With some, there is greatly increased nervous excitement, — the whole system seeming to be relieved from an overbearing pressure under which it had previously labored; and the conditions of the patient, for the time being, thereupon improve. In others, great depression of body follows the loss of blood, with corresponding depression of mind; so that the subject is disposed to look upon his conditions from the most unfavorable point of view. In some cases of lung-bleeding, the patient passes rapidly into the inflammatory state. Others seem to recover from their enfeeblement, though it may have been temporarily severe, in a very few days. When hemorrhage appears for the first time, and the patient does not bleed largely, and there can be an adequate cause for it found in some immediately preceding act of the subject, there need be no particular anxiety on his part, or on the part of his friends. The great thing to be avoided, in cases of hemorrhage from the lungs, is the establishment of a *habit* of bleeding. A single occurrence amounts to nothing, unless it is a very extreme one, in determining results. From causes that are sudden, and that are immediately effective, persons may bleed at the lungs quite freely, and in some cases dangerously, and yet recover from the attack, and never bleed again; continuing through life, to all intents and purposes, as secure against a recurrence of the difficulty as though they had never been attacked by it.

But, with persons of scrofulous habit of body, this is not the case; because, as scrofula lies at the foundation of all tuberculous conditions of the lungs, such a manifestation as hemorrhage shows that the general system is involved, and that preparation has been going on probably for a period some time antecedent to the appearance of hemorrhage, in order to induce susceptible conditions, and produce this result.

Now, while lung-bleeding may take place once, or even twice or three times, without having any serious ultimate ill results flow from it, it is not to be forgotten that it becomes critical just in proportion as it is frequent, and yet appears at irregular intervals. In my judgment, one of the worst

symptoms that can attend lung-bleeding is to have the hemorrhages appear without any regularity, — coming now in the night-time, and then in the morning; coming at mid-day, once in a month, once in a week, or once in three days, — seeming to bear no reference to the laws of periodicity. Under such circumstances, the conditions of the system generally induce the effusion; and these are so much influenced by external causes ranging within the habits of the patient, or by internal causes arising from the state of the nervous system, that safeguards against it cannot be quickly nor easily established. Almost all persons who suffer from hemorrhage of the lungs, for a period of twelve hours or thereabouts, feel, immediately preceding the attack, unusually well. There is evidently exaltation of the nervous system; the whole body seems to be highly toned; and the patient is in a mental state calculated to impress upon him the feeling, that he is able to do and endure more than usual, with less danger than commonly belongs to like efforts. I always watch my patients who are subject to hemorrhagic recurrences, and circumscribe their liberty of action just in proportion to their feeling of ability to act. The stronger, therefore, one feels; the more disposed he or she may be to subject the vital energies to large taxation, — the less willing am I that they should do so.

Lung-bleeding is generally considered a natural precursor of consumption. Generally speaking, where one is known to have had hemorrhage of the lungs, the common remark will be, that he or she is likely to die of consumption. Now, pulmonary consumption does not *necessarily* follow bleeding at the lungs. Sometimes such bleeding is really a critical action, resulting in improved conditions of the general system. In very many instances it arises from bad conditions of the liver, as I have before said; and the lungs, being related by sympathy to the morbid conditions of the body at large, serve as a simple sluiceway whereby the excessive derangements of the general system are worked off. In such cases, lung-bleeding is no more dangerous, if it arises from *effusion* of blood, than diarrhœa; nor any more dangerous, provided the imagination of the patient be kept right, than would be the loss of the same amount of blood

from the opening of a vein; nor more dangerous than an acute attack of dysentery, or, as it is sometimes termed, "bloody-flux," would be; nor more dangerous than a very severe bleeding from the stomach, which is not at all infrequent; nor more dangerous than a severe bleeding from the nose; and not so dangerous as a severe bleeding from the rectal veins, as is often seen in cases of bleeding-piles; nor so dangerous as uterine hemorrhage. Whether it is dangerous or not, depends altogether upon the causes that produce it. If it arises from diseases of the heart, then it certainly does become dangerous, if at all extensive. If it arises from such debility of the nervous system as to greatly weaken the coats of the blood-vessels, and allow, under the least excitement which pushes the blood through them with more than usual force, effusion of it into the air-cells, then it is dangerous; and wherever it arises, no matter from what cause, in a person who is scrofulous, or predisposed in any way to pulmonary disease, then it is dangerous. I have seen in my practice a good many cases of lung-bleeding connected with fever and ague, from both of which the patient recovered, to enjoy for many years good health. I knew of one case exactly similar to a case described by Dr. Chapman of Philadelphia, where the lady had first had fever and ague; and, when this disease had pretty much succumbed to the remedies used by her physician, had been taken with lung-bleeding every morning regularly at nine o'clock, preceded by a slight chill; and the hemorrhage, not by any means profuse, lasted twenty days before the paroxysm was broken up.

In the treatment of diseases of females, I have been told by more than three hundred women, who have bled at the lungs, that they had been previously treated for uterine diseases, had subjected themselves to *caustic* practice, and had thereby been greatly relieved of their "female weaknesses;" but that they began immediately, or soon after, to be troubled with spitting of blood. In some cases, the hemorrhage was quite inconsiderable; in others, quite severe; and in a few, dangerous. I think I have been made aware of at least a hundred cases, in which men, by the application of ointments and lotions to their lower bowels for the purpose of curing bleeding-piles and hemorrhoids,

obtained relief from these difficulties; but, in a very short period after their improvement in these directions, found themselves troubled with lung-bleeding. I have known a half-dozen persons who were cured of bleeding at the nose, but who subsequently bled at the lungs; and perhaps twice as many persons who have bled at the stomach, and were cured of it, only to be attacked soon after by bleeding at the lungs. In a good many instances, these persons never entirely recover from their lung-bleeding; and sometimes they pass along gradually into marked consumptive conditions, and ultimately die of consumption.

It is very rarely that bleeding at the lungs terminates fatally as an immediate result, unless it is caused by the rupture of a blood-vessel of considerable size. Where it is caused by effusion, death ensues only after frequent recurrences of the hemorrhage, which gradually breaks down the system, and exhausts its vital forces. I have known persons to bleed for twenty years, as often as twice or thrice a year, in quantities at each attack not less than a pint or a pint and a half; and, notwithstanding the regular recurrence of the bleeding, they kept about, and performed quite arduous daily duties. As the ultimate result, however, they died of consumption.

Dr. Heberden, an English physician, says that, during a practice of sixty years, he was made familiar with this disease in a great number of instances, but never lost a patient by it: and Dr. Chapman of Philadelphia states that his experience of forty years supplies him with only an occasional instance of death by hemorrhage, or as an ultimate result of it; and in no case did the loss of life follow an effusion of blood from the mucous membrane.

Treatment of the Disease. — The hygienic treatment of pulmonary hemorrhage is as different from that of the drug-school as it is in the treatment of any other disease or morbid condition of the human body.

It may, perhaps, be well for me to call attention to suggestions that have been made by different writers, at different periods, with regard to the treatment of this disease. In the early history of medicine, men distinguished in those days

were in favor of blood-letting as a counteractive to bleeding at the lungs; and, with some of them, ligatures upon the extremities were used, and astringent medicines were given internally, and applied externally. Cold drinks have been more or less in favor with physicians. Some physicians have supposed that very decided benefits were to be derived from wetting cloths in vinegar, and applying them as compresses over the chest. One of the fathers of medicine (Galen) says, however, that such applications sometimes have a different effect from that which they are intended to produce; that, instead of determining the blood from the internal blood-vessels, they concentrate it there, and produce congestions of the deep-seated veins; and that he had known persons to be injured by applications of cold to the chest when they were suffering from hemorrhage of the lungs. Dr. Copland says that the Arabian writers generally approve of the internal exhibition of acids and anodynes, especially where hemorrhage is attended with a cough. Physicians of modern times often administer sugar of lead as an important and immediate remedy for hemorrhage; others administer common salt. Occasionally, in our day, a physician can be found who follows the old practice of bleeding at the arm.

I apprehend, that, to a much greater extent than the doctors themselves would be willing to allow, were the charge brought against them formally, they, like the common people, are frightened when they see a person bleeding profusely from pulmonary hemorrhage; and that, therefore, their practice falls into the line of empiricism, because they feel compelled to adopt expedients, or, in other words, to seem to be greatly interested, and desirous of doing something, with a view to check the effusion. Their practice is experimental, having no particular basis in philosophical understanding or in right reason; and is adopted under the impressions awakened by the conditions of the patient, and the surroundings in which he is placed.

In my own practice, I first seek to equalize the circulation; and to such parts of the body as show deficient flow of blood, I apply hot cloths. It may be that these are needed simply about the feet and the hands, or that the whole surface is suffering from want of a due amount of blood in the capillary

vessels; and, if this be so, then a warm bath should be applied. I do not myself believe in the application of cold cloths over the chest or any other part of the body, unless such part be marked by more than usual heat. The effusion takes place under internal congestion. Where this exists, there is necessarily a deficient circulation in the external blood-vessels. To restore the proper amount of blood to the surface of the body is to secure relief to the blood-vessels that have been unduly charged with blood, and to cause the effusion to cease by a restoration of the natural conditions of the system in the department of the circulation. It is surprising to see how quickly hemorrhage of the lungs will give way, temporarily at least, to the application of warm cloths to the surface of the body, or to such parts of it as show more than usual coldness. Over the lungs themselves should be placed hot cloths, so as, by means of the heat which they contain, — penetrating the tissues, and affecting the circulation, — to liquefy the blood, and add to the rapidity and ease with which it can be passed along the channels that carry it.

An English gentleman, — who, by the way, has written a very interesting account of his travels through Europe, Egypt, and the Holy Land, — in giving a little history of the causes that led him to make his journey, states that one of these, and perhaps the most potent, was his ill health. From too great application to business, he had become subject to pulmonary hemorrhage. When he found himself in the East, and under the necessity of seeking medical advice, he was treated by a physician, for an attack of hemorrhage which had come upon him, by the application of warm baths; and, while *he* supposed that it would surely increase the difficulty, he was taken all aback at the almost instantaneous relief which followed the application of a warm bath to the bowels and chest. I have not his book by me, so that I cannot quote him exactly: but I am sure I do no injustice to his statement, when I say that he declared himself to have become, by reason of the great benefit he derived from this treatment, a convert to the theory of overcoming congestions by warm rather than by cold applications; and that, in repeated instances, he had suggested it to

persons who were troubled with pulmonary hemorrhage, and who, greatly benefited by it, were very thankful to him.

Some ten years ago, I met an allopathic physician in the city of ——, who at that time was a manufacturer of patent pills. He was a large man, and bore about him every physical security that one could ask for in the way of security against lung-bleeding. Broad-shouldered; full-chested; not sick, apparently, in any direction; capable of great endurance; performing a large amount of physical labor; and a good thinker besides, — to see him on the street, one would as soon have associated the idea of pulmonary hemorrhage with Cyclops or Hercules as with him: and yet, for ten years, he had been a most frequent sufferer from hemorrhage of the lungs, and scarcely ever for more than two months at a time without a recurrence of the difficulty. He had tried every method of practice save the hydropathic, and at last resorted to this. Calling a water-cure physician to his counsel, he was advised, whenever he was threatened with a recurrence of the hemorrhage, to put his feet and hands in warm water, and apply warm cloths over the whole region of the chest, stomach, and bowels; to keep perfectly still, avoid all excitement, live upon very simple food, and see if it were not possible for him to "break up" the attack, and so get along without actual bleeding; and, if he found himself able to do so in one instance, to live more particularly, in respect to his general habits, and ward off the threatened recurrence as often as he could, until his system should find itself less habitually disposed to such re-actions. The thought struck him as worth his notice, and he followed it: and, when I saw him, he had not had a hemorrhage in two years; though, as I have already said, previous to his receiving this advice, and acting upon it, he had never gone for more than two months at a time without an attack.

In a great many instances where lung-bleeding has passed under my own care, I have overcome the paroxysms by the application of warm cloths to the chest alone; but my practice is, if needful, to envelop the whole surface in hot wet sheets, determining the blood to the surface in as decided and positive currents as I am able. Occasionally I have kept a patient in

the hot wet sheets until actual sweating has taken place; never fearing ill results, provided I could keep the circulation on the surface after having determined it there. This has demanded at my hands varied resources and long-continued labor; but it is worth one's while to work hard, under such circumstances, in order to succeed.

Hand-friction upon the surface of the body is an excellent instrumentality in determining the blood to the surface, and away from the internal vessels.

In all cases where I have had to treat persons who were suffering from lung-bleeding, I have made their diet as unstimulating and unirritating as possible. My patients suffering from this disease live for the most part upon fruits, and these of as acid a nature as is palatable. Sour apples, plums, tomatoes, peaches, any thing that has in it a pleasant acid taste, I allow them to eat as much of as is consistent with their nutritive wants in their conditions at the time.

I rely greatly upon rest as a means of overcoming pulmonary hemorrhage and the effects arising from it. To have the patient put in bed, and kept there steadily, quietly, cheerfully, is of itself a very valuable therapeutic measure. Talking; and all thought involving taxation of brain, awakening anxiety, pressing down upon the patient a sense of responsibility, or imposing care, — should be avoided. Where lung-bleeding is dependent, as in many instances it is, upon congestion of the liver or upon dyspeptic conditions, or arises from metastatic action of the vital forces, as is sometimes seen in cases of piles, tepid sitz-baths are among the most valuable means of checking it, and re-establishing healthy conditions. A chest-jacket worn wet in front, and, if the patient is to be confined to his bed, wet all around, covered, of course, by one which is dry, will, in many instances, prove very salutary.

A few years ago, a young lady came to make inquiries whether I could do any thing for a cousin of hers, a young Scotchman, who had bled severely at different times for two years or more. She said that the physicians in the town where he lived had expended their skill upon him to no purpose; that he had been to New York and Boston, where the medical men

told him that his case was a hopeless one. I suggested to her, that, if possible for him, the young man should visit me. He did, and I placed him under treatment. He had at different times, while with me, hemorrhages more or less severe; but gradually began to show improved circulation, and along with it improved strength. His appetite became better; and he found himself able to eat more food, and to make out of it better blood, than he had formerly: so that he gained flesh as well as strength. When his weight had increased some fifteen or sixteen pounds, he began to show an eruption on the skin, which extended over the entire surface of the body, lasting some five or six weeks. From that time he had no bleeding. He remained with me some nine months, and then went home, to all appearance a new man: but he stated to me some years afterwards, when I met him, that, for two years immediately succeeding his departure from my residence, he had never been one whole day without envelopment in his chest-jacket; and his remark was, "By means of it, I made myself a new pair of lungs."

The treatment in his case was very similar to that which I have already described. If persistently followed, it will, in a great majority of instances, be found highly curative. For the purpose of putting it in an available shape, I recapitulate it in form: —

1. Seek to restore the circulation to the surface. In order to do this, apply warm cloths to those parts of the body which give indications of imperfect circulation. In most instances, these should be laid over the lungs, and kept there until a sense of relief is induced; for, where lung-bleeding exists, there is apt to be more or less difficulty of respiration, connected with a feeling of constriction of the chest, as if there were a heavy weight upon it. This feeling will be removed by these fomentations, which will cause quickened circulation of the blood through the lungs; and, when this is done, your chief point is gained.

2. Be sure to keep the mind of the sufferer quiet: speak confidently, hopefully, cheerfully, to him. Act as if there were no immediate danger; as indeed, in nine cases out of ten, there is not. It is the ultimate result that is to be feared, and it

usually comes in the form of consumption. So keep up the courage of the patient.

3. See that the food which he eats is of an unstimulating yet nutritive character, and that he partakes of it in only small quantities.

4. Keep the bowels open by enemas. Do this for the first week after the attack: then, if the patient recovers, and shows the usual degree of strength, follow up the treatment by sitz-baths, given about eleven o'clock in the forenoon, on four days in the week; and on the other two working-days of the week a wet sheet-pack, the sheet being wet in tepid water, and the patient lying in the pack from fifteen to forty-five minutes, as his own desires may dictate. This should be followed by a dripping-sheet, the water being at a temperature of 90°. After it the patient should be wiped dry, thoroughly hand-rubbed, and should then lie down for an hour or thereabouts. When he gets up, he should dress warmly, and, if the weather is pleasant, walk out, or ride in a carriage a little way.

Chest-jackets, wet in front, should be worn constantly. A head-cap, wet, should be worn during the daytime.

This formula of treatment should be followed regularly for weeks and months, until the tendencies to pulmonary congestion have been entirely overcome, and new and better habits of body have been established. Except in cases where bleeding at the lungs is connected with actual consumption of the lungs, as it frequently is, there is no need of a lung-bleeder ever having a repetition of his first attack, provided he will adopt this plan of treatment, follow it persistently, and at the same time change his habits in all directions where they are violative of the laws of life and health, so as to make them accord with those laws, and live himself as a rational human being ought to live. While thousands of thousands of persons die of pulmonary consumption as an ultimate result of lung-bleeding, there is no *necessity*, abstractly considered, for such a termination of the disease. The tendency to hemorrhage might be thoroughly cured, consumption avoided, and the persons live long and be in good health, dying only of old age. What is wanted is knowledge made practical by common sense, and consecrated

by conscience, so as to make life of some import, and the benefits derivable from it somewhat certain.

Hooping-cough.

Hooping-cough is a catarrhal affection originating in inflammation of the mucous membrane of the throat and bronchial tubes, and is uniformly attended by a convulsive cough, accompanied by a sort of hoop, consisting of short, successive expirations of breath, immediately followed by a deep inspiration. The cough occurs in paroxysms ; and, when the disease has thoroughly developed itself, is connected with expectoration of a thick, tough phlegm, which, in the ejection of it, sometimes produces spasms of the stomach, resulting in vomiting. The disease is infectious, and epidemic in character; and appears but once in a life. Many persons go through life without ever being attacked by it. It is considered and described as one of the diseases of children. It is regarded by most writers as a catarrhal disease, and divided into two stages, called respectively the "catarrhal" and the "convulsive." Some writers, however, divide it into three stages. The subjects of it, in its early stages, complain of pain in the chest, attended with unpleasant irritation in the larynx or windpipe, with painful cough upon lying down at night. Generally speaking, the spasms or fits of coughing are more severe after eating, or after the patient has undergone very active exercise; and the number of spasms is determined by the severity of the disease, and the degree of muscular excitement through which one laboring under it is compelled to pass. In some cases, the paroxysms occur four, five, or six times in twenty-four hours; and sometimes they return as often as once every twenty minutes.

In simple hooping-cough there is no danger, provided the person laboring under it is properly nursed, and cared for. It passes through regular stages, and comes to its decline and termination. The period of its existence may be long or short, to be determined by a great variety of external influences. Atmospheric changes have something to do with it. Errors of diet, improper clothing, overwork also, if the patient is an adult, and excessive sexual indulgence, may greatly aggravate

the disease. It may last a fortnight, a month, or three months. Where it is complicated, it becomes oftentimes a serious disease; and a great many persons have died of pulmonary consumption as a result of complications of hooping-cough. In infants and young children, the brain becomes affected; and sometimes cerebral congestion, of a very severe type, appears. Now and then, hydrocephalus shows itself; but the most common involvements in young persons attacked by hooping-cough are croup, bronchitis, pleurisy, inflammation of the lungs, and such diseases. Where these exist in connection with it, the breathing always becomes difficult, the countenance becomes swollen with blood, the extremities sometimes swell, and the pulse is frequent.

The digestive organs or the abdominal viscera are not very frequently complicated with hooping-cough where the young suffer from it. Affections of the lungs, in complication of the disease, show themselves particularly during the spring and winter months. Probably, five-sixths of the persons who have hooping-cough in the United States are attacked by it during the latter part of autumn and winter, and the early part of spring. From November to April comprises that period of the year in which the disease generally prevails.

Consumption never appears as the result of hooping-cough, unless complications of the membrane that invests the lungs have occurred. In truth, it may be said that pulmonary consumption is never a complication of hooping-cough, but rather an unfavorable termination of the disease, arising from improper treatment, or dependent upon constitutional predispositions to pulmonary disease in persons attacked by hooping-cough. If the patient is properly cared for in the early stages of the disease, there is very little danger of hooping-cough being followed by consumption. Where the nervous system is diseased, there is more danger, because then there is almost sure to follow such involvements as grow out of derangement of the nervous system; and, if the person thus suffering is of scrofulous diathesis, consumption is almost sure to follow. I have thought it worth while to call attention to the liability of scrofulous persons to have consumption, as a consequence of having had hooping-

cough, when the latter disease has been badly managed. The treatment that is particularly calculated to induce a favorable termination of hooping-cough, and to allow the patient to recover without injury to the lungs, is eminently hygienic in its character, and within the reach of all who may choose to apply it. Of the means to be used for the attainment of this end, none are so important as correct diet, and agencies which secure an efficient external circulation. If the patient be properly cared for in these two directions, there can be no possible chance of failure, unless his vital force is so far exhausted as to render it impossible to secure re-action against the disease. In all cases that I have had to treat, I have found that fomentations over the chest with a daily dripping-sheet wet in water at a temperature not below 85°, an unstimulating diet consisting chiefly of grains and fruits, with proper external surroundings, and a fair degree of care in the matter of exposure to atmospheric changes, have been all-sufficient for the treatment of the disease. I do not know that a single case of hooping-cough, that has come under my medical supervision, has resulted in loss of life.

Inflammation of the Lungs.

Inflammation of the lungs is a different disease from bron chitis or pleurisy, inasmuch as it involves the substance or structure of the lungs, and so exists independent of any constitutional affection or peculiarity which the subject of it may show. It is not a disease of the investing membrane of the lungs, or of the air-passages or tubes, but of the lungs themselves. It is regarded by physicians as a very difficult affection to treat; but my own experience does not confirm this view. I have found it to be, under hygienic treatment, one of the most manageable forms of disease with which I have been called to deal. I know that a great many persons have died, or are reported to have died, of inflammation of the lungs; and I doubt not the correctness of the reports upon the subject: but it seems to me, that, in most cases, the fatal results have grown out of the bad medical management to which the patient has been subjected.

The definition of this disease, given generally by medical

writers, may be condensed as follows: that it is an inflammation of the substance of the lungs, often involving the small bronchial tubes and the air-cells, and sometimes implicating the pleural membrane.

Strange to say, the primary seat of the disease has not been determined, though it has been for a long time a subject of discussion. In his "Dictionary of Medicine," Dr. Copland says that various writers have believed it to commence in the bronchi or vessels and submucous tissues uniting the minute extremities of the bronchi and air-cells. Dr. Williams considers the "capillary ramification of the pulmonary artery and vein to be the seat of pneumonia, and that these may involve, more or less, the tissues through and around which they pass." Dr. Stokes describes pneumonia as "inflammation of the cells and minute tubes;" and believes "that it differs from bronchitis, in the ordinary acceptation of the term, merely in the occurrence of phenomena of the structural inflammation, such as solidification, suppuration, and abscess, — phenomena not proceeding from any inherent difference between the diseases, but a result of the anatomical structure."

The portions of the lungs most commonly attacked are said, by distinguished physicians who have based their opinion upon *post-mortem* examinations, to be the upper lobes; though other physicians, not less distinguished, have declared that the lower lobes are oftenest affected. It would seem, that in cases of great severity, where fatal terminations of the disease are seen, it most frequently affects the right lung, and, in a majority of instances, the lower part of it; and that in cases where the inflammation is slight, lasting but a little while and yielding to common appliances, the left lung is generally more involved than the other.

The premonitory symptoms that attend the disease are oppression in the chest, a slight short cough, rapidity of breathing when the person is in active exercise, or when speaking aloud, or when climbing an ascent. Among the primary indications of the disease, in most cases, will be found a feeling of great languor on the part of the subject, attended, quite frequently, by long breathing and sighing. As the disease pro-

gresses, chills and rigors are felt. These are present for a longer or shorter period, and are more or less severe, in different cases. If severe, the person complains of great general uneasiness and an entire absence of appetite. As the disease becomes developed, the chills and rigors pass away, a positive febrile condition exists, and the whole system shows abnormal manifestations. The respiration becomes quickened, the countenance wears an anxious look, the mind becomes easily excited by fear, and inquietude and restlessness are prominent symptoms. According as the disease is severe or slight in each case, so are the local and general symptoms more or less intense; but, in every case, they seem to be ameliorated in the morning, and aggravated toward the close of the day. From the commencement of the disease to its climax, there is usually a space of from four to six days, according to the severity of the attack; though greatly modified indications of its presence may be seen for some time afterwards. In nearly all the cases with which I have had to deal, there has been a well-marked crisis or turning-point. Having never lost a case by inflammation of the lungs, I have had good opportunities to observe the vital changes as they have been made, and the symptoms accompanying them; and my own experience leads me to the conclusion, that, where there is to be a favorable termination of the attack, the crisis occurs either on the fifth, seventh, ninth, or eleventh day of the disease; though, under hygiene treatment, it seldom appears later than the seventh day. Out of over a hundred and fifty cases of inflammation of the lungs that I have treated, seven-eighths of them passed the crisis about a week from the beginning of the disease.

I do not believe that there is any other disease, for the cure of which drug-poisons are given, in which they have so great an influence in producing consumption as the final result, as they have in inflammation of the lungs. I have no means of ascertaining, with even a fair degree of exactness, the number of persons who, having been attacked with inflammation of the lungs, have had it pass into consumption soon after; but I do know of a great many persons who have first been attacked by inflammation of the lungs, which has been followed by pul-

monary consumption, of which they have died; and I am sure that in most cases the fatal change was brought about by the manner in which they were treated for the cure of the original disease. It is, in my judgment, very bad practice to administer poisonous medicines, with a view to alter the circulation, in a case of inflammation of the respiratory structures. A better plan is to fall back upon the intrinsic vitality of the patient, and to aid it by the application and employment of means that are recuperative or health-promoting. In cases of this disease, I have found the following treatment very successful: —

Prescription. — Put the patient into a room as large as any that the house contains, where plenty of air and light can be had. Be sure that the ventilation is thorough; and do not be afraid of a good strong light, provided the rays are somewhat mellowed. Let him be in charge of one nurse, — a woman if possible, — who shall have the entire management and control of the case, so far as the carrying-out of his prescription is concerned. Do not permit visitors, or even the members of the family, to approach him during the early stages of the disease. Keep the house quiet, and make the external surroundings of the sufferer as pleasant as possible.

Having thus placed the patient under favorable circumstances for the reservation of a good share of vital energy, commence to make special applications as follows: —

Put a wet head-cap upon him, and let him wear it all the time. If there is a tendency to cerebral congestion, double the cap; that is, put on two caps; and, between the inner and the outer one, lay small bits of ice, so that the head may be kept cool.

As in cases of inflammation of the bowels, so in inflammation of the lungs, medicinal poisons often metastasize the disease; and, in all or nearly all such cases, its secondary location is found to be in the brain. Take care of the head, then, by keeping it cool, and the mind quiet, and free from all anxiety.

Then wrap the whole trunk of the body up in wet cloths, and keep them on so long as there are indications of fever exhibited. These may be applied in the form of chest-jackets and neck-bandages, as elsewhere described; and, if there is any

tendency to unnatural heat about the bowels, these jackets may be made to extend clear down to the hips; or, if preferred, abdominal bandages may be worn over the bowels, in addition to the chest-jackets worn over the upper portion of the trunk.

The bowels should be kept open.

The lower extremities should be sponged two or three times a day, followed by light yet vigorous hand-rubbing.

No food should be given the patient, but gruel; and this had better be made out of unbolted wheat-meal. If necessary in order to render it palatable, a little lemon-juice, with a very small quantity of sugar, may be put into it.

When the paroxysm of fever is at the highest, the patient may be packed; warm fomentation-cloths being laid over the whole region of the chest, and, if there is any irritation there, over the region of the kidneys also.

The urine should be passed frequently, no great quantity being permitted to accumulate in the bladder. Water should be used largely as a drink: the patient can scarcely drink too much, provided it is soft, and not at too low a temperature. It should not be below 60°. If the sufferer can drink enough to increase largely the insensible perspiration, or even to produce sweating, so much the better.

When that period of the disease is reached where brick-dust-like sputa is raised, the treatment should subside into the wearing of the chest-jackets simply, with occasional sponging of the face, feet, and hands. The head, however, should be kept cool, as before; but the water used for the purpose should be of a higher temperature.

The period of convalescence from an attack of inflammation of the lungs is almost always the most difficult to deal with. When relief comes at all, it is complete, and the patient springs out of a condition of great depression into one of restored vigor; and, if not carefully watched over, he is, therefore, likely to tax his strength so as to bring on a relapse. Former habits and pursuits should be resumed with great caution, and by degrees, in all such cases. Especially is this true in the matter of eating: for, although a case may be out of danger, there always exists at such periods a strong tendency to inflammatory con-

ditions of the structure of the lungs, or, if not of them, of the stomach and bowels; and it must be guarded against with untiring assiduity, until the patient is entirely out of danger, and his system, generally, is restored to a normal state.

If persons attacked with inflammation of the lungs will adopt this treatment at an early stage of the disease, they will, unless they are scrofulous and greatly debilitated, in ninety-nine cases out of a hundred, recover without having any pulmonary complications; but if strong medicines are taken, and the system is thereby weakened so as to induce metastatic action, more likely than not, if they recover at all, it will be only temporarily, and there will be either hardening or congestion or solidification of some portion of the lungs left, to warn the patient that he is by no means free from danger, and, if he does not heed the warning, to result, at no remote day, in the development of actual consumption.

Skin Diseases.

In a previous part of this work, I have alluded to the fact, that skin diseases frequently have more or less to do in predisposing to consumption.

The external skin and the mucous membrane are, in strict speech, only one skin. Although they are marked by some specific differences, and serve different purposes, yet they are so related to each other by capillary circulation and sympathetic attraction, that oftentimes diseases of one affect the other almost immediately. Thus cutaneous eruptions may have their origin in deranged conditions of the blood, previously affecting the mucous membrane, and being, by metastatic action, removed from that surface, to appear upon the external skin; or, in another case, an eruption, appearing at first upon the external surface, may, by medicinal applications, be made to disappear, and find a lodgment upon the mucous membrane. The skin — internal and external — constitutes, therefore, a very important portion of the organism, and has very much more to do, in its official character, with the maintenance of health, than many persons know or suppose. Yet there is less heed given to it, in proportion to its importance, than to any other organ of the

body. It is neglected, in a great many instances, until its derangements become so severe as to allow of comparatively little healthy action; and, on account of its inability to perform its functions with efficiency and precision, other organs have to suffer by being compelled to take on its duties, and, as far as possible, to avert the results which would arise if neither they nor it could meet the exigency. The eliminations of waste material which it should perform, failing to be carried on when the skin is neglected, are thrown back upon the lungs, liver, or stomach; and serious derangements follow. Aside, perhaps, from the digestive organs, there is no other structure, in persons of scrofulous or consumptive habit of body, that needs to be looked after with so great assiduity as the external skin, if consumption is to be avoided. Any neglect of it by such persons is very likely to result, sooner or later, and very frequently in early life, in the establishment of rapid and fatal consumption.

At this point it may not be amiss for me to quote largely from a very valuable work by Dr. Wilson, an English physician, on the subject of the necessity of care of the skin by all, and especially by those who are predisposed to pulmonary diseases.

The skin consists, properly speaking, of two layers, called the scarf-skin and the true skin. Physiologists formerly counted a third layer, called the *rete mucosum*, which was said to lie between these two, and furnish the basis for the coloring matter, or pigment, to be deposited; but later writers have insisted that this is not entitled to be considered as a distinctly organized membrane, or layer, but as belonging to the outer layer, — the scarf-skin. The scarf-skin is a soft and pliant membrane, enveloping the entire surface of the body through all its curves and angles. This unites itself, at the various orifices of the body, with the mucous membrane, which, as I have said before, is itself an internal skin; and, at the point of junction, it is difficult to determine between the two, such is the similarity of their organization. This difficulty is increased by the fact, that, whenever a portion of the external skin is forced to occupy an internal position, it takes upon itself the character of a mucous mem-

brane, — becoming moist and pliable, and of a pale color, just like the mucous membrane itself; and it is said also, that, when a portion of the internal skin is made to subserve the purposes of the external skin, it loses its moisture, changes its color, and gradually conforms itself, in characteristics and appearance, to the external skin.

Dr. Wilson, in his book on "Healthy Skin," says that "the scarf-skin is originally a transparent fluid, exuded by the blood-vessels, and distributed as a thin layer on the surface of the sensitive skin. By a process somewhat analogous to crystallization, the solid elements of this fluid are aggregated into innumerable minute, roundish granules, — each granule being an independent organism, endowed with life, and possessing within itself powers of growth and subdivision. As soon as they are fairly formed, the little granules collect together, by a kind of vital affinity, into little masses; and the whole seem to acquire, by their concentration, an increase in the attributes of life. They imbibe the fluid residuum of the transparent blood, which continues to be poured out through the cutaneous vessels for their nourishment. They increase in bulk in consequence of such imbibition and assimilation; and they become separated from the surrounding masses by the development around them of a thin, transparent investing membrane. They are, in fact, converted into cells.

"When examined chemically, the scarf-skin is found to be composed of a substance analogous to dried white of egg; in a word, to albumen. The scarf-skin is interesting, as being the seat of the color of the skin. The difference of hue between the blonde and the brunette, between the European and the African, lies in the scarf-skin, — in the deeper and softer and newly formed layers of that structure. In the whitest skin, the cells of the scarf-skin and their contents are not perfectly colorless. They always contain more or less of a peculiar pigment, incorporated with the elementary granules which enter into their composition. In the white race, the pigmentary tint is extremely slight, and less in the winter than in the summer season. In the darker races, it is deep, and strongly marked. The various tints of color exhibited by mankind, are, therefore, re-

ferable to the amount of coloring matter or principle contained within the elementary granules of the scarf-skin, and their consequent depth of hue. In the negroes, the granules are more or less black; in the Europeans of the South, they are amber-colored; and, in the inhabitants of the North, they are pale, and almost colorless.

"The sensitive skin, or true skin (as it is called by anatomical writers), performs the dissimilar, and, as it might at first appear, incompatible offices of an organ of exquisite sensation, and one of defence to the deeper parts of the body. The former of these functions is fulfilled by the superficial stratum of the skin, which is constructed in a particular way for that purpose. The latter is effected by the entire thickness of the true skin, but chiefly by its middle and deeper strata. It is the dermis of animals, — the scarf-skin and hair having been removed, — that, by a chemical process, is converted into leather. Nature has contrived no other substance so perfectly fitted for the countless purposes of utility and elegance which leather fulfils; but how infinitely more admirable is the living and breathing skin! In the sensitive layer of the true skin it is that the blood of the skin is chiefly distributed; being conducted to this layer by vessels termed 'arteries,' which find their way to the surface through the irregular interstices of the strands, or fibres, of which the corum is composed. Having reached the porous, felt-like layer of this portion of the true skin, the small arteries empty their blood into a small and very beautiful rich network of minute vessels, remarkable for their frequent communication with each other, and for their uniformity of size. These are the capillaries; called also because they occupy an intermediate position between the arteries and veins, and are the only channel of communication between the two intermediate vessels. The arteries and veins are the mere carriers of the blood; but the capillaries are agents of high account in regard to its distribution. They exist so abundantly in all parts of the body, that some of its organs appear to be wholly made up of them; and their abundance in the skin may be understood from the fact, that the smallest needle-point cannot be inserted into that structure without wounding some of them. For the purpose

of facilitating the passage of the blood, and preventing the possibility of the occurrence of obstruction in the circulation, they communicate with each other at minute distances, and thus constitute a network of exquisite delicacy and beauty. For the purpose of bringing every portion of the blood into the most favorable circumstances for the performance of its office, their size corresponds with that of the solid particles of the blood, and is pretty uniform throughout the entire body. In structure, the capillaries are porous, and permit the passage outward of oxygen, and of the nutrient elements of the blood; and, inward, of carbonic-acid gas and the debris of nutrition.

"Coincident with these changes is the gradual conversion of the blood from its previously bright-scarlet hue to a dark red. The purpose which the blood fulfils, therefore, is to convey oxygen and the elements of nutrition to the ever-changing tissues of the body, and, in return, to become charged with the elements of decay, and thus be rendered unfit for the further sustenance of the animal machine until it is subjected to some process of purification. Having arrived in the chambers of the right side of the heart in the state of an impure and dark-colored stream, the blood is now propelled through an artery to the capillaries of the lungs, and through the latter into four veins, which convey it to the left chambers of the heart. The blood, therefore, performs a second but smaller circuit, — namely, through the lungs; and, during this course, is affected in precisely the opposite manner to what occurred during its current through the body. From having been dark-colored, it now becomes bright scarlet; its carbonic acid and some of its water have been thrown off into the lungs; and its little disks have resumed their biconcave shape, and have become again charged with oxygen.

"The lungs, it need hardly be said, are the organs of inspiration, — two cellulated bags, filling the chest, constructed almost wholly of capillary vessels, and distended with atmospheric air at every respiration. The capillaries hold the same relation now to the atmosphere that they did in the greater circle to the tissues of the body, and, being endowed with the same properties of permeability, give passage through their

pores to the carbonic acid of the impure blood which is discharged from the lungs with the expired air; and they imbibe from the atmosphere a portion of its oxygen.

"It may possibly be inferred from this description, that the lungs are the sole purifiers of the blood, and that carbonic-acid gas and water are the sole impurities which are thrown off by that fluid. This would be incorrect; for about one-fourth of the venous blood is distributed through the liver, and yields up the elements of the bile before reaching the right side of the heart. Many impurities introduced into the blood with the elements of decay pass undisturbed through the lungs, and are separated from the system by organs specially destined for that office; namely, the kidneys and skin. These may be styled the purifiers of the arterial blood; while the liver and lungs are the purifiers of the venous blood.

"Connected with the skin is the perspiratory apparatus, which consists of very minute cylindrical tubes, which pass inwards through the scarf-skin and the true skin, and terminate in the deeper meshes of the latter. In their course through the scarf-skin, each of these tubes forms a beautiful spiral coil, which terminates in a little oval-shaped or globular ball, which is called the 'perspiratory gland.' This is made by the twisting of a minute tube. Taken separately, this little tube, with its appended gland, is calculated to awaken in the mind very little idea of the importance of the system to which it belongs; but, when the vast numbers of similar organs composing this system are considered, we are led to form some notion, however imperfect, of their probable influence on the health and comfort of the individual. To arrive at something like an estimate of the value of the perspiratory system in relation to the rest of the organism, I counted the perspiratory pores on the palm of a hand, and found three thousand five hundred and twenty-eight in a square inch. Now, each of these pores being the aperture of a little tube about a quarter of an inch long, it follows, that, in a square inch of skin on the palm of the hand, there exists a length of tube equal to eight hundred and eighty-two inches, or more than seventy-three feet. Such an amount of drainage as seventy-three feet in every square inch of skin, assuming

this to be the average for the whole body, is something wonderful; and the thought naturally intrudes itself, 'What if this drainage were obstructed?' Could we need a stronger argument for enforcing the necessity of attention to the skin? To obtain an estimate of the length of tubing of the perspiratory system of the whole surface of the body, I think that two thousand eight hundred might be taken as a fair average of the number of pores in a square inch, and seven hundred as the number of inches in length. Now, the number of square inches of surface, in a man of ordinary height and bulk, is two thousand five hundred; and the number of pores, therefore, seven million; and the number of inches of perspiratory tubes, one million seven hundred and fifty thousand: that is, a hundred and forty-five thousand eight hundred and thirty-three feet, or forty-eight thousand six hundred yards, or nearly twenty-eight miles.

"When perspiration is checked from disordered skin or cold, the whole perspiratory matters, failing to be removed, are circulated through the system by the blood. Under favorable circumstances, they are separated by the kidneys, the liver, or the lungs, but not without disturbing the equilibrium of action of those organs, and sometimes being the cause of disease. The perspiration is a fluid, whose regularity and continuance of exhalation are not merely *conducive*, but absolutely necessary, to health. Without such regularity, the animal temperature would run riot, and substances of an injurious quality would be allowed to permeate the finest and most delicate tissues of the body."

From the very liberal quotations that I have made from Dr. Wilson's book, the reader can see that the relations of the skin to the general health are of the utmost importance. Understanding this, it may be considered almost a work of supererogation to undertake to impress upon the thoughtful mind the necessity of personal cleanliness; and I certainly should not deem it necessary to make the attempt, were it not for the fact, that, however thoughtful they may be in other respects, in this particular direction nearly all persons are thoughtless. They seem to have no well-settled conviction of the necessity of pre-

serving their health by keeping a clean and healthy cuticle. Under the changes to which the body is subjected in the excretion and elimination of worn-out particles, and the formation of new and living ones, the scarf-skin is all the while being cast off in very minute and flour-like scales, or dust, — in many instances, resembling the finer particles of bran which are separated from the glutinous portions of the wheat when it is ground for use. These, very frequently, instead of being cast off from the body, are retained there by means of the clothing which is worn upon its surface: and, as the skin is also excreting oily matters, these bran-scales mingle with them, and together form a thick and perceptible mass, stopping up the pores of the skin, preventing insensible perspiration, and sometimes that which is sensible also; thus forcing the fluids and waste materials back into the blood, and laying upon the lungs, stomach, kidneys, and bowels, the work which the skin itself ought to perform. Whenever this takes place, and the passage of these materials is hindered, then irritation of the skin, and sometimes inflammation of it, is established, and chemical changes are carried on; and if, under such conditions, one is exposed to damp or miasma, or poisonous vapor of any kind, these may find the state of the skin favorable to their lodgment in it, and to their absorption into the body. A great many persons are taken down with fevers, which seem to defy the knowledge and skill of the physicians who are in attendance, which have been produced by the introduction of poisons into the blood through the absorbents, in consequence of the fact, that the skin has been neglected, and the waste matters which should have been washed from it have been allowed to accumulate, and to aid in the introduction of these poisons.

All this would be of little significance, were it not that the secondary effects are frequently more to be deplored than the direct consequences. These secondary effects are seen in the derangements, which, from the inefficient state of the skin, the liver, lungs, kidneys, and other organs, are made to take on: for it should not be forgotten, that whenever an organ of the body becomes, from any cause, inefficient in the performance of its functions, some other organ or organs have to

do, besides their own proper work, the work of this deficient organ; and, if such a condition of things is permitted to exist for any considerable length of time, as a consequence, such overtasked organ or organs become enfeebled, and ill health surely follows. Where a labor so large as that naturally devolving upon the external skin fails to be performed by it, and has, therefore, to be done by other organs, these must, in a short time, become diseased, and show it unmistakably. Now, the liver and kidneys have a good deal of this extra work to do, whenever the skin is inefficient; but they have not any more of it, than, in many instances, the lungs have. Whether it is done by one of the three, or whether they all aid in its performance, the health of the person, so long as the skin itself fails to do its share of the work, is sure to be affected unfavorably. If the skin be obstructed, then one means of introducing oxygen into the blood is hindered, and also one means of the outlet of carbon is destroyed. In either or both cases, the nutritive system suffers, and the stomach becomes diseased.

To quote Dr. Wilson again: "With such considerations as these before us, ablution becomes a necessity, which needs no further argument to enforce strict attention to its observance.

"Water, as the medium of ablution, by no means receives just appreciation. It is the most grateful, the most necessary, and the most universal, of the gifts of a wise Creator: and in an age when man drew his luxuries more from nature, and less from works of his own production; when water was his friend more than his servant, — it was regarded as the representative of a deity, and was raised to the dignity of a mythological god. Thus the rivers of Greece and Rome were represented by a titular god, with his attendant nymphs; and, to this day, the Ganges is adored by the votaries of Brahmin. The practice of worshipping rivers has, in some instances, obscured the principle; but this is, evidently, the utility of water to man. From the first hour of existence down to his latest breath, in health and in sickness, on the throne or in the cellar, water is a universal good. Baths were dedicated by the ancients to the divinities of medicine, strength, and wisdom; namely, Esculapius, Hercu-

les, and Minerva. The use of water has been enforced as a religious observance; and water has been adopted as one of the symbols of Christianity."

It may thus be seen how very important a healthy condition of the skin is to all persons, of feeble nutritive energies or respiratory organs, that are particularly susceptible to morbid conditions.

CHAPTER XXI.

MEASLES.

It is scarcely necessary that I should go into a close description of measles, or to the labor of a definition of the peculiarities of the disease. It is catarrhal in its nature; first showing itself in connection with the mucous membrane, and subsequently developing itself upon the surface of the body in the shape of a rash or eruption. It is, as every one knows, an infectious disease; and has its period of incubation, or hatching, which lasts from eight to twelve days before the eruption breaks out. It is noteworthy here, because of the *sequelæ*, or consequences, that frequently follow the disease. Persons are often attacked by measles, to be afflicted afterwards with bronchitis, bronchial consumption, or mesenteric consumption. So far as complications are concerned, the lungs are more likely to be affected than the bronchial tubes, the bowels, or the mesenteric glands.

The danger of having consumption grow out of imperfectly exhibited or ill-managed measles is mainly in the suppression of the eruption during the period in which it should, by the law of its exhibition, remain upon the surface. Persons are oftentimes made dangerously sick by it, because of the inflammatory character which it shows. This particular phase of the disease appears more frequently in winter, or during the cold season, than it does in the spring, summer, or autumn.

Measles shows itself oftener among children than among adults; and children constitutionally predisposed to scrofula, of the nervous temperament, light-blue eyes, long taper fingers, slim legs, and narrow chests, with small nutritive apparatus, are those who, having the measles, are likely to have, growing out of this disease, dangerous complications, tending to pulmonary consumption. Thus severe bronchitis manifests itself; so does inflammation of the pleura; so do pleurisy, croup, and some-

times gastric inflammation, or inflammation of the stomach, and great derangement of the liver. Diarrhœa sometimes manifests itself, and not infrequently nervous congestions of brain or of some of the pairs of nerves, or of the organic nerves themselves, so as occasionally to put on a typhoid type of fever.

Dr. Copland says that "measles, not only in their irregular and complicated state, but even in their more benign and regular form, leave after them, without any evident cause, various diseases, which place the life of the patient in great hazard. Chief of these is pulmonary consumption, the result either of a chronic state of bronchitis, which had accompanied measles, or of organic lesions of the substance of the lungs; the complication of disease with pneumonia readily passing into chronic inflammation of the lungs, or of tubercles which had been developed during its progress and decline, or which had previously existed. It is by no means rare to see either inflammation of the lungs or pleurisy, or both conjoined, supervene during the period of desquamation."

He goes on to say: "I have frequently seen patients brought to the Infirmary for Children, with the most severe attacks of pneumonia in an advanced stage, with all the symptoms fully developed of an apparently mild form of measles; and their cases, which had manifestly been advancing for several days in a concealed manner, had gone on to serious organic changes before the parents had become greatly alarmed. These latter are very frequent during epidemics, and appear after the inflammatory form of the disease. In many hundred instances that have presented themselves to me in the institution already referred to, lesions of the lungs have shown themselves as a result of measles, occurring generally during bad weather, or while recovering from an incautious exposure to air or to cold, or in early convalescence, and from the injudicious management of the patient. Improper diet, premature exposure to cold, atmospheric vicissitudes which cannot be sufficiently guarded against, often cause unfavorable consequences."

Great care is needed on the part of parents having children with measles, as well as on the part of adult persons suffering

from the disease, not to expose themselves in any direction likely to make a change in the determination of the secretions. Measles is not so dangerous as is generally supposed, nor do the subjects of it need any particular medical treatment. What is wanted are good habits of body, as a basis for the sustainment of the vital forces during the period of incubation and development; connected with clever nursing, and proper care in avoiding unnecessary exposure to atmospheric changes. I have seen a great many cases of measles during my practice, and have been very successful in carrying my patients safely through the disease; and I have found the following method of treatment to be, in the main, well adapted to the accomplishment of this end: —

As soon as the premonitory symptoms show themselves in a given case (these symptoms generally consist of pain in the limbs, heaviness of the head, pain over the region of the eyes, restlessness and inquietude, with irritability of temper), the patient should be placed in a large, well-ventilated, and well-lighted room. Some individual — if a woman, all the better — should be placed in authority, and all other persons should be entirely excluded.

The bed should be a mattress, and the pillows should not be of feathers. The covering should be warm but light upon the body; and the temperature of the room should be comfortable, but not hot.

Having thus placed the patient amid favorable external surroundings, care should be taken to keep the bowels open by enemas: and, as a *sine quâ non*, food should be kept from him until the eruption takes place; unless an exception be made in favor of liquid food in very small quantity, such as arrow-root, or wheat-meal or Indian-meal porridge, made very thin, and eaten at long intervals.

If any febrile symptoms manifest themselves, a warm bath may be given, followed by a bath at a tepid or mild temperature.

This is all that is needful. Let all officious interference on the part of physicians or nurses be avoided, and let Nature have an opportunity to do her own work. No calomel nor

jalap, no rhubarb nor lobelia, — nothing in the way of medicinal poisons, — should be given.

The bowels can be kept sufficiently open by enemas.

The patient may drink water plentifully; but it must not be of a low temperature. If the eruption breaks out without any difficulty, all that is needed is the exercise of good common sense, unless the case becomes complicated. If it does, it will be indicated by a gradual suppression of the eruption upon the surface; and the body will gradually assume the natural color, instead of showing great discoloration, to which the eruption necessarily subjects it.

When an imperfect exhibition of the eruption shows itself, then resort should be had to the wet-sheet pack. The sheet, being wet in warm water and being spread upon the bed, should be wrapped about the patient from head to foot. Cold cloths should be laid upon the head, and the patient should lie in the pack until warmth is induced. Unless the subject has been drugged with poisonous medicines, the tendency to retrocession on the part of the eruption will be overcome, and it will reappear upon the surface. This end achieved, proper ablutions will keep the eruption out; and, if it is kept until the natural period of its subsidence is reached, then desquamation or skin-peeling will take place, and the subject, if properly cared for, is safe.

Where bronchial derangements are the result of bad management, or crude symptoms show themselves, the treatment should be such as I have advised in throat-diseases. The great object should be to determine the blood to the surface, keep up as thorough and extensive a circulation as possible, and, by proper diet and careful nursing, give to Nature the control of the case, and await the result with confidence.

Scarlet Fever.

Neither measles nor scarlet fever nor small-pox is, properly speaking, a skin-disease: but they are all diseases of an inflammatory type, which make their full development upon the surface of the body; and they are therefore commonly classed among diseases of the skin.

Scarlet fever is an infectious disease, accompanied with continuous fever. After the first day, or even as late in some instances as the third day, a scarlet outbreaking or efflorescence appears on the mucous membrane of the fauces, or back part of the mouth, and on the face and neck, until it extends over the whole body, and desquamates from the fifth to the eighth day. The kidneys are more or less affected, and in many instances seriously so, during the progress of the disease. The throat oftentimes swells severely, and sometimes to such a degree as to produce suffocation. In some cases, dropsy supervenes. It is said that the disease occurs only once during a life; but there are instances on record, by no means few, of persons who have been attacked by it twice.

Pulmonary consumption is often a result of scarlet fever, particularly in the cases of persons who are of scrofulous habit of body, and who, suffering severely from the disease during its progress, are doctored by the administration of poisonous medicines. In such cases, pulmonary disease results from vital exhaustion.

When the disease is unfavorable in its result, the *sequelæ* are more frequently seen in derangements of the kidneys; but where bad management is had, and the subjects of the disease are adults, as in a great many instances they are, the general health becomes so impaired, that the lungs take on morbid conditions from sympathy: and, where children are the subjects of it, an apparent recovery, though not infrequent, carries with it the dregs of the disease, as they may be called, which linger in their systems all through childhood, — impairing their health; making them specially susceptible to those morbid conditions which arise from atmospheric changes; and keeping them in the hands of physicians who seem to have no other idea than to deal out to them medicines, the effects of which are to increase their vital depression, and ultimately to induce pulmonary consumption, which carries off the subject before reaching manhood or womanhood.

As it is not my object to enter into a detailed statement of any disease, its causes or symptoms, further than may be necessary to make my readers familiar with its direct and col-

lateral bearings in the production of consumption; so I shall not spend time or space in following scarlet fever through its various forms of original manifestation, or its appearances through the various stages of its progress. It answers my purpose simply to call attention to the view, that, where the disease is not hygienically treated, its tendency, especially in the cases of persons who are constitutionally scrofulous and predisposed to diseases of the nervous system or of the mucous membrane, is to end in pulmonary consumption. To avoid this, it is worth my while to call attention to the liability which is so strong to have consumption follow as a result of badly managed scarlet fever; and to add, that, even though it may not appear as an immediate consequence, it is very likely to show itself at some subsequent period, and to be the cause of the subject's death.

"Scarlet fever," says an American writer, "has prevailed at times in the United States since their first settlement. It prevailed during the wet cold season in May, 1735, in New Hampshire, under the name of 'throat-distemper,' and proved extremely fatal to children. The symptoms were swelled sore throat, with white or ashy-colored specks and efflorescence on the skin, great debility of the whole system, and a tendency to putridity. Of the first forty persons attacked by it, it is said that not one recovered. Very few children escaped. Many families lost three or four children: many lost all.

"Since that period, it has occasionally prevailed as an epidemic, in various places all over the country, under the names of throat-distemper, putrid sore throat, scarlet rash, &c.

"Noah Webster states, that scorbutic people, and those who live on pork, suffer most. In some families, it is comparatively mild; in others, it is malignant like the plague.

"The disease travelled westward from Kingston in New Hampshire, where it first appeared, in a straight line to the Hudson River, — a distance of about two hundred miles; and was about two years in passing over that territory. It continued its progress westward, until it spread over the Colonies. Few adults were affected by it. Its principal ravages were among persons under age, or rather under puberty. For many

years after, it was epidemic. It frequently broke out in different places without any apparent cause, but did not spread: a striking proof that such diseases will not become epidemic solely by the power of infection, but that some general cause must aid their propagation."

The first or regular stage of the disease is almost always attended by great uneasiness on the part of the patient, who complains of weariness, giddiness, and pain in the head, especially the back part of it. The appetite fails, and the sufferer shows a particular dislike of animal food. Chilliness is an attendant symptom, followed by great heat of the skin, quickened pulse, dry burning tongue, thirst, and, soon after these symptoms, a difficulty of swallowing. In some cases, the eyes become bloodshot; and, in nearly all cases, the patient dislikes light. In cases of great severity, vomiting is an attendant symptom; pain is felt up and down the backbone, and on the inside of the legs. Sleeplessness is also a marked feature of the disease, and fever is always present from the very outset.

In the second stage of the disease, the eruption appears. This shows itself about the second day, sometimes not until the third; and, in cases of very feeble persons, it fails sometimes to make its appearance until the fourth day. The red or efflorescent appearance first shows itself on the face and neck, though instances are sometimes seen where it begins on the feet and hands. The swelling of the throat commences inwardly: but, as it proceeds, external tumefaction is seen; and the tonsils, which seem to be a point where the infectious poison concentres itself, become much swollen, and are often covered by a thin, soft, exuded lymph. Where the eruption breaks out as early as the second day, it reaches its height by the third, fourth, or, at the outside, by the fifth day, unless the case is likely to conclude fatally. I have seen so many cases of this disease, that with me the question, whether the patient is to recover or not, turns, in most cases, upon the single point of the duration of the eruption. This ought always to cease and die away within five days of its first appearance. If it remains active longer than this period, the prognosis of the case becomes, in my judgment, unfavorable.

On no account would I advise officious intermeddling by a physician or nurse in a case of scarlet fever. Medicines *can do no good.* All that can be done, that is of the least service, is to treat the patient hygienically; and the success of medical men in the management of the disease will be found to be in a ratio inverse to the quantity of medicine they administer. The greater the number of those suffering under this disease who are drugged, the fewer will recover.

If the subject of scarlet fever is of scrofulous habit of body, it is only common prudence to regard him at the outset as in critical conditions. It is almost impossible to save such a person. There is a constitutional tendency to give way before the fury of the disease; and the physicians and parents and nurses of scrofulous children should not be surprised, if these, having scarlet fever, are overcome by it, and die. The disease being essentially an inflammatory one, the blood, in scrofulous persons, undergoes chemical changes, and becomes unfit for the purposes for which it is organized; and as a matter of course, in such a conjunction, the vital forces give way, and the body succumbs to the disease. If any thing can save children or adults of scrofulous habit of body, when attacked by scarlet fever, from death, it is good nursing. Post-mortem examinations show, that in cases where scarlet fever has terminated fatally, the subjects of it being scrofulous, the lungs give indications of having undergone great changes during the period of the victims' sickness. In many instances, the lungs of scrofulous persons who have died of scarlet fever present an appearance similar to that seen in the cases of those who have died of long-continued pulmonary disease. If the subject or subjects of scarlet fever, in any number of cases, do not die from it, but recover, they will be for years afterwards particularly susceptible to take on acute morbid conditions of the lungs. They will "catch cold" easily; have catarrh of the nose and throat at almost every return of the winter; and will exhibit more or less bronchial affection, and more or less sensibility and susceptibility to pneumoniac conditions. I have known a good many children, who, having been attacked by scarlet fever very early in life, and having been drugged during the disease, were for many

years after subject to inflammation of the lungs at each return of winter. Such children, unless cared for with far more intelligence and assiduity than are usually shown by parents in this direction, must, at no distant day, develop disease of the structure of the lungs, and die of consumption. The best thing to be done with reference to this, as to every other disease, is to prevent it; and this can be measurably effected by proper hygienic management. There can be little doubt, that the foundation for its appearance is generally laid by the practice, common in our households, of permitting children to eat freely of the flesh of animals. Vegetarian children are much less frequently attacked by scarlet fever than meat-eating children: and those who live entirely without the use of flesh-meat; who partake freely of fruits; who dress warmly, and with some reference to the changes of the atmosphere; and who are, as often as every other day, subjected to general ablution of the body, — are much less liable to have the disease than those of opposite habits of living.

But supposing that all care proves futile, and the child or adult is attacked by the disease: what then is to be done? My suggestion is, that nearly the same course as I have recommended in cases of measles be pursued. Place the patient in the most favorable circumstances, so far as his surroundings are concerned. Keep away all unnecessary attendants; and, if possible, have no more than two persons as nurses, and let these alternate with each other. Keep food away from the patient until the eruption has reached its highest stage; and, up to his entire convalescence, make his diet simple, and very moderate in quantity.

Keep the bowels open by enemas, if necessary.

Keep the skin clean by washings with tepid water daily.

Give wet-sheet packs during the paroxysms of fever, the sheet being wet in tepid water.

Keep the head cool and the feet warm, and await the result with patience; resting assured, that, having done this, all that can serve as an auxiliary to the efforts which Nature herself is putting forth for the safety of the patient has been done. There is much more danger in all inflammatory diseases, under

whatever names or forms they may present themselves, that the physician and nurse and friends will do too much, than there is that they will do too little: for Nature is always at work for the relief of her sick ones; and she wants, at the hands of the physician or nurse, assistance, and nothing more.

Vaccination.

Small-pox is a disease which seldom terminates in pulmonary consumption; but the effort to protect children or adults from it by vaccination, does, in my judgment, frequently predispose those who are thus operated upon to take on pulmonary disease, and to die of it. I am not at all insensible to the almost universal medical opinion in favor of vaccination as a protective against small-pox, and as a means of improving and protecting human health: but I am aware, from my own observation, of the ill effects resulting from vaccination to the general health of those subjected to it; and I know of a large number of instances in which persons, who have gone through the vaccinating process, have been so poisoned by it, as never to enjoy good health afterward. I know also of a number of persons, — adults, — who, soon after having been vaccinated as a protection against small-pox, developed pulmonary consumption, and died of it; and there is no shadow of doubt in my mind, that the fatal disease was provoked and induced by the introduction into the circulation of poisons, which broke down the healthy conditions of the blood, and fitted the system for the rapid development of tubercles in the lungs, and their inflammation and softening, whereby consumption was brought on. If it were borne in mind, that persons of scrofulous habit of body, naturally predisposed to pulmonary disease, are almost sure to have the latent poisons in their systems rendered active by the introduction of the vaccine virus, and the changes through which the blood is made to pass by its introduction, there would be much less vaccination performed than at present.

The announcement that small-pox is in a neighborhood or town produces such a panic, that every one who has not been vaccinated is forthwith subjected to the process; and whether the matter thus introduced into the circulation is what is called

healthy, or whether it is scrofulous, no one knows, — not even the doctors. I have seen scrofulous children ruined by vaccination. Where they were, before the operation, fair to look upon, and moderately healthy, they seemed, after having been vaccinated and after passing through the different stages of kine-pox, to have undergone an entire constitutional change for the worse.

Under hygienic methods of living, I would as lief risk the small-pox, in its ultimate effects upon a child of mine, as I would vaccination.

The susceptibility to impression by vaccination is different in different individuals. I am acquainted with one man who has been vaccinated at least twenty times, and in whom the poison has never become efficient. I am acquainted with another man, who, in three weeks, was vaccinated eight different times ; and who, each time, within an hour after the operation, was suffering the most excruciating agonies in the region of the kidneys ; and who ultimately died of Bright's disease. I do not mean to have my readers infer, that this disease grew out of, or had any connection in its *origin* with, the vaccinating process through which he passed ; but that, laboring under some disease of the kidneys, the introduction of the vaccine poison greatly aggravated it, and subjected him to very acute suffering, and probably brought the disease to a fatal termination much sooner than it would otherwise have done. I have known as fair a child as ever I saw, vaccinated, and apparently pass through a stage of eruption therefrom ; but who subsequently broke out in extensive and loathsome sores which it was impossible to cure, and which wasted her little life away in less than a year from the time she was subjected to the operation. I have known at least a dozen men, who were, to all appearances, strong, healthy, and enduring, whose health was destroyed by vaccination, and who ultimately died of pulmonary disease, induced, I am sure, by that process.

I do not suppose that many persons can be found, who, under exposure to small-pox, will refrain from vaccination ; nor do I expect that any thing I can say on the subject will induce any considerable number of my readers to forego the

operation: but I do urge upon all the necessity of being particularly careful, lest, under the attempt to protect themselves against small-pox by vaccination, they find fastened upon them diseases, compared with which, small-pox, in its ordinary form, would be of very little account.

If human beings would live healthfully, and be as anxious to preserve their health as they now are to recover it when lost, there would be no necessity for their subjecting themselves to any such processes as that of vaccination as a protection against disease.

CHAPTER XXII.

DISEASES OF THE NUTRITIVE ORGANS.

The stomach is an organ which holds very important relations to the general economy. By its action, digestion in its first stages is performed; and as its condition is healthy or unhealthy, so will the conditions of the system at large be vigorous, or the opposite. It is an organ that is subjected to more abuse than any other in the entire physical structure. As it is not largely endowed with sensibility, it may be misused, to have the ill results appear in the derangement of other organs which hold strong sympathetic relations with it. Thus, by gluttonous eating and drinking or by too frequent eating, a person may induce dyspepsia, which arises from a chronic inflammation of the mucous membrane of the stomach; and suffer, as far as consciousness of suffering exists, in the involvement of some other organ or organs of the body. I have known unhealthy conditions of the stomach to be induced by over-eating, and have seen this followed in a very short time by inflamed eyes, or catarrh of the nasal passages, or bronchitis, or asthma, or difficulty of breathing, or engorgement of the liver, or irritation of the kidneys, or piles, or weakness of the sexual organs, or gout, or rheumatism, or scrofulous eruptions on the skin, or some other disease or diseases that must have originated in derangement of the organs of digestion, of which the stomach is the most important. Its sympathetic relations with other organs are very marked, and of the most intimate nature; and are never to be overlooked in determining the causes of the diseases which those organs may show, or the best methods of treating such organs when diseased. Its contiguity of position to the circulatory and respiratory organs renders the influence which it exerts over them

very great. For instance, if the stomach be unnaturally distended by the introduction of food, or from the evolution of gas within it, such a condition of it mechanically affects the functions of other organs, and oftentimes induces organic injuries. Where the nervous energy is weak, the circulation and respiration are very much affected by the conditions of the stomach; and the action of the heart is, in a great variety of instances, affected by it. Congestions of brain are oftener seen to depend upon dyspepsia, or indigestion, than upon any other cause. Palpitation of the heart, so frequent and severe as to awaken in the mind of the sufferer a fear that disease of the heart actually exists, is not, by any means, an uncommon accompaniment of dyspepsia. Where you have mucous dyspepsia, — involving, as it frequently does, great flatulence, and regurgitation of food, — these so affect the heart's action as to produce irregularity, fluttering, and uncertainty of pulse, to a degree that renders any correct judgment of the person's condition by it quite out of the question by any one who is not expert in determining the active cause thereof.

Many of the diseases which females show, and which greatly alarm them and their friends, and sometimes leave their physicians in doubt as to what ails them, arise from indigestion. Hysteria is a disease, showing, in marked degree, how disorders of the stomach may induce sympathetic derangements in other organs. "The phenomena manifested in colic, in flatulent distentions of the colon, may further illustrate the influence of mechanical distentions of parts of the digestive canal upon the functions of the heart and lungs; and hence it is, when the nervous and muscular powers of the heart are impaired, or when the vital and expansive power of the lungs is weakened, that flatulent distentions of the stomach or colon increase the mischief."

The relations which the respiratory and nutritive systems bear to each other render it obvious to medical men, how great is the influence which the former exerts over the latter. The changes produced by the atmosphere when one is in the act of breathing, and the great advantages which result from having pure air, not only so far as the establishment of healthy con-

ditions of the blood is concerned, but in giving tone to the entire animal frame, are readily understood.

Dr. Copland, in discussing this question, says, "It rarely occurs that the respiratory surface is much affected, without the digestive mucous surface being also more or less disordered; or that the latter is seriously deranged, without some sympathetic disease or disorder being manifested by the former: the association being clearly referable to the nervous system in the more important attacks, and to the vascular system in the progress of the disorder."

My own experience goes to show, that the derangements of the mucous surfaces of these structures, — no matter in which of them the derangement first appears, — so as to create, apparently, a dependent relation on the part of the other, occur contemporaneously. In hundreds of instances, I have seen difficult respiration result from a congested state of the mucous membrane of the stomach, consequent upon inordinate eating, — the morbid impression extending rapidly, and showing itself in the lungs almost as soon as its first appearance in the stomach; and, in cases so frequent as to be regarded by me as quite common, catarrhs, influenzas, sore throats, and other epidemic diseases, usually attributed to changes of atmosphere, have originated in the sympathetic relations held by the structures in which they locate themselves to the mucous membrane of the stomach. I have known a great many persons declare that they had caught cold while sitting at table, partaking of food, and making themselves and their hearers certain of it, by reason of the fact, that they felt a sense of oppression in the nostrils, in the throat, or in the lungs, almost immediately after sitting down. *How* they could have "caught cold," they were unable to tell. The room in which they sat appeared to be warm; no draughts of air were let in upon them: but the sensation experienced was similar to that felt upon taking cold by exposure to sudden changes of temperature, and they could not account for it in any other way. The congestion under which they found themselves laboring, was not, however, owing to any sudden suppression of the circulation by being placed in a temperature lower than that in which they had been for some time previous,

but grew out of the transmission of the congested condition of the mucous membrane of the stomach to the mucous membrane of the nasal passages, of the throat, of the lungs, or of whatever portion of the body seemed particularly affected at the time.

In my work on "The Sexual Organism, and its Healthful Management," I have devoted a chapter to dyspepsia, and the sympathetic relations established by it; which I think will compensate any reader, who may want any information on the subject, to peruse carefully.

The relations which the stomach holds to the lungs, or which the digestive apparatus holds to the respiratory structure, are of the most intimate, as they are of the most vital character. I have no doubt, that, in a great many cases, pulmonary consumption has its origin in dyspepsia. Gluttony lies at the bottom of it; and all that may be done to counteract the prevalence and steady increase of this fell disease will prove to be of little or no avail, so long as those who are predisposed by constitutional tendencies to it are as heedless and careless of the laws of life and health, in matters pertaining to their eating and drinking, as they are at present. Physicians, whose practice lies mostly in cities, often have occasion to remark, that those who attend least to the conditions of the digestive and excretory organs are most liable to be attacked by pulmonary disease; and that whenever the digestive apparatus is much impaired, or whenever the mucous membrane of the stomach shows such conditions as to indicate the existence of long-continued or chronic inflammation, there are always seen in connection with it a variety of sympathetic or associated diseases. As the liver becomes disturbed, the bowels often become seriously deranged; and, after a while, the skin is so much affected, that its excretions are greatly lessened; while, at the same time, the kidneys will generally be found disordered. Thus the foundation of incurable diseases of the organs of excretion and depuration is frequently laid by these morbid conditions setting back upon the nervous system. While the system has abundant vital power, there will always be more or less effective resistance to such conditions; but, after a while, the vital energy becomes so im-

paired as to be unable to hold them in abeyance: and, when this state of things is seen, the task of the physician is a difficult one; for his labor is an attempt to produce effects without adequate means. As proof of the truth of this view, I may remark, that persons are often seen to die suddenly, and without any ostensible cause. True, they had been previously out of health, and were perhaps dissipated or intemperate. They may have had more or less functional disease. Their stomachs, livers, bowels, kidneys, may have been deranged; but no one supposed that they were so far broken down in constitution as to be unable to survive an attack such as that which brought their lives to a close. But persons generally do not know in how stealthy a manner morbid conditions of the system may work upon its energies, destroying them, and killing the subject, when, to a casual observer, he is only slightly unwell. They do not know or consider how a morbid condition of the blood may be induced by an impairment of the efficiency of the emunctories; how inflammation of any membrane in a given organ may induce extensive inflammation of the same membrane in its relations to other organs. Many a man has eaten a good dinner, the result of which has been acute bronchitis at first, then chronic bronchitis, and ultimately active pulmonary disease. The injury that shows itself in the throat or in the back nasal passages, as catarrh, may have had its origin in gluttony. The disease, commencing in the stomach, may have extended upward along the œsophagus to the pharynx; and, fixing itself there, may have existed for a considerable time without any thing like an affection at that part being actively developed. So, serious and extreme morbid associations may sometimes exist between the stomach and the lungs, without a recognition of their existence on the part of the subject of them. Why, how often do we see persons who have a dry hacking cough, so ringing and shrill as to be painful to the hearer, and yet neither he who has it nor he who hears it thinks that there is any thing particularly serious indicated by it or likely to grow out of it! If a physician is asked what he thinks of it, he probably says that it is a matter of no importance, or that it is a stomach-cough, and will go away of itself; when, in truth,

it is the first note of warning, and a very significant one too, that the stomach is diseased, and that the lungs are sympathetically affected. I do not know how many persons have come to me in different stages of consumption, with the hope that I might be able to do something for them, to whom I had to say, that they were past all help; and who then said to me, "Oh, if I had known six months ago what I do now!" or, "If I had not tried this or that remedy, but had known enough to follow hygienic treatment, I might have been saved." And these persons spoke truly. A great many consumptives, who are now in incurable conditions, were, three months ago, in conditions from which they might have recovered, and have lived many years.

"Stomach-coughs" are always full of warning that should not be neglected. Any derangement of the stomach that excites the sympathy of the lungs is a matter of moment. It is not often that stomachic derangements grow out of disorders of the lungs; but lung-diseases frequently arise from derangements of the stomach: and whenever unhealthy conditions of the digestive organs exist, and the lungs seem to be affected thereby, the subject should be very careful of himself. One of the best and most necessary things to be done, under such circumstances, is to pay great heed to dietetic regimen.

CHAPTER XXIII.

UTERINE DISEASES, AND THEIR INFLUENCE IN PRODUCING CONSUMPTION.

If I were sure that all who may read this book would also read my work on "The Sexual System, and its Healthful Management," I would say nothing here of the topic I now propose to discuss; for, in that work, all that is necessary, in order to give the reader correct general ideas of uterine diseases, and their effects, when improperly treated, upon the respiratory structures, is presented with sufficient minuteness: but I cannot suppose that every one who takes an interest in the perusal of this work will be interested in that also; and so I feel myself called upon to discuss the subject somewhat minutely at this point.

Those uterine diseases which have a special influence in inducing consumption may be classified as follows, — derangements of menstruation, leucorrhœa, and the various displacements of the uterus. But the influence of these is very inconsiderable, when left to take their own legitimate course, as compared with the effect of an attempt to cure them by topical applications, which, in their nature, are poisonous. Menstruation is a function about which there is a great deal of popular, and by no means a little professional, misconception. It is generally supposed, that, whenever menstruation is disturbed, the liabilities of the subject to take on lung-disease are greatly increased; but I have not found it so in my own experience, nor do I believe it to be so in itself considered. True, ill health often follows derangement of this function; but not by any means so frequently as is supposed: and, in some cases, the cessation or non-appearance of menstruation is a positive indication of improving conditions of health. Repeatedly have I had under my care, for the treatment of general or special diseases, persons who, under the comprehensive application of hygienic

agencies, found the exercise of this function to be entirely suspended for months; they gaining all the while in health and vigor, so as to attract marked notice: and in numerous instances have I known the function to fail to appear until some years after the subject had arrived at puberty. There is no particular rule to be established in respect to the conditions of the system, dependent upon its non-appearance, unless such conditions have been induced by unhappy attempts to improve the health of the patient in special directions. It is true that there is always more or less sympathetic relation existing between the uterus, with its appendages, and the lungs, as there is between it and the stomach; but it does not necessarily follow, that because there is congestion, irritation, or even inflammation, of the uterus, the lungs must needs become diseased. A great many women are not, in this respect, healthy in their reproductive organism, and yet do not suffer at all in their lungs; while many others, having diseases of the uterus, get rid of them, so as to call themselves cured: but almost immediately, upon the disappearance of the uterine ailments, involvements of the lungs manifest themselves, ending ultimately in incurable pulmonary consumption. However, where this is the case, the transmutation of the morbid conditions has been wrought out under the effort of the physician in charge to cure the uterine difficulty by means that have in them no curative efficacy, but only destructive power.

I would advise all parents, having girls who are scrofulous, and predisposed to consumption thereby, to be very careful in respect to the health and habits of such children; to refuse positively to interfere with their reproductive organism; and not to become alarmed simply and solely because this particular exhibition of its activity fails to appear.

Leucorrhœa is a disease arising from a morbid condition of the mucous membrane of the vagina and the uterus. In most cases, it is entirely curable by attention to the general habits. Those who suffer from it are persons who must be, in some direction, positive and habitual violators of the laws of life and health; and, to cure it, there are no means so good as those which take cognition of, and care for, the organic and functional

conditions of the entire body. Leucorrhœa, however, is regarded as a special disease by medical men generally, and is treated as such; and, therefore, they have what they are pleased to call their "specific remedies." Of these, as in the case of chronic inflammation of the neck of the uterus, or ulcerations of that organ, poisonous washes are applied; the effect of which is to set up a revulsive action in the circulation, stimulate the absorbents to an unusual degree, and carry whatever there is of morbid material which is working its way out through this particular structure back into the blood, and very likely to lodge it in and upon the lungs. I have known a good many persons treated for leucorrhœa by astringent washes, as I have seen a great many treated for irritation or chronic inflammation of the neck of the womb, or ulceration of that organ, by caustic applications, who, as a result, exhibited soon after decided indications of affection of the lungs; passing into an incurable state, and ultimately causing death. Under proper hygienic treatment of diseases of the uterus and its appendages, there need be no fear of such reflex action being set up as in the least degree to endanger the healthy conditions of the organs of respiration; but, where poisonous and irritating substances are applied to the parts involved, the question may well be raised, whether such exhibitions are not likely — nay, certain — to follow. At any rate, such is my confidence in the hygienic treatment for diseases of the reproductive organs in both sexes, and such is my distrust of all measures contemplating the use of poisonous medicines for the purpose of curing any disease, that I would not consent to make such application, unless there was ample justification, in the facts of the case, for the use of either caustic or the knife. Where a surgical operation has to be performed, or applications tantamount to it are needful, I would consent to the use of caustic; but for the mere purpose of reducing common inflammation, or of healing common ulceration of any part of the uterine organs, I would no more think of applying caustic, than I would of applying it to a man's tongue to cleanse it of the furze that might be on it when he was a little bilious.

The doctors who use caustic applications are of all schools,

and the women who subject themselves to such processes are of all grades in society; though, in proportion to their numbers, women whose husbands, fathers, or guardians, are rich, are oftener victims of this horrid and barbarous practice, — a practice indefensible upon any reasonable ground, and ultimately to be ranked as among the most cruel, most unscientific, and most quackish attempts to relieve human suffering. There are a great many females, from the girl of fourteen to the woman of sixty, whose chances of health have been entirely ruined by it, and to whom nothing is left but to linger out their lives, contemplating pleasures which they can never grasp, and mourning over joys which for ever elude their possession. The uterus and vagina are the structures whose morbid conditions the treatment is designed to reach; and whether causticising these after the fashion now in use is justifiable, or whether it is open to the severe criticism I pass upon it, will be seen when the reader understands what the nature and functions of the uterine organs are, and what the character of the involvements attempted to be cured.

The uterus is an organ whose structure is somewhat after the shape of a pear, located in the lower part of the abdomen, with its larger end up, and its neck down. It has two kinds of ligamentous attachments, which are designed to keep it in its place. Its neck, in natural conditions, drops slightly down into the upper end of the vagina, or passage which leads from the external parts to the uterus; and in this neck is a little opening, small in unmarried women, and larger in women who have borne children. Generally speaking, the faulty conditions or states which it is the desire of the caustic-burners to overcome will be found to concentre themselves along the vaginal passage and around the neck of the uterus. These conditions may be described as follows: first, congestion of the mucous membrane of the vagina; second, irritation or inflammation of that membrane; third, chronic ulceration of that membrane; fourth, congestion or irritation of the neck of the uterus; fifth, chronic inflammation of its neck; sixth, ulceration of it; seventh, ulceration of its internal parts; eighth, induration of the walls of the uterus; ninth, tumorous growths needing excision.

Any one or more of these conditions of the uterus and vagina may involve, to a greater or lesser extent, other organs, as the bladder and its passage-way, the rectum, and large, lower intestine; the ovaries; in some instances, the kidneys; and often, by reflex or sympathetic influence, the liver, stomach, heart, throat, head, and brain; and of course, by the same kind of back-stroke force, the lungs.

When the nervous system at large feels the re-action of the uterus, the imagination or ideal faculty yields particularly to the morbid impression; and it is not uncommon to see in a thickly settled rural district, or in a village, a whole neighborhood or street, whose women and grown-up girls are afflicted with some form of uterine disease. The body actually conforms to the mental impression, so far at least as to symptomatize conditions supposed to exist. It is largely from this class of persons who constitutionally show predominance of the nervous system, and who, under bad habits of living, are particularly susceptible to undue nervous excitement, and so to false imaginations, that the patients are obtained who submit themselves to caustic burning. It is not exaggeration for me to say, that, of females treated by caustic applications for diseases of the womb, a large majority have no such involvement as to warrant the employment in any measure of so indecent, so cruel, and so ruinous a process; for while there does exist, in many cases, congestion, irritation, or passive inflammation, of the uterus or its parts, there never was a case, except where the knife was called for, where caustic burning did not do harm instead of good, nor where proper attention to the general health would not be a surer and safer medicament than any poisonous application can be.

Women are misled, and, for that matter, so are their husbands, by the impression, that uterine disease is very easily established, that it is very extensively prevalent, that it is particularly dangerous to the health and life of the person having it, and that it resists with great tenacity ordinary methods of treatment; whereas the converse of every one of these statements is true. From the structure, position, and office of the uterus, it is easily seen that Nature intends it to be in a great measure

exempt from morbid liabilities; and that, under any circumstances except those of the most extraordinary character, its ailments are not such as arise out of its infirm nature or exposed condition, but are rather reflected to it from other organs, and therefore of a secondary nature. I have never seen a woman who suffered from a uterine difficulty, no matter how slight or how severe, who was in every other respect in good health. Diseases of the uterus are not idiopathic; that is, they are not diseases which exist by themselves, unpreceded by and unconnected with other diseases. They generally result from derangements of other organs. All over the country are women, who, seeking relief from such diseases at the hands of practitioners who have applied caustic to the parts diseased, have found to their cost that such relief as they obtained was only temporary; that, in three or six months thereafter, the uterine congestion, irritation, inflammation, or displacement, as the case may be, returns, more severe than before, to haunt their imaginations, and worry their strength out of them. Under such circumstances, the sufferers are apt to subject themselves again to the process, until the parts operated upon lose their sensibility, and they become victims of incurable pulmonary disease, and, broken down in constitution, linger a little while, and die. Oh! if men would only think and understand that Nature is the better doctor; that she knows our bodily wants, and listens to our calls with kind devotion; that her hand has healing in it, and her breath has life; that, wise as God, she makes no mistakes, and saves in every instance where it is possible, — they would be more careful about interfering with their remedies, when vital changes are going on under her supervision.

I should not care so much about this matter, if it were not as it is, that the cures of uterine diseases produced by caustic applications are substitutive or metastatic in their nature; that is, the "cure" is made by driving the disease from its location in or about the uterus to some other organ or organs, — oftener than otherwise, to the lungs. Great numbers of such "cures" have come to my knowledge. Thus I have seen uterine ulcerations cured, to re-appear almost immediately after in a dry

hacking cough. In bad cases of whites or leucorrhœa, when the mucous secretion was in large quantity, I have known it to cease suddenly under caustic or astringent applications, to re-appear in bronchial cough, attended with copious discharge from the bronchial tubes. I have known caustic treatment of the uterus to drive the disease to the throat; and, caustic being applied to the throat, to re-appear at the uterus. I have seen deep and extensive ulceration of the uterus and its appendages re-appear in the shape of incurable consumption of the lungs.

If, then, persons who are suffering from such derangements will only assume that Nature will address herself skilfully to their cure as soon as favorable conditions are furnished her, they will find great benefit from entertaining such assumption, and seeking to carry it out. Why should she not do so? She heals an incised wound without the application of caustic. She heals an indolent ulcer on the leg, after the doctors have failed. She cures eruptions on the external skin, when the medical schoolmen have given them up. Why should this class of ailments be beyond her reach? They are not. All that is wanted, in order that she may go to work to cure them, is a fair opportunity to bring her resources to bear. She will not fail, in one case out of a hundred, in curing the sufferer; and she will cure, too, without having the disease re-appear somewhere else in aggravated form. At least, this is my experience; and it seems to me but just that I should say, that sexual diseases give place to healthy states of those organs, as readily under hygienic treatment as under any other, and with far greater, because with entire, safety. There is, under this treatment, no absorption of poison into the blood; no driving of the disease from the locality in which it appears, to some other more important organ or organs; no racking of the constitution; no wasteful expenditure of vital energy; no consumption, as the ultimate result: but the process is naturally restorative and curative.

CHAPTER XXIV.

TUBERCULAR CONSUMPTION.

WHENEVER this disease exists, it will be found to have involved the substance of the lungs, instead of their investing membranes. In this, it differs from the other diseases heretofore described; they acting as predisposing causes to it, rather than making up its constituent parts.

The lungs, as my readers who are at all acquainted with physiology know, are organs located within the trunk of the body, and made up of cellular substances so arranged as to serve two great purposes: first, the aeration of the blood; and, second, the furnishing of oxygen, by means of the blood, to the various tissues of the body. The lungs are paired, — one on the left, and the other on the right, side of the chest; the left being divided into two parts, and the right into three parts, or lobes. The obvious reason why the left lung has but two lobes, while the right has three, is because the heart is located on the left side of the body, and lies partly between the upper and lower lobe of the left lung; occupying, ostensibly, the place which the middle lobe of the right lung occupies. The structure of the lungs is of a fibro-cellular tissue, formed largely of air-cells; which air-cells are made communicable with each other by fine tubes running into each other, and extending through the whole structure, but radiating from larger tubes, which originate from the trachea, or what is called "the wind-pipe." This begins in the upper part of the throat, and holds communication with the mouth and nostrils; so that the air is communicated through the mouth and nose, along their passages, to the most remote portions of the lungs. The right lung, it is said, is somewhat the largest, and is capable of containing the most air, and least liable to consumption; it being found to be a general fact, that, where consumption exists, it

begins oftener in the left lung than in the right, and extends more rapidly through the former than the latter.

Tubercular consumption differs from bronchial consumption, in that, in the latter, the lining membrane of the bronchial tubes is the seat of the disease; while, in the former, the substance — or, as physiologists call it, the parenchyma of the lungs — is affected by the deposition, through its tissues, of tubercles; which, when they soften under inflammation, run together, and resolve the tissue of the lungs, forming abscess. I have never known a case of tubercular consumption where the person has not been constitutionally of scrofulous habit; nor have I been able, in all my reading, to find an author, who, in describing this disease, does not recognize, as a condition precedent to its existence, the fact of a scrofulous diathesis. However this may be, it certainly is the constitutional condition in connection with which the disease most frequently occurs. It is that kind of physical structure which grows out of such predisposing causes as are to be referred to the parent.

Dr. Copland, in his "Dictionary of Medicine," in an article on tubercular consumption, while admitting this view, thinks that tuberculous formations may appear in those not of scrofulous body, when the predisposing and exciting causes are in energetic and concurrent operation; but he adds, that, in the scrofulous habit of body, such formations in the lungs are altogether more prone to pursue their usual course, especially after the age of puberty, and before the period of middle age.

Tubercular consumption has been divided into three stages, — denominated the first, or the incipient stage; the second, or the advancing stage; and the third, or the incurable stage.

Of the temperaments that are particularly liable to the disease, it may be said that the sanguine-nervous and the lymphatic are more likely to predispose their subjects to it; because, where these temperaments exist, they are, in most instances, marks of a scrofulous diathesis. The reader will recollect, that I alluded, in my article on scrofula, to its existence under two forms, called "the light and the dark varieties." In the former, the subject is of the sanguine-nervous temperament; and, in the latter, of the lymphatic. French pathologists make this division,

and my own observation confirms it. I know that if the point be raised as to what constitutes the lymphatic temperament, and what signs belong to it, medical men will not in all cases give the same answer: but the general statement in which they will be found to agree is, that the lymphatic temperament is closely allied to that wherein the scrofulous taint or diathesis shows itself; and that the person suffering from it is quite liable to have the glands and serous membranes the seat of tuberculous deposits, no matter what may be the peculiar complexion of such persons, or to what particular race they may belong.

English writers think, to use their own language, "that the melancholy, phlegmatic, and bilious temperaments do not predispose their subjects readily to consumption; and that, when such disease occurs in either of these constitutional types, it is generally caused by various co-operating influences, and often assumes the slowly developing or protracted form; and, in children thus constituted, remains a long time latent before it comes into full exhibition. Sometimes it becomes so far advanced as to assume a chronic condition, and rapidly proceeds to a fatal termination.

The disease, in its progress, presents a great variety of aspect. A celebrated French writer, who has won a European reputation for his knowledge of consumption and his skill in treating it, says that he has known it to prove fatal within periods varying from ninety days to twenty years; and that, in different cases, different tendencies show themselves. In some persons, the disease causes a simultaneous or successive formation of tubercles in different parts of the system. In others, these tubercles locate themselves in particular portions of the lungs, and do not spread at all, but become inflamed and softened, form abscesses, and destroy life.

Another writer says that he has often met with cases, the duration of which has been longer than that of those described by M. Louis; and he affirms that the different and varied lesions which may take place in the early or middle stage of the disease, independent of the influence of temperament, are such as to vary most remarkably the character of the disease. He says, "The development of tubercles in different tissues

and organs, the progress of tubercular deposit, their softening, and the excretion or absorption of the tubercular and morbid matters, concurrent inflammations, bronchial irritations, pleuritic attacks, the occurrence of lung-bleeding, inflammation of the larynx or the trachea, ulceration of either of these, or ulceration of the bowels, with many other contingencies, either severally or in combination, impart a marked diversity to the character, course, and duration of the malady."

My own observation confirms the view of this writer. Little things, which, to the consumptive, at the time seemed to be of no account, are often hidden causes, and very much more thoroughly operative in determining the development of the disease than things apparently much more dangerous, and against which the subject of the disease is particularly disposed to guard himself. There are certain habits of living which have come to be regarded as particularly dangerous to persons of consumptive tendencies. A girl constitutionally predisposed to consumption will be cautioned by her parents or friends against getting her feet wet; while, at the same time, they will allow her to breathe impure air habitually, or to use up her vital energies in her round of daily duties under such a style of dress as necessarily to compel the expenditure of three or four times as much strength as would be required for the performance of the same labor in a different dress: neither her parents nor herself thinking that there can be any danger of the development of consumption from physical fatigue, but only that it is likely to arise from some particular or special exposure to atmospheric changes, whereby the conditions of the circulation may be altered, and the lungs made to take on a morbid state. In fact, because of the liability to predisposition to, or to actual development of, pulmonary consumption, by influences that are not likely to press themselves upon the observation of persons having consumptives in charge, or of those who are liable to be attacked by the disease, have I occupied so large a space of this volume in describing and portraying such influences.

At its beginning, consumption may be quite visible to a close observer, or it may be characterized by such uncertainty

as to puzzle the shrewdest and most intelligent physician. As it progresses, however, it soon becomes visible to the most heedless; but, in determining its existence, reference should be had not merely to the fact that it does in some form or degree exist, but also to the progress it has made. This can be settled with certainty only by a careful noting of the signs shown, and the combination of symptoms manifested: and this is the real reason for the division of the disease into different stages; because there seems to be a necessary relation between the several points of its advancement, from its beginning to its conclusion. The division of it into periods is, therefore, a measure founded in good sense, and is justly regarded by medical men as of great importance; because it enables them to describe the disease with greater certainty, and prompts to precise and appropriate indications of treatment.

In the first stage of consumption, before the respiratory organs exhibit any signs of disease, the general structure shows impairment. There is evidently a failure of the nutritive system; and in all cases that have come under my own observation, where the disease is in its first stage, the nutritive organism is the first to show involvement. Where bronchial consumption exists, ultimating in disease of the structure of the lungs, the digestive organs may perform their office with accustomed facility; and, up to a certain point, the patient may show no loss of flesh: but where scrofulous diathesis is a constitutional condition, and tubercles have formed in the lungs, it will in most instances be found that tubercles are formed in the bowels also, and that the assimilative organs are the first to indicate their presence and their ill effects. Mesenteric consumption, or consumption of the bowels, is, therefore, oftentimes the forerunner of consumption of the lungs; and, where this is the case, disease of the assimilative organs exists in a latent form, developing itself at the lungs rather than at the point of its origin. In tubercular consumption, the subject not infrequently shows dyspeptic conditions; but no disorder of the respiratory structure manifests itself till a late period. In many cases, persons labor for years under dyspepsia, for which they take a great variety of medi-

cines, and have their dyspepsia suddenly "cured," but only to have it re-appear in new and more aggravated forms, in such affections of the lungs as leave the sufferer or the physician no room for mistake as to their nature, extent, or probable results. This condition of things does not, however, always exist. Sometimes the respiratory organs show incipient consumptive involvement, as the first symptoms of disease. Where this is the case, a cough, and shortness of breath, usually exist, slight at first, and perhaps hardly attracting notice. Perhaps the cough is felt only upon awaking in the morning, or only when the person undertakes to get out of bed; and then it may be nothing more than a dry hack: but, if observed at all, found to recur each morning, and gradually to increase, and, after a while, to show itself more frequently, or at different periods of the day, or when the person is engaged in physical exercise, or subjects himself to laborious exertion. At first, it is not attended with any expectoration; or, if it is, the matter that is secreted and coughed up is like slippery-elm juice or sour sap, of a ropy consistence, and entirely colorless.

Just at this point of the disease, the respiration, under exertion, seems to be quickened; and the lungs, under general exercise of the body, put on a hurried action, which attracts the notice of the subjects of the disease, and perhaps of those who live with him, and who are familiar with his usual habits and conditions. Occasionally the subject suffers from depression of mind. Whenever this is the case, there will be found connected with the disease nervous dyspepsia, which always involves congestion of brain. Where persons of either sex have been accustomed to sexual indulgence in such degree as to subject the system to frequent and severe re-actions, whether such indulgence has been solitary or social, mental depression is likely to be an accompanying symptom: because, under such taxations of the nervous system, the nutritive organism suffers, as also the brain itself; and, under the congestion of the organic and cerebro-nervous systems induced by such indulgence, the mental faculties have no opportunity for healthy expression. The mind of the subject cannot manifest itself in a healthy manner: all its actions must be abnormal. In some cases,

the eye shows unnatural dilation; and, in almost all cases, the sclerotic membrane becomes pale and of a chalky whiteness. The countenance often shows an alabaster-like pallor, and is deficient in the peach-blossom tint or coloring which the general surface of those in health presents. The muscles become soft, flaccid, and incapable of powerful contractions; and the body gradually falls off in roundness and plumpness, and assumes an emaciated appearance. When these symptoms are concurrent, or exist together, bodily debility follows; and the subject complains of languor, and a lack of mental and physical activity and elasticity. These signs and symptoms may exist for years, and the person who labors under them fail to have any particular idea or impression that they shadow forth well-marked indications of incipient tubercular consumption: in fact, very many citizens are liable and likely to be led into the belief, that the symptoms type out no lung-disease, but only derangement of the liver, kidneys, stomach, or bowels; and, whenever they make this mistake, they proceed to doctor their patients in such a manner as inevitably to fix and fasten upon them the pulmonary disease which was before only incipient or threatening.

There can be no well-founded doubt of the correctness of this statement. The number of persons in this country who have consumption, and who are doctored for liver complaint, for mucous dyspepsia, for some derangement of the kidneys, or for some irregularity of the bowels, is immense. Their doctors mistake symptoms of constitutional disease for local affections; and, whenever this is done, the result of the procedure based upon it is generally to confirm and make permanent the morbid conditions, and to have their patients wake up to the fact, that instead of any of the diseases mentioned above, for which they have been doctored, consumption, in its incipient stages, is the difficulty under which they have been laboring. That the nutritive, secretory, and excretory organs have their own peculiar liabilities, and suffer from derangements referable to no other organ or organs, I do not for a moment seek or attempt to deny, but, on the contrary, most cheerfully and readily admit. A proof of the correctness of

this view may, I think, be seen in the effort made to render the people intelligent in respect to the liability of persons to become consumptive under the operation of causes that are only predisposing in their nature. Any man or woman or child of scrofulous habit of body, and of sanguine-nervous or lymphatic temperament, who may suffer from derangement of the liver, stomach, kidneys, or bowels, is, while laboring under such derangement or derangements, predisposed to pulmonary consumption; and should be very careful in his or her modes and habits of living, as well as in the means that he or she employs to overcome these derangements.

But, while this is true, it is equally a fact, that consumption may exist in form in the lungs; and, in certain stages of it, there may be no other means of determining its existence save the morbid conditions that are exhibited by the liver, stomach, kidneys, bowels, or brain, from the sympathetic relations which these organs, respectively or in the mass, sustain to the respiratory structures: and it is because of this condition of things, that consumption, of all the diseases which the profession have to combat, and from which physical human nature has to suffer, is the most elusive and delusive. The subject is almost sure to be cheated, and the physician is quite liable to be deceived. Oftentimes, tubercular consumption has no other process of developing itself than by a sapping and mining of the constitutional vigor generally. In such cases, no particular organ seems to be the seat of the difficulty. The whole system is affected, and the patient describes his condition by the term "nervous debility," — a lack of general and special vigor. He suffers a loss of strength and of appetite, is indisposed to mental exertion, restless and dreamy at night, and fails to be refreshed by lying in bed.

Atmospheric conditions have a good deal to do in determining the rapidity of the progress of consumption in its first stage. Where the climate is unfavorable, and the temperature frequently changes, the liabilities to rapid progress are increased. Where, on the other hand, the climate is temperate, and the winters are mild, the patient may, by judicious treatment in all directions, keep the disease largely in check, even

though it may, on the whole, make progress. It is not uncommon to see patients in the first stage of consumption lose flesh during the latter part of autumn and through the winter, causing, by spring, marked and positive indications of loss of strength; but, when the mild weather of spring and the warm weather of summer follow each other, the patient frequently gains flesh and strength, and is greatly relieved. The shortness of breath under which he labored in the cold weather, when taking his exercise, vanishes; and he and his friends are likely to cherish hopes of his speedy recovery. Nevertheless, upon a return of the cold season, the symptoms re-appear upon slight exposure, and sometimes show themselves and are exasperated without any exposure; periods of exacerbation and relief coming on without any apparent regularity. Thus the patient finds himself in the succeeding spring quite debilitated; to recuperate again upon the appearance of warm weather, but only to have the symptoms recur with added force upon the coming of the season favorable to their appearance and progress.

Medical writers of large experience say that "the first stage of tubercular consumption corresponds with the first stage of tubercular development. The lungs, at this point, take on a greater or lesser amount of tubercular deposit in what has been commonly denominated a state of crudity. Tubercles are generally of two kinds: the one more or less firm, grayish, and somewhat transparent; the other of a pale yellowish cast. At this stage, the adjoining tissue and bronchial membrane may not have undergone any perceptible alteration, or both may present more or less redness or vascular congestion. If bleeding of the lungs has occurred in this stage, — which is not very frequently the case, — such congestive changes are generally present in more or less marked degree. The symptoms indicating the first stage of tubercular consumption are slight cough, shortness of breath, loss of the healthy color of the surface, commencing emaciation, and flabbiness of the flesh, with slight hectic fever."

At this stage of the disease, not much dependence can be had upon the correctness of merely physical signs; as these

are greatly modified by the particular form and extent to which tubercular deposit exists. Single or isolated tubercles may exist, without in any way affecting the respiratory processes or the conditions of the lungs, in so far as these are to be determined by percussion; for, standing as they do apart from each other, or separated as they may be by healthy tissue, there is no means of judging of the state of the lungs by any indications arising from their existence. If, by any means, the patient's lungs become so affected by their presence as to have infiltration of scrofulous or tubercular matter take place, then the portion of the lung so affected becomes impermeable, and the indications are to be seen in the greater or lesser degree of rapidity of the respiratory movements. "Auscultation must therefore depend, for its correctness in determining the conditions of the lungs, upon the amount of tuberculous deposit within them; for this, in changing their relative structure, induces a determinate change of sound upon percussion." Where the lung, or any portion of it, has become altered by the existence of tubercles, the sound becomes dull. As long, however, as any portions of the structure remain in normal conditions, the sound, under percussion, will be normal. "When deposit of tubercular matter exists in quantity, swelling or enlargement of the bronchial mucous membrane, whether productive of secretion or not, takes place; and, where this exists, the same physical signs appear under auscultation as are to be seen in cases of chronic catarrh."

Tubercles appear in the first place, in most cases, in the upper portion of the lungs; and it is, therefore, in this part that the signs or symptoms of catarrh show themselves prominently upon auscultation, the respiratory murmur being healthy in every other portion of the lung.

Dr. Copland says, "In by far the greater number of cases of tubercular disease of the lungs of some duration, the percussion sound under one or both clavicles is duller and emptier than natural, or is completely dull; while from other parts of the thorax the sound is normal, or louder or duller than ordinary. This is owing to the conglomeration of tubercles in the upper parts of the lungs, where they are slowly developed,

increase in size, and, coming in contact with each other, form considerable masses."

Dr. H. I. Bowditch, of Boston, has reported eight cases where the tuberculous deposit commenced near the base of the lung, and extended upward; and he estimates that these exceptional instances are liable to occur in the ratio of "one in a hundred and fifty or two hundred cases. The instances observed by him were characterized by well-marked crepital rale, at a point over the lower lobe of the left lung, for weeks or months, followed by the physical signs of solidification; the disease finally extending to the upper lobe, affecting both sides, and advancing to the formation of cavities, as in the ordinary form of tuberculosis."

I have given great attention to the physical signs of consumption in its incipient stage, by examination of the lungs; and I have come to the conclusion, that no correct judgment can be formed with certainty as to the extent and progress of the disease from any such exhibitions. The only safe rule upon which to base a judgment, and form a decision, is that which includes a consideration of the local and constitutional symptoms. I do not know how many persons, pronounced incurable by physicians who had examined them by percussion and auscultation, have recovered under hygienic treatment, as recommended by myself. The causes of the non-recovery of such persons under their previous treatment, and of their recovery under hygienic treatment, were, first, that the physicians who examined them by percussion misjudged the actual conditions of the lungs; and, second, that they were placed under appropriate regimen, and Nature did the work.

Persons never die of consumption in its first stage; neither do they die of it in its second stage. Not one dies of it until it has reached its third stage. Hence those who die of consumption pass from the first stage of the disease into the second, and out of the second into the third.

Now, a greater number of persons among our population die of this disease than of any other. This being the case, there must be some reason or reasons, why, inasmuch as persons never die of consumption in its first or second stage,

they are permitted to pass into those conditions which are incurable. Just what the conditions are through the influence of which persons are allowed to pass from the curable into the incurable stages of pulmonary consumption, is well worthy of inquiry. My opinion is, that the proximate causes of the progress of persons affected with consumptive disease, in its earlier stages of development to its final termination, are to be found in the disregard of the laws of life and health in every direction, and the very bad medical management they have when the disease has so far advanced as to arrest their own attention or that of their friends.

Consumption, in its first stage, is as curable as any other serious disease with which medical men have to deal. There is no reason, abstractly considered, why any person, not advanced beyond the second stage, should die of consumption; because there is no necessity for a person's dying of any disease that may fairly and justly be considered curable. Consumption, in its first stage, may therefore be treated with entire success; and the means whereby it may be treated are largely within the reach of all who are laboring under it. It follows, therefore, that, although the disease proves fatal in many instances, it is not owing to any difficulty that exists in the way of understanding what the disease is, nor to any thing in the ordinary processes by which it advances from one stage to another until incurable conditions come to exist, nor to any difficulty in the way of the procurement of the means to overcome it. Every subject of the disease, who has a house to shelter him, and who can bring to bear the agencies which Heaven has placed at man's disposal without money and without price, is in circumstances to recover from whatever consumptive conditions he may labor under, provided they have not progressed beyond the first stage. The very term "consumption" indicates failure of the nutritive forces. I have endeavored to impress the reader with the idea, that, so long as the nutritive system properly performs its work, consumption cannot exist. Whatever may be the influences at work to excite the disease, the lungs will remain unaffected by it so long as the nutritive and excretory systems perform their work thoroughly and healthfully. Whatever means,

agencies, instrumentalities, or forces, are of account in the prevention of consumption in the case of a person predisposed to it, or not actually laboring under it, may, if properly applied, be made efficient in curing the disease, up to a point where it has so far progressed as to cause organic changes or to produce organic lesions. Of course, nothing can be done in the treatment of consumption by any means, however proper they may be, to create anew the respiratory structures, when they are in part destroyed. No process is at present known to us, whereby a lung which has perished can be re-organized, and a new structure made to take the place of the old one; but where functional derangements exist, no matter how extensive they are, if a sufficient vital force still resides in the organism, and can express itself duly through the organs of nutrition, such derangement, though it be very serious, and likely to be ultimately productive of fatal results, can be overcome, and entire restoration of that portion of the organism which has suffered injury be had. To one unaccustomed to seeing how reference to constitutional arrangements, in the treatment of consumption in its first stage, proves, in the highest degree, beneficial in overcoming the disease, the changes that are thus wrought out, were they witnessed, would seem to border upon the marvellous. I have seen persons, who, in every direction, showed such well-settled consumptive conditions, as to leave no doubt, in the mind of any person who saw them, that they were laboring under this disease, recover so as to throw off every symptom of it, and present, instead, indications of the highest health. In all such cases, however, the recovery was brought about under a change of constitutional conditions. They were scrofulous; and, before they could be cured of consumption, the scrofulous poison had to be eliminated from their systems. Under processes of treatment that were sufficient in this respect, the tuberculous deposits in the lungs were re-absorbed into the blood, and carried out. Along with these changes was induced a greatly improved condition of the organs of nutrition, so that the blood was improved in its quality, and increased in quantity. As a result of this, there was an increase of flesh, and a change in all the symptoms

and physical signs which they manifested. It may not be out of place, nor devoid of interest to my readers, for me to corroborate the correctness of this view, by reference, in a general way, to the cases of some persons, who, within my own personal knowledge, have thus recovered; and to state the means whereby their recovery was brought about.

Some four years ago, a lady living in the West, the wife of a Baptist clergyman, came to place herself under my care. Of scrofulous constitution, and in the descending scale of physical development (being much smaller in size than either her father or mother); of very feeble nutritive organization, and having a very large and active brain, — she had developed consumptive conditions of so marked a nature, as, in the minds of many medical men in the vicinity where she resided, to render her incurable. When I first saw her, she showed the following physical signs and symptoms: very extreme emaciation, night-sweats, a cough that was irregular but paroxysmal, diarrhœaic condition of the bowels, chills and fever every day, sleeplessness, restlessness, capriciousness of appetite, and such physical weakness as to make it quite impossible for her to take even moderate exercise.

I gave her the following treatment: In the morning, upon rising, a dry hand-rubbing by an attendant of robust, electric, and vigorous habit of body; the patient then dressing, and moving about, according to her ability, where pure air could be had.

For breakfast, I directed her to eat unleavened bread, mush made of unbolted wheat-meal, a soft-boiled egg, and some stewed or uncooked fruit, as her taste preferred.

At eleven o'clock in the day, three times a week, she was wrapped in a wet sheet, with dry outer covering, and left there for thirty or forty minutes. Upon coming out, she took a dripping-sheet at a temperature of 90°; was dried, and then thoroughly rubbed by an attendant until a brisk circulation on the external surface was induced; when she was put to bed, warmly covered up, her feet wrapped up in warm cloths, cool cloths upon her head, and left to rest for about two hours.

At three o'clock, she had dinner; and, during the first part

of her treatment, she was permitted to eat a small quantity of flesh-meat at this meal. Gradually, however, her allowance of this kind of food was diminished, until entire abstinence from it was established as her habit; and her food, from that time onward, has consisted of grains, vegetables, and fruits.

At eleven o'clock, on the days of the week when she was not packed, she took a sitz-bath, at a temperature of 90°, for ten minutes, then reduced to 85° for five minutes, with a warm foot-bath; upon coming out of which, her feet were cooled by pouring over them cold water. She was then wiped dry, and, as when packed, rubbed by an attendant.

Under this treatment, her daily fever subsided almost entirely, her appetite improved, she gained a little flesh, and her cough lessened. After a while, such was her improvement, that the treatment was increased, — not in the number of baths she took, but in the use of other hygienic agencies. We gave her a prescription for exercise, of which walking was the chief constituent; and, in order that she might get as much benefit as possible in this direction, the American costume was substituted for the long-skirted dress.

Sleep was enjoined upon and secured to her with great regularity; and although she was very nervous, and slept fitfully, she became so renovated in this respect as to be able to go to bed quite early in the evening, and sleep soundly and refreshingly until morning.

She is now capable of doing a good deal of work; is free from any maladies of any kind; and bids fair to live, with proper care of herself, to old age.

The theory on which I operated in this case, as I do in all cases of consumption in its first stage, was to develop and work up to the very best advantage the life-force, and increase the vital resistance to the further progress of the disease. It will be seen, from the explanation and description of the course pursued by me in this instance, what are my main reliances: first, such application of baths as increases the vigor of the skin, and induces a healthier action of that organ; for all consumptives, whatever stage of the disease they may show, suffer from an imperfect action of the skin; and this is one of

the secret causes at work for the development of the disease. The hope of checking or curing it, therefore, must depend very essentially upon the restoration to its normal activity of this portion of the organism. The baths given her were, therefore, calculated to do service in this particular direction; and, in connection with the hand-rubbing, were of essential benefit. Perhaps I may as well state here, that hand-rubbing, for the purpose of inducing healthy action of the skin, is far better than friction with a brush or with rough towels. The true way of operating upon the skin after a bath, so as to produce proper re-action, is, after the body has been dried with a sheet, to rub it briskly with the naked hand. No person should ever rub his skin with coarse towelling, flesh-brushes, or any thing of that nature.

Next to bathing, and perhaps of no less importance in the treatment of consumption, is diet. Having already spoken of this in previous chapters, it is not necessary for me to enlarge upon it here. It is sufficient for me to say, that my own experience justifies my practice; which is to take away as soon as possible, after being placed in charge of a consumptive patient, all *stimulating* foods and drinks. The practice so common among doctors, as *they* phrase it, "of keeping up the vital forces" by introducing into the circulation stimulants in the shape of foods and drinks, is, in my judgment, entirely indefensible on this ground, if on no other, — that these can have no other effect than to expend the vital force unnecessarily, and so endanger the success of those processes which are needful in order to the recovery of the patient. Where one person has been cured by the use of flesh-meats because of their *sustaining* qualities, or by the use of alcoholic stimulants because of their power to educe latent forces in the system, ten thousand have been killed by the rapidity with which the vital energies have needlessly been used up. As consumption, in any of its stages, is primarily and essentially a disease dependent upon faulty nutrition, every thing that can be done to correct such faultiness of action is in itself a curative instrumentality. Food, therefore, should be of a nutritive nature, but as free from stimulating properties as possible.

Great difference of opinion as to what is the best food for consumptives exists among physicians. At different times, the generally received doctrines on the subject have varied widely. Some physicians have been in favor of a diet of milk exclusively. Hence goat's milk, ass's milk, cow's milk, and mare's milk, have been recommended as having particular properties directly tending to overcome the imperfect assimilation and secretion manifested by the system. Others have recommended an exclusively meat diet. This is a favorite idea with many physicians at the present day. Others, like myself, recommend a farinaceous and fruit diet as the best that consumptives can possibly use. My own view of the matter may be stated, in general terms, in this wise: that a consumptive should eat what he relishes best, provided always the substance chosen has sufficient nutrition in it to meet the wants of the system, and is at the same time free from such constituents, as, when taken into the body, tend to exhaust the vital force. My chief objection to the use of flesh-meats, by persons of consumptive habit who actually have this disease, is based upon the facts, first, that the meat they eat may be unhealthy, and they not know it (see article on poisonous food, further on); and, second, that, aside from the nutriment it furnishes, it also excites the nervous system to an injurious degree. If I were to feed my patients upon meat habitually, I would give them the meat of wild animals; or, if I were to use the flesh of any of the domesticated animals, I should decidedly prefer mutton to all others. If I could not get these, I would prefer fresh fish, — excluding shell-fish, such as oysters, mussels, and clams.

Where the disease is characterized, as in some instances it is, by little or no exhilaration, and by the entire absence of congestive symptoms, animal food is less objectionable than in cases marked by the opposite conditions. But where, as in many instances, consumptives are of a sanguineous habit of body, showing fulness of blood, and where they show, in the first stage of the disease, constriction or oppression of the chest, with a dry hard cough in the morning, the diet must be mainly or entirely made up of fruits and grains. Milk should not be

eaten, nor should vegetables to any great extent. The patient who confines himself to a simple diet composed of preparations of grains and fruits, eating plentifully, is better circumstanced for recovery than though he were to indulge freely in the use of flesh-meats or mulled or alcoholic liquors. If milk is used at all under such circumstances, sour-milk, butter-milk, or cheese-whey, is better than fresh milk.

In the treatment of consumption in its first stage, air has a great deal to do with curative results. It would seem as if there were scarcely any need for me to elaborate this view to any great extent, in order that it may carry with it forcible considerations.

Climate and surroundings form very important considerations in the treatment of consumption. A temperate is better than a tropical climate. The air of any locality, in order to be beneficial, should be dry, warm, and not subject to sudden or extreme changes. Elevated localities are favorable as residences for consumptives, especially if they are free from dampness and fog. I advise all persons, who desire to be cured of consumptive conditions by hygienic means, to reside in a dry, unfoggy climate, where the air is mild, bracing, and pure. For consumption in its first or second stage, physicians generally recommend travel, as having a fine therapeutic influence; and they usually advise travelling on horseback, as highly beneficial. Of this I have no doubt. In my article on horseback exercise, I have suggested its utility in this direction: but I have been compelled by my own observation to conclude that it is not beneficial to females; and, for a long time, I was deceived by the foregone conclusion, that its inappropriateness depended upon the too great taxation to which it subjected those who tried it, and the exhaustion consequent thereupon. Long-continued and patient observation has, however, led me to alter my views, and to become satisfied that the exercise is not ill adapted to consumptive women because they are women, but because of the very outrageous, unnatural, and monstrous postures to which fashion and custom have subjected them in taking this exercise. In numerous instances where I have advised consumptive ladies to ride on horseback, as one of the very best means of recovery, but have insisted,

that, in order to obtain the benefits derivable therefrom, they should change their style of riding, and sit as men sit when they ride, they have had the courage to adopt and carry out my suggestions in a quiet and unobtrusive way; and such admirable results have accrued as not only to settle the question in their minds and the minds of their friends, but also greatly to gratify me at the evidence, afforded by the results, of the correctness of the view I had taken of their cases.

I notice that a good many physicians still entertain the opinion which I formerly held upon this subject, based substantially upon the reason already given, — that it exhausts and taxes the system; and I respectfully suggest to them, that, if they will dare to advise their patients the use of this exercise in a natural and proper manner, they will find it as beneficial to consumptive women, as, on all hands, it is acknowledged to be beneficial to men suffering under pulmonary disease. Whenever I have a consumptive patient to treat, this is my advice to her, — to ride on horseback, beginning carefully, and continuing so until she gets accustomed to the saddle, and able to feel that she and her horse are practically one; then living in the saddle, riding miles upon miles day after day; not as women usually ride, nor in woman's usual style of dress, but, on the contrary, dressing in such a way as will permit her to maintain her equilibrium in the saddle, keeping the abdominal and intercostal muscles in natural relations to the organs which they serve, and so sitting as to insure to herself slow but prolonged and deep inspirations, with such sudden and quick expirations as to insure the filling of every cavity of the lungs with fresh air. It is a shame that women have to suffer from diseases of which they might be cured by the use of hygienic means applied in a rational manner, simply because society considers every thing relating to woman from the point of her sexuality; as if human nature was not hers as much as it is man's, and as if it were not just as wicked to regard her conduct in the light of her special organism, and not from the point of the great general principles upon which it is built, as it is or would be in the case of man.

Women who are consumptive should ride on horseback;

and they would be justified in violating custom and conventional propriety so far as is necessary to enable them to enjoy the benefits of this exercise in its most efficient form, and under the most favorable circumstances. Nothing can be gained to a consumptive woman, in the way of cure, from riding on horseback in a side-saddle. Much injury can be done by riding in this way; and were I called upon to advise a patient — a consumptive woman — as to whether she should ride on horseback, provided she were to ride as women usually ride, or to give up this exercise entirely, however unable she might be, from physical weakness, to take exercise to any considerable degree by walking, I should immediately say to her, "On no account, mount a horse to ride after the fashionable posture usually assumed by women." Physicians who wish to recommend to their patients the use of hygienic instrumentalities, one of the most important of which is exercise in the open air, should advise those who are consumptive to exercise regularly on horseback, and should insist upon it that such exercise be taken in natural, and therefore convenient and healthful, postures. If medical men were as courageous as they are exalted in the public estimation, and if the people were as brave in defending the right as they are conservative in palliating and adhering to the wrong, we could not only reduce very largely, in one generation, the predisposing causes to disease, but we could increase greatly the curative influences against its actual existence.

Where, however, persons cannot ride on horseback, and are not able to walk, then carriage-riding is of service; and all consumptive persons, persons of weak lungs, or those troubled with a cough, should always ride in carriages, whether drawn by horses or by locomotives, and, if possible, with their backs to the horses or other motive power. The reason of this is, that no one should ever ride in any kind of carriage, or other vehicle, without having abundant ventilation; that the motion of the carriage increases the rapidity of the currents of the atmosphere; and that the velocity with which these currents move, increases the liability to inspiration of air in too large quantities for the lungs to receive, without doing them an injury, when the person faces them. Sudden congestions are

often set up by allowing the air to rush into the windpipe in too large volume, the lungs themselves being weak, or the air-cells being in some direction shut up, or hinderance being established from actual disease of the structure. The air should be permitted to enter the lungs slowly; and persons riding with their faces against a current of air, or, as we call it, "against the wind," are very unpleasantly situated to command their breathing. If from any cause there is a catarrhal condition of the nasal passages, then they have to inspire through the mouth; which is at best a bad practice, and justifiable in any case only on the score of actual necessity: for the proper way of filling the lungs is to fill them slowly; and the nostrils are constructed with reference to this end. Now, riding backwards, in a carriage drawn by horses or by a locomotive, gives the person entire control of the processes by which air is introduced into the lungs; and this enables him or her to regulate the respirations, and to breathe with reference to instinctive wants. Besides, when riding in a carriage on a common road, or in a car on a railroad, particles of dust and dirt are carried along with a good deal of velocity by the currents of air, and are introduced with the breath into the lungs; so that oftentimes a good deal of suffering is endured by persons laboring under consumption, because of the excessive sensibility of the mucous membrane to the presence of any foreign substance. To avoid this, consumptive persons should ride backwards when riding in carriages; and, though there may be some inconvenience arising from riding in this way to one unaccustomed to such a posture, it can in a little while be overcome, and the permanent benefit and comfort thus secured will much more than compensate for it.

It may be as well to discuss here the habit and practice so common with our people who are suffering under pulmonary disease, and which, until within a few years, was universally recommended by medical men, and is still advised by many, — of passing from a temperate to a tropical climate during the winter months. In this direction, my own professional observation has led me to conclusions quite opposite to those commonly entertained: and instead of advising consumptives,

who seek my advice, to go from a climate on which they have been born and reared, and which lies between 42° and 45° north latitude, to one where perpetual summer reigns, I advise them to go to a climate that is even colder than the one in which they have been bred; provided, by the exchange, they gain any thing in the equableness of the temperature around them. Sad havoc has been made in times past with the lives of persons laboring under pulmonary disease by sending them to warm climates. The true philosophy is to change from a higher to a lower temperature of the air, if change is made at all. The pine-woods of Minnesota, or the region around Lake Superior, or such a climate as that of South-western New York, is vastly better for consumptives than Florida or Jamaica or Hayti or St. Thomas or Italy. Wherever the patient can find a cool or cold atmosphere which is of so even and steady a temperature as to allow of daily exercise in the open air, that is the place for him; and a residence in such a locality, his habits being all conformable to hygienic principles, furnishes one of the very best means for constitutional and radically renovating changes. Travelling at large is not wise on the part of consumptives. Voyages at sea, — to the Mediterranean, — or going overland to the Pacific, are not desirable as means for the cure of consumption. These may be valuable instrumentalities in cases of dyspepsia or liver-complaint, while as yet the lungs remain sound: but regularity of life is essential to the cure of consumption; and this cannot exist when the patient is voyaging, or engaged in long journeys.

The question of the beneficial effects of a residence upon the sea-coast is often discussed by medical men, and formerly the weight of their opinion was in its favor; but of late I notice that physicians who reside in the vicinity of the sea, and have consumptive patients in charge, generally recommend their retirement inland. In doing so, I think they act wisely: for one objection to a residence on the sea-coast for consumptives is to be found in the poisonous nature of the atmosphere, which is largely charged with saline particles, and its injurious effects upon the lungs of a person laboring under tuber-

cular consumption; and I believe that the more intelligent of the profession coincide in the view I entertain, that where two places, one upon the sea-coast and the other inland, present equal advantages to a consumptive patient, the locality in the interior is decidedly preferable.

In concluding my remarks upon the treatment of consumption in its first stage, I should not feel that I had done my duty if I did not warn my readers against the drug-medicating practice. There is nothing salvatory in it, but every thing destructive. This practice permits blood-letting in the first stage of consumption. If it is not done by the lancet, it is done by scarification or cupping; and, if neither of these is used, the application of leeches is not uncommon. Whether the amount of blood taken be small or large, depends altogether upon the judgment of the physician. Certainly vascular depletion has been earnestly recommended by many medical authors, though it has been as earnestly reprobated by others; but it is curious to note, that, wherever this method of treating the disease has been recommended and practised, it has been connected with the administration of tonics. This is not to be wondered at: for the very debility consequent upon the practice renders the use of tonics or stimulants necessary; and these tonics are selected from the active, and not infrequently from the most virulent, poisons known to the *materia medica*.

Dr. Copland says, that "it is quite common among later writers to recommend the beginning of treatment, in a case of consumption, by the administration of an emetic, to be followed by suitable laxatives or aperients, tonics, stomachics, &c.;" the "&c." being intended to convey the idea of entire liberty, on the part of the physician, to give, besides these, any thing he may choose. Ipecac, aloes and myrrh, hyoscyamus, castile soap, castor oil, arsenic, and various other medicines, are recommended by the older physicians. Mineral waters, chalybeate waters, gums, turpentines, sulphur, magnesia, phosphorus, cod-liver oil, alcoholic drinks, malt liquors, and, in fact, every thing that the curiosity or the research of the profession has been able to discover, have been lifted up, in succession, to the dignity of "specific remedies" for consumption; and

yet the disease increases over and above the ratio of increase of our population. Blisters, mustard-poultices, cauteries, the inhalation of vapors, setons, have all been tried, only to prove failures; and if these have been proved so futile in the treatment of consumption in its *first* stage, when the disease is, in most cases, quite manageable, and can be overcome without great difficulty, what must be their inefficiency in the treatment of the disease in its second and third stages?

The second stage of pulmonary consumption is the result of a greatly increased degree of the morbid conditions seen in the first stage; though, in some instances, this stage is reached almost immediately. The phlegm, or sputum as it is called, which is raised in coughing by persons in the second stage of consumption, instead of being of a viscid or frothy character and grayish color, becomes yellowish and like pus. It contains streaks of blood, and has in it particles of a pale or opaque yellow appearance, resembling the matter expectorated when undoubted abscesses have been formed in the lungs. As the disease progresses, these yellow specks become more numerous, looking oftentimes like curd. In this stage of the disease, the cough is more severe than in the first, accompanied with chills, and a sense of cold passing down the backbone, attended by unnatural heat of skin in the evening, with restlessness and sleeplessness during the fore part of the night, followed by perspiration, sometimes very profuse, toward morning. The patient shows also increased debility, attended by languor, and depression of spirits; and unless curative measures are adopted, and prove effectual, he passes rapidly into the third, or commonly incurable stage. In the second stage of consumption, there is more or less pain felt, as in the first stage; and it locates itself in the right side, near the region of the liver, and under the collar and shoulder bones. Instead of being sharp and acute, as in the incipient stage of the disease, the pain is dull, as in chronic rheumatism. Along with these conditions and symptoms, effusion of blood into the air-cells takes place, and bleeding at the lungs ensues. Where these symptoms are seen, they are caused by the softening of the tubercular matter, and by the changes in the structure

of the lungs necessarily involved in such softening. The matter which is expectorated proceeds from the dissolution of the tissues of the lungs, and, when coughed up, passes out; and relief for the time being is had. Where tubercular deposits thus soften, and are expectorated, cavities are necessarily formed in the lungs. These may be larger and more extensive, or quite isolated and of no very great dimensions: but, wherever they do exist, they are always to be known by unmistakable signs, which are indicated in the general conditions and habits of the persons suffering from them, and may be discovered by percussion, or striking upon the body, over the region of the lungs, with the ends of the fingers, or by auscultation; that is, by putting the ear close to the body, over the lungs, and listening to the respiratory sounds made by the patient in the act of breathing. Generally, cavities are first formed in the upper portions of the lungs while as yet tubercular deposition is going on in the lower portion; the disease making steady progress from the top downward.

Sir James Clark remarks, that in the second stage of consumption, or phthisis, "different patients have very different symptoms; or they may have symptoms exactly similar, and yet be subjects of a very different extent of pulmonary disease." He thinks, "that, in some cases, a few weeks may suffice for the development of cavities of more or less extent; while in others, months, or even years, may pass without any remarkable increase or diminution of the symptoms, or even of the pulmonary lesions. In a small proportion of cases, a curative process is established, by which tuberculous changes are arrested, or partially obliterated; and, if the patient's general health be maintained, the tubercular deposit may disappear, or at least advance no further."

Of physical signs, Dr. Copland remarks, that "the upper parts of the chest are, at this period, less freely raised than in a healthy state; and this is often more evident on one side than on the other. The sound, on percussion, under one or both shoulder-blades, is dull. When the cavity is formed within a back portion of the lungs, the percussion sound remains unchanged; and this is true not only of a small, but even of a

tolerably large cavity. The only sound which cavities situated within a healthy structure yield is a cracked-pot sound; but this only in rare cases, where the cavity approaches the walls of the thorax, contains air, and is not smaller than a plexi-meter. Cavities containing air, even when they are deeply seated within a portion of the lung infiltrated with tubercular matter, will emit a tympanitic sound, if their size be not less than a walnut. A cavity will not yield a metallic, ringing sound, unless it be the size of a pullet's egg; but it does not necessarily emit such a sound, though it be that size.

"On auscultation, a dry, bubbling, crepital râle is heard over large cavities, when their walls are expanded during respiration; the lung being attached to the pleura. This râle is most readily heard when there are several or many cavities, the size of a pea, scattered through the lobe. It is never heard alone, but in combination with other râles, or whistling or sonorous sounds, owing to the presence of morbid accumulations in the affected portion of the lung or in its vicinity."

As for percussion and auscultation, unless these are connected with other signs, very little dependence is to be placed upon them in determining the extent to which the lungs are affected. True, some evidence may be furnished by them, but not enough to rely upon. I have given great attention, and the closest observation, to diseases of the lungs, and have exercised my intelligence in every possible way for the purpose of discovering their conditions; and I have been forced by experience to lessen my estimate of the value of auscultation and percusssion as means of correct diagnosis, because of the almost uniform misjudgment in which they involve physicians who rely wholly upon them. I am gratified to find that many distinguished medical men concur in this view of the case. While, therefore, it is my habit always to use these as aids in coming to right conclusions as to the conditions of the lungs of persons suffering from pulmonary disease, I never allow myself to be *satisfied* with any indications manifested through them, independent of collateral circumstances, and evidence derivable from other sources.

The complications that are seen in this stage of the dis-

ease are more extensive than those which appear in the first. The liver and kidneys are especially involved; and just to the degree that muco-puriform matter is secreted and expectorated from the lungs will it be found that the liver and kidneys act imperfectly in their respective departments. I have never known a case where tubercular deposit had been made in the lungs, and softening had taken place, where the liver retained its healthy conditions: in fact, in most cases, enlargement of that organ is seen in connection with pulmonary disease, when it shows its second stage of progress. As for the kidneys, their secretion is lessened at least one-sixth from what it would be were the general system healthy; and, in this stage of consumption, the skin always puts on increased inactivity, and becomes extremely pale and dry, to be followed by periodical moisture, not infrequently amounting to excessive sweating. In this stage of the disease, calcareous concretions are often coughed up between the periods when pus is raised. These often frighten the patient; but they are of no particular significance, except to show that tubercles already exist, and that these unsoftened ones are, from some not easily understood cause, detached and expectorated.

Whether a person in the second stage of consumption can be cured is to be determined altogether by reference to the constitutional and actual habits of the subject at the time this question is raised. The simple fact that tubercles have formed in the lungs, softened, turned to pus, and been coughed up, is not a conclusive or even a very weighty evidence of the patient's incurability; for such softening may be arrested, the formation and deposition of more tubercles prevented, those which are already formed may be re-absorbed, and the lungs made to perform their office with exactitude and a good degree of vigor. There is a very great mistake in the popular and in the professional mind in respect to the extent to which actual consumption is curable. That it is often curable, I know; for I have cured it in hundreds of instances. That it is not curable, or that it proves incurable, under the common methods of treatment, I am quite as well aware; for I have seen thousands of persons die of it under such treatment.

Abstractly considered, there is no more reason why scrofulous conditions of the lungs, indicated by tuberculous deposit and softening, should not be cured, than there is why scrofulous eruptions on the skin, which have become ulcers, should not be cured; and, under hygienic treatment, the very worst forms of scrofula on the surface are cured without difficulty, provided proper opportunity is given for the radical and positive changes to be made. Diseases of the mucous membrane are no more difficult to cure — diseases of the structure of any internal organ (say the lungs, for instance) are no more difficult to cure — than are diseases affecting the structural portions of the body which are open to visual inspection. A raw ulcer on the leg or on the back of the neck may be a very difficult thing to cure; and I believe that, in many instances, physicians find it so: but, however difficult it may be, they are much less frightened at it, or disturbed by the ill success of the means used in its treatment, than they would be if the ulcer were located in the lungs, stomach, or neck of the uterus. They may well be so; for in the one case they have every opportunity for observing and measuring the nature and character of the ulcer, while in the other they are dependent upon secondary evidence. But, in discussing this question of the curability of consumption, it is not to be forgotten that Nature always arranges her efforts for restoration from the stand-points, — first, that, where the health of an organ is essentially necessary to the health and life of the entire structure, such organ is particularly protected and guarded against disease; and, second, that where such organ, thus essential to the health of the entire organism, becomes diseased, great determinations of vital energy are readily made in its behalf. Thus, constitutionally considered, those organs which, in the main, physiologists have characterized as vital, are less likely to become diseased than other parts of the body; they being, by reason of their great importance to the general economy, better protected and defended. When such organs are diseased, therefore, a very great vital effort will, if necessary, be made for their restoration.

Now, supposing a person to be of scrofulous diathesis, and,

under bad habits and methods of living, to have become actually consumptive: under the view taken above, the person in care of such case has, to encourage him, the fact that Nature will do all that she possibly can for the preservation of the life of the subject and his restoration to health. His duty is, therefore, easily seen. It is nothing more, nor any thing less, than to surround the patient with the very best possible combination of hygienic means and influences, and bring them to bear in the most persistent manner. Reasoning thus, it has been my good fortune to know hundreds on hundreds of persons, in such advanced stages of consumption as clearly to show abscess formations, to recover from their disease and to enjoy good health; being as free from the disease and its symptoms as the healthiest man in their neighborhoods. As an illustration, I give the following case. There is nothing very extraordinary in it, as compared with other cases of restoration under hygienic treatment to which I might refer; but a single instance will suffice to corroborate the view I have here offered. I give the case in the lady's own words, omitting her name, which is at the service of any one who may wish it: —

"Well do I remember what people said to me. I was so far gone with consumption, it was said, that I *must* die at any rate, in the fall, when the leaves dropped: but I consented to make trial of hygienic treatment; and glad and thankful have I been that I did so. In one year from the time I commenced it, I pronounced myself in salvable conditions. During this time, however, I lived in the absence of all gross and greasy foods; ate no salt, spices, meat, or pastry; and drank neither tea nor coffee."

[This letter was written in the year 1857; and the lady, at the opening of 1862, is still alive, and well.]

"I want to tell you what work I, a woman cured of consumption by hygienic methods, have done in a single season. We have built a large, nice house. Whilst building it, we had twelve in family, and kept ten cows. I had a girl to help me to do housework: so I took to painting for additional employment. I painted the blinds for fifteen windows, six by three feet; also several small blinds. I painted all the window-sashes

in the house, three coats; pencilled the building (it was built of brick), as far as I could reach, and stand on a barrel; painted the brackets, two coats, before nailing them; also the cornices and pillars for the porch, before they were raised. Then I painted the entire door-yard fence.

"In the middle of October, last year, we moved into our new house, which was not finished inside: so I had the painting and papering for my winter's work. I dismissed my hired girl; took care of my family, then reduced to three persons; did all my housework; took care of the milk of eight cows; did my washing and baking; boiled a barrel of oil, and ground the lead to mix with it, in a paint-mill. I painted and papered all the rooms in the house, and finished my parlor with white china-lustre; I put on alone a hundred and twenty-five rolls of paper; I made up seventy-five yards of tapestry carpeting, and rag-carpeting for all my rooms, even to my back-kitchen; I painted a parlor for one of my neighbors; did considerable papering for her; and, by the 1st of April, had my new house in order, ready to receive friends.

"I am *well*. I can tire out any of the neighboring women at a day's work. Oh the blessed effects of the hygienic philosophy and treatment on me! I often wish that I had a voice like to an angel's, to sound through the length of the land, announcing the all-sufficient power of hygienic treatment in the cure of consumption."

For the treatment adapted to the second stage of consumption, I might well refer the reader to the formula offered for the treatment of incipient consumption; but, as there are slight modifications necessary, I shall venture to recast it, adding such suggestions as may seem to me needful.

In the second stage of the disease, the application of water becomes a subsidiary means of cure. This is one difference between the treatment proper in the first stage of consumption and that which is adapted to the second. Owing to a misconception as to the utility of water-applications in this stage of consumption, much injury has resulted from their employment, and a general prejudice against hydropathic treatment for this disease has come to exist. As the disease has generally been

treated by hydropathic physicians, I have no doubt that very widely extended ill results have followed, or that a great many persons have had their lives shortened thereby.

I would not allow a patient in the second stage of consumption to be bathed oftener than three times a week: the water should *never* be applied at a temperature below 85°, and very seldom below 90°, and always in a warm room. Nor would I administer baths to such persons in the morning, but in the middle of the day; or, in specially feeble cases, in the evening, when the patient is ready to go to bed. These baths should be administered by an attendant who is in good health and in bodily vigor at the time. Immediately after a bath, the body should be enveloped in a warm, dry linen sheet, by which the water will be absorbed; when the patient should be well rubbed at the hands of an attendant. The rubbing should be light and brisk, magnetic and refreshing; and after it the patient should always lie down, and, covering up warmly, try to go to sleep.

Persons in the second stage of consumption should always be allowed twenty-four or thirty-six hours to re-act thoroughly after a bath. The practice of giving to such persons baths at short intervals is devoid of good sense, and open to very severe censure; because the re-actions that are established are but partial at best, and all partial re-actions are violently exhaustive. The only hope, in cases of consumption in its second or third stage, must be based upon an attempt to direct the vital energies of the patient to the diseased parts, so as to insure the greatest possible re-actions with the least possible strain. Shocks of every kind should be avoided. They cannot take place without great detriment to the sufferer. No matter from what cause or how they arise, they are of fatal tendency whenever they affect the circulation, and especially so when they affect the nervous force. Bathing must, therefore, be pursued after such a plan as to aid the circulation, and to produce a pleasant, gentle exhilaration of the nervous system. Carried beyond this, their effects are unhappy and destructive. Strange as it may seem, it is a common practice — or, if it is not now, it used to be, and has not by any means entirely ceased — to deal out

baths to persons laboring under consumption, with a frequency and a degree of "heroic" application proportionate to the severity and extent of the disease; the idea in the mind of the practitioner being, apparently, that just to the degree that the disease had made progress was it necessary for him to apply severe remedial means. Facts have come to my knowledge, of persons laboring under pulmonary consumption, and so debilitated as to be unable to walk a quarter of a mile, being subjected to three, four, or five baths a day, some of them being at a temperature as low as 72°; the physician having such persons in charge not knowing, or at least not thinking, that such applications must necessarily use up all the vital energy that the patient could possibly furnish over and above what was needed for the carrying-on of the ordinary organic and functional operations in his system; and that, as a matter of course, no curative, but only destructive, changes could follow from such treatment. The experience of many persons, who have tried the "water-cure treatment," has been in the direction of failure; and I have not the least doubt that the cause in nearly every case has been maladministration of hygienic instrumentalities. There is no treatment for consumption so good as the hygienic, none that can be depended upon with so much certainty, none that warrants such large success, none that insures such happy results; but, on the other hand, it may, under an unwise application of it, prove quite as fatal as the drug-treatment. I repeat, that I would never give baths, to a patient suffering from the second stage of tubercular consumption, oftener than thrice a week.

The exercise to which such a person should be subjected, ought not to be, in any degree, of a gymnastic character. Walking, and riding on horseback or in a carriage, are far better methods of establishing and equalizing the circulation than any exercises that a gymnasium can furnish. Specific movements of a passive kind may be of considerable service; though, unless these are connected with measures which are in their nature thoroughly hygienic, they will not amount to any thing. The food of a person in the second stage of consumption should be eaten at long intervals, and in a cool state.

Digestion is carried on more easily when the food is cool than when it is hot. The practice is too common, of giving, to persons suffering from pulmonary disease, food freshly cooked, and the temperature of which is altogether above that of the blood. Such food, when eaten hot, though it may have in it unexceptionable elements, is not by any means in the best state of preparation for the uses to which it is to be put.

The bowels, in all such cases, should be kept open. The best way to secure this end is by means of food: it is a better way than by the use of enemas. However, if the use of aperient food should prove insufficient as a means of regulating the bowels, enemas may be used; but the temperature of the water should be *tepid*, and, if necessary, the quantity injected should be enough to aid, by its gravity, in producing an evacuation. Usually, an enema every other day is sufficient: at any rate, no ill results can come from passing over thirty-six hours without going to stool.

Sleep should be had in abundance, and the patient should always take a nap in the daytime.

Business should be entirely abandoned. It is useless to try to rid one's self of a consumptive condition while the brain is loaded with business cares. There is no disease in which the nervous system needs more complete rest. Persons laboring under consumption do not know or do not consider this; and, as a general thing, they keep themselves so connected with business as to suffer every day great taxation, when they ought to be free from every kind of responsbility. I should no more think of treating persons in the second stage of consumption, with the expectation of restoring them to health, if I were to leave them subject to such a degree of excitement, and to such liabilities to expend vital energy by exercise and labor, as many physicians permit their patients to undergo, than I should expect to perform any other impossible feat. I do not believe that one medical man in five hundred has any well-settled conclusions in his own mind in respect to the recuperative powers of the human organism against the morbid conditions to which it is subject; because he has never set himself seriously and earnestly at work to watch, under favorable circumstances, the

operation of the restorative power. His belief in the *vis medicatrix naturæ*, or in "the healing power of nature," is such as has been induced by hearing it spoken of, until his consciousness has become familiar with the statement; but the practical workings of the principle have never been brought within his observation, so as to arrest and challenge his higher convictions; and his methods of practice are not at all compatible with its exhibition, but, on the other hand, are decidedly unfavorable thereto: so that he comes to deal, for the most part, with conditions of the human system where vital energy is expended in the loosest, most indifferent, and least advantageous manner. Hence persons, who are under his care for the cure of any acute disease, are long sick, when their sickness ought not, from its nature, to be of long duration; and, when they do get well, may properly be said to recover *in spite* of the methods so elaborately, though unintentionally, arranged by the physician to kill them.

Persons in the second stage of consumption should, on no account, expend vital energy in sexual excitement. Absolute continence in all such persons is imperatively demanded. The practice among married persons, of begetting or bearing children when the father or mother is in a consumptive state, is greatly to be deplored, on account of the ill effects on the health of the parent who is thus afflicted. In all such cases, the ill results are much more destructive to the wife than the husband; because, if, as a result of conjugal enjoyment, she finds herself in maternal conditions, then the energies of her system, upon the proper appropriation of which her restoration to health depends, are drawn away in new directions, and she is thus left to exhaust herself and die. Saying nothing of the terrible effects of sexual incontinence upon persons who are of consumptive habit, and *predisposed* to the development of that disease; saying nothing of the ill effects of such indulgence upon those who labor under consumption in its first stage, — it is enough to declare, that any one suffering from the disease in its *second* or more advanced stage cannot recover, even under the very best combination and application of hygienic means, if his or her vital energy is expended in sexual indulgence. For a consumptive so situated to insist upon the usual marriage salutations, is

to insist upon having the disease rapidly reach its climax in incurable conditions, ultimating in death.

As this stage of the disease is not to be regarded as in and of itself incurable, I must guard my readers against any misapprehension of my own views and practice on the subject, by saying, that although it is often attended with much debility, and although persons laboring under it are frequently affected by caprice in their indulgence of their appetites, I am not a believer in the propriety or fitness of consulting or pandering to a capricious and depraved desire for food; but, on the other hand, am greatly in favor of imposing a healthy restraint upon such patients, and of subjecting them to a rigidly systematic diet. Fruits may be eaten in every form that is palatable. For consumptives, there is no better diet than one composed largely of fruits. All our domestic fruits are unobjectionable. Berries, stone-fruits, and seed-fruits of larger growth, are all valuable as food in cases of consumption. Grapes have latterly risen in the estimation of medical men as food for consumptives and dyspeptics; and I am satisfied, that, in all such cases, they are highly beneficial. On the whole, I should prefer setting a consumptive patient down in a fine grapery, to placing him in a Louisiana or Cuban sugar-house.

Grains, as substantial food, are better than flesh-meats or vegetables. Flesh should not be eaten habitually. Whatever may be said in its favor, it is not good food for human beings.

The body should be dressed warmly, but not so as to be burdened. Females should dress in such a way as will admit of a free use of the organs of locomotion, both in and out of doors.

I have known a case like the following; and though it may appear, as it is, an exceptional case, yet it shows from how extreme conditions of debility a person can recover: —

Some years ago, an acquaintance of mine was given up by his physicians to die of consumption. His father was a farmer, and had, at some distance from his house, a "barrack," such as were built by the Dutch, in the early settlement of the country, for the purpose of stacking hay or grain. This barrack

was open at the sides, with a thatched roof, and letting down upon each corner, from the top, posts, which sustained it as the contents below were fed out during the winter season.

This poor, debilitated, night-sweating, constantly coughing, hollow-chested, glassy-eyed, skeleton-looking young man, just ready to die, as his doctors said, had a bed made him on the top of this barrack of hay, and persisted in sleeping there, instead of in the house. After having adopted the plan, he utterly refused to live in a room where there was a fire, or to eat warm food, but clad himself as warmly as he could bear, and thus made a struggle for his life. Strange to say, when he had thus lived for four months, he found himself almost entirely free from his cough, his night-sweats had ceased, his countenance had greatly improved, and he had gained some ten or fifteen pounds of flesh; and, when spring came, he had so far recovered as to keep up during the warm weather. During the ensuing season, his health and strength increased to a great degree, and he is alive now.

While, therefore, I would not recommend persons having consumption to adopt such extreme measures as those used in this case, I would urge upon them the propriety of dressing so as to be able to live largely in the open air. All consumptives should be particularly careful to spend much of their time in the open air; and, when the habit is once established, the ability to live out doors, without sudden checks to the circulation, will be greatly increased.

Third Stage. — This is nothing more than the second stage of the disease, advanced in severity. In its progress, additional complications show themselves, attended by different phenomena, which are caused by increased injury to the structure of the lungs, creating cavities, or showing more extensive depositions of tubercular matter, and manifesting, also, more decided depravation of the fluids of the body, and diseases of organs located remotely from the lungs. The whole chest becomes, at this period of the disease, flattened. The collar-bones and shoulder-bones put forth undue prominence, and the upper ribs show but very little motion in the act of respiration; while the shoulders themselves are raised, and brought forward. The con-

stitutional involvements of the patient are much more severe in this than in the second stage. There is great quickness and weakness of the pulse; the cough becomes more constant; a hectic flush on the cheek is seen at more frequent intervals; the eye becomes glassy; night-sweats are very frequent; the loss of flesh is great; and general debility is always attendant. The bowels oftentimes are diarrhœaic in their action; the feet and ankles become swollen; the nails become curved; and restlessness during sleep is a marked symptom. As emaciation increases, the brain suffers, and the mind becomes affected, though the imagination is preternaturally active; so that the patient indulges in illusions, and has troubled dreams when asleep. In some instances, during the last few days of life, sores break out around the mouth, in the throat, and upon the tongue; and, for a few hours immediately preceding dissolution, the patient falls into a state of insensibility, and the scene closes.

Consumption in its third stage may be considered as generally incurable. Where one person laboring under it recovers, thousands die. Recoveries from the disease in this stage can be regarded only as exceptions, and cannot be relied upon by any person as evidences of its curability. The hygienic treatment, or any other, is therefore valuable, in such cases, only for its palliative influences. In this respect, and for soothing purposes, the hygienic treatment is highly efficient. In a large number of instances during my practice, I have found the application of hygienic agents so excellent in relieving severe symptoms or aggravations of the disease, as to call forth the kindest and most grateful expressions from sufferers. Where nothing can be done except to make the patient as comfortable as possible, the application of water, at soothing and grateful temperatures, in connection with such other hygienic means as will readily suggest themselves to the intelligent reader who has followed me through these pages, has proved of great service, not merely of temporary benefit, but essentially soothing and palliative to the very last hour of life. The symptoms that are almost always attendant at the last exhibitions of the disease can be greatly softened and modified by the use of

hygienic applications. The burning fever, the colliquative diarrhœa, the dryness of the throat and mouth, the swelling and burning of the feet, are made to assume modified forms of manifestation: so that, although there is no possibility of *escaping* death, the patient falls asleep, as it were, instead of going out of the world in throes of distress which rack the sensibilities of friends, and make the last scene one that can never be contemplated with other than painful feelings. I rejoice greatly in the knowledge of how to deal with consumption, in its incurable stages, without using anodynes or opiates: I do so dislike to have a person drugged until intelligence becomes deranged or completely obtuse, when death is in a few hours to lay his grasp upon him. To die with one's consciousness about him, with a full knowledge of the place and the circumstances surrounding him; to be aware that kind and gentle and loving ministrations are being made in his behalf, — must be a source of great satisfaction to the patient, and of great pleasure to the survivors; and therefore, while hygienic means cannot restore to health persons who are incurable, they may so mitigate their sufferings as to relieve their friends and attendants from recollections that would otherwise be very painful.

Mesenteric Consumption, or Consumption of the Bowels.

This form of the disease may as fairly be called "tubercular consumption" as may consumption of the lungs; for it never occurs except where scrofulous tubercles are found in and around the mesenteric glands. Pulmonary consumption may, as my readers will have seen, arise from causes which do not involve the formation of tubercles; though these are generally present, and are the basis upon which the disease rests: but mesenteric consumption never exists in the absence of scrofulous tubercles.

Mesenteric consumption is pre-eminently a disease of innutrition; the food being stopped in its passage from the small intestines to the thoracic duct, so that a general wasting-away of the flesh takes place, and the disease is named "marasmus," or "atrophy," or, in the language of professional men, *tabes mesenterica*.

The indications of this disease, aside from the waste of flesh, are to be found in distention and enlargement of the abdomen, and, in advanced stages, hectic fever. This form of consumption is never seen in persons who are not of scrofulous constitution; for it is caused by enlargement of the mesenteric glands by scrofulous deposition. The disease is sometimes seen in an acute form; but generally it is to be regarded with interest, only when it is of a chronic character. The changes in the mesenteric glands may occur at any period of life; but they are more likely to occur during childhood: hence children and youth are more apt to die of bowel consumption than those who have reached adult age, though such cases are not by any means rare. Sometimes induration and enlargement of the glands take place, and, according to some authors, without any evidence of tubercular degeneration, produced, it is said, by chronic inflammatory action of the skin, and irritation of the intestinal mucous surfaces.

The predisposing causes of mesenteric consumption are a scrofulous constitution, with a delicate organization, and weakness of the digestive organs; the use of unwholesome or insufficient food; lack of proper clothing, and consequent exposure to cold; and living in damp, low, cold regions.

Dr. Copland thinks, "from the undoubted scrofulous nature of the disease in a great majority of instances, that the predisposing causes of scrofula are, to a great extent, influential in producing it. The frequent appearance of tubercles in the lungs, in the cervical and bronchial glands, and in the mesentery, either in various stages of succession or consentaneously, is a proof of intimate connection between both maladies, if not of the dependence of mesenteric disease upon the strumous diathesis. Nevertheless, congestion, enlargement, chronic inflammation, and its consequences, are met in these glands, independent of scrofulous taint."

The disease may exhibit itself at any age, going back even to the birth of the child. In many cases, it shows itself quite soon after birth. Some writers think that it is more likely to manifest itself in infants brought up by hand; but this, I think, is to be decided entirely by reference to the conditions in which

the nurslings might have been placed, had they drawn their sustenance from their mothers instead.

Some writers think, that the disease begins, oftener than otherwise, just after the weaning of the child. My own opinion is, that it develops itself more abundantly at or about the time of puberty, when the sexual functions become particularly active. The changes which the system then undergoes operate as exciting causes to the production of the disease. An additional and by no means insignificant influence in its production is the desire which persons of both sexes, at about this period, have for unhealthy articles of food. These are eaten without reason or moderation, and are but poorly masticated; and, when introduced into the intestines, they irritate the mucous surfaces, and the irritation is carried forward to the mesenteric glands. From such food, too, there is formed an imperfect quality of chyle, which retains irritating properties that determine irritation to the glands; tending, in effect, to congest, inflame, and enlarge them. Wherever there is disorder of the digestive organs, and particularly of the bowels, there may be looked for, in children of scrofulous habit of body, the development of this disease, if such disorder be permitted to continue for any considerable length of time. Inflammation of the bowels, chronic in its character, has a direct tendency to produce the disease. Chronic diarrhœa also may have this effect. Remittent fevers sometimes result in mesenteric inflammation. It is said by medical men whose practice in tropical climates has led them to an examination of the subject, that, in very many instances, changes from acute diseases of the bowels to diseases of the mesenteric glands take place quite suddenly, and soon pass into congested or greatly enlarged conditions of such glands, producing incurable mesenteric disease.

Dr. Joy divides the disease into two periods: first, that in which tubercles exist in an indolent state, without producing irritation in the glands in which they are embedded, or in the surrounding cellular substance; second, that in which the processes of softening and suppuration are going forward.

The first period is attended by no symptoms by which the existence of disease of those organs can be inferred, except

when, as is very seldom the case at this period, these are so much enlarged as to be detected by the touch.

Other writers divide the disease into three stages: the first, or premonitory, which is characterized by languor, debility, pallor, abdominal distention, and flatulence; the second, by emaciation, by hectic fever, by fetid breath, and occasionally by enlargement of the cervical glands; the third, by colliquative sweats or diarrhœa, slight chills or rigors, extreme emaciation, weak, small, and very frequent pulse, and all the phenomena of confirmed hectic, and by varied offensive evacuations.

The early symptoms are referrible chiefly to debility, manifested principally in the digestive organs, and to an inflammatory irritation of the digestive mucous surfaces. There are usually depression, languor, and dulness, with pallor of countenance; the lips swell, and become slightly fissured; the appetite is capricious, variable, sometimes ravenous and perverted; and flatulence, abdominal uneasiness, and general disturbance, follow a full meal. There is sometimes a craving for the most indigestible substances; and the more voracious the appetite, the more marked become the abnormal symptoms and the emaciation. I have noticed in my own practice such cases. The belly becomes swollen and hard, though not sore upon pressure; the kidneys are almost always involved, and, in advanced stages of the disease, quite seriously so; the breath is often offensive, owing to the imperfect action of the skin in eliminating waste material contained within the tissues and the blood; and, whenever sweating takes place, the odor is offensive, — sometimes so much so as to induce nausea in those who are present. Almost all persons suffering from bowel consumption, when the disease is once fairly developed, complain of pain in the back, up between the shoulders, and pain in the region of the small of the back, or sacrum, as it is called, coming on by paroxysms, followed by intervals of relief.

Such, then, are the general outlines of a description of mesenteric or bowel consumption. What are the probabilities of its being successfully treated by hygienic means may now be considered.

As the disease is essentially of a nature arising from imperfect nutrition, the means of overcoming this are those, which, in the main, are worthy of consideration. In this direction, I suggest the following regulations and processes as of prime importance: —

First, substitute, for the patient's ordinary diet, food which is in its nature highly nutritious, but at the same time unstimulating, and therefore less likely to create intestinal irritation than stimulating food would be. It is my uniform practice, in cases of mesenteric disease, to forbid the use of flesh-meats, spices, and condiments, including common salt; all spirituous liquors and beverages which have in them narcotic qualities; and recommend in their stead a diet made up principally of grains and fruits, with *soft* water as the *only* drink.

In the cases of scrofulous children, as well as adults, afflicted with mesenteric consumption, I have adopted the practice of giving the patient food only at long intervals, — to adults, not more than twice a day; to infants, not more than three times, and in very many instances only twice, in twenty-four hours, — with uniform advantage; the benefits of this course showing themselves in the power of the nutrient organs to appropriate food slowly, and at long intervals, much better than when it was taken into the stomach quite frequently.

One of the best means of cure in cases of mesenteric consumption is a sitz-bath, in which the abdomen is immersed in water for from fifteen to fifty-five minutes, as judgment dictates; followed by an ablution of the whole surface of the body. Where there has been great enlargement of the bowels, attended with tumefaction and soreness upon external pressure, as in many cases of mesenteric consumption there is, these baths have been found essentially beneficial; but I do not allow the topical treatment to be administered without immediately following it by washing of the whole surface, so as to qualify the re-actionary exhibitions, and bring into play the vital energies of the entire organism.

Where mesenteric or bowel consumption is connected with great external soreness under pressure, hot cloths spread over the entire abdomen, and kept there for a period of from fifteen to

forty-five minutes, are a source of great temporary relief. The circulation is quickened and very materially aided thereby, congestions are relieved, inflammations are subdued, and enlargements greatly subside.

Enemas are of great value, especially if constipation is an attendant symptom, or its opposite, diarrhœa. Where mesenteric consumption is connected with chronic diarrhœa, as is often the case, enemas of tepid water, washing out the bowels twice or three times in twenty-four hours, and thus saving their inner surfaces from irritation under the presence of acrid matters, will be found a fine auxiliary or adjunct to general hygienic applications.

As a formula for the treatment of mesenteric or bowel consumption, I give the following: —

Every day let the patient have a general ablution, preceded by a mild sitz-bath. Upon coming out of his general bath, he should be wiped dry and well rubbed by an attendant; and then, if feeble, he should immediately lie down, or, if strong enough to take exercise, should walk briskly for ten or fifteen minutes, and then lie down.

In the evening he should take a foot-bath, at a temperature of 90°, for ten minutes; when the temperature should be reduced to 85° degrees for five minutes, followed by an enema, to be retained over-night if possible, to be followed in the morning by another enema, for the purpose of producing an evacuation.

Abdominal bandages should be worn, wet in front; and should be kept on night and day.

As has been already said, the patient's food should be nutritious, but unstimulating.

His mind should be unburdened with business. He should live as much as possible in the open air, and sustain the best social relations available to him.

But let it be remembered, that, in order to have this treatment show its curative effects in cases of mesenteric consumption, it must be *persistently* applied. In some instances, the disease will not yield to less than ten or twelve months' careful, regular, and persevering application of the means here suggested.

at least, I have found it so in my own experience. Large numbers of persons have been cured who had so far become debilitated as to be pronounced incurable by their physicians, and who were little better than skeletons in appearance, — every physical sign or indication being apparently against the probability of their recovery; but who, by patient continuance in well-doing for a period of from nine to eighteen months, were restored to vigorous health, — better health than they had previously enjoyed for many years.

Mesenteric consumption sometimes arises from diseases of the urinary organs. In such cases, however, the destructive effects are of a reflex character. The kidneys being excretory organs, and the bladder being a receptacle or reservoir for the secretion of the kidneys, whenever one or both of these organs become deranged, the nutritive system is disturbed; and from the fact that the kidneys and bladder are located in close conjunction with the bowels, or with that portion of the structure upon which healthy nutrition is largely dependent, the assimilative organs, from sympathy with the kidneys and bladder, take on extensive derangements. When this is the case, the treatment employed must have special reference to this sympathetic relation. As an illustration of the truth of this view, I have known a man, who, from congestion of the kidneys, became poorer and poorer in flesh every day, not because the kidneys were in especially dangerous conditions, but from the fact that the nutritive system sympathized largely with the excretory system; and, congestion of the external and internal membranes of the bowels taking place because of the sympathetic relation with the kidneys, great danger of inflammation came to exist; and, but for the speedy relief afforded him, the man would have gone into such an innutritive state, as to lose in a short time all the flesh there was upon his body, and have died.

In some instances, the nutritive system is broken down by the great drain that is made upon it through the deranged state of the kidneys. Persons having diabetes, or an unnatural flow of urine, are not infrequently found in such conditions, that, whatever may be the quantity of food eaten, no nutrition will result from it. They eat and grow poor steadily, their

food seeming to be only partially or not at all assimilated; insensible perspiration by the skin ceasing almost entirely, and inordinate flow of urine becoming the particular morbid exhibition. Wherever there is a manifest connection between diseases of the urinary organs and the assimilative structure, great care should be taken to guard against any such progress of the disease as seriously to involve the nutritive organism, or its power to furnish the system, from the food eaten, the constituents necessary for its general maintenance. If any such drain is once established from the derangements of the urinary organs as is seen in diabetes, the patient and his friends may well be alarmed; for it is one of the most difficult diseases to treat, and almost always ends in atrophy, or consumption of the bowels, or in such fixed pulmonary disease as to carry off the patient rapidly by lung-consumption.

For the treatment of diseases of the urinary organs which affect the nutritive system with great severity, and tend to a speedy breaking-down of their energies, I know no system as good as the hygienic. In many cases of diabetes, congestion or inflammation of the kidneys, chronic inflammation of the neck of the bladder, ulceration of the neck of the bladder, and bloody urination, I have found the hygienic treatment entirely successful in effecting complete restoration to health. Some very interesting cases of recovery have come under my personal observation and professional care; and it may be instructive to the reader for me to cite a few of them, going to show how diseases of the urinary organs, that had so far progressed as to have seriously affected the health of the entire structure, were cured by hygienic means.

A few years ago, there came to me for consultation a gentleman from ——. He was a man who, in his best conditions, weighed over two hundred pounds. When he placed himself under my care, he was rapidly failing in strength and flesh, had a fever upon him daily, and passed not less than from four to six quarts of urine every day. His appetite was voracious; and, though his general bulk seemed to diminish daily, his bowels were greatly enlarged. This enlargement was not, however, of a dropsical character, but grew out of the sud-

den enlargement of the mesenteric glands, consequent upon tubercular depositions in and around them; and therefore, while he grew poor generally, his abdomen enlarged, and caused him to put on signs of approaching or actual mesenteric consumption. I placed him under treatment, and in four weeks changed the whole action of his system, so that his appetite became natural, his food digested well, the secretions of his skin were healthful, his flow of urine became lessened to the usual quantity and resumed its usual color, and the man went home *well;* in which state he still continues. His case was deemed a very remarkable one.

The treatment of this patient was as follows: Two days in a week, in the middle of the forenoon, warm fomentations over the stomach and abdomen, twenty minutes, followed by sitz-baths at 82° 20′; and two days in the week, at the same hour, pack forty minutes in a sheet wet in water at 85°, followed by a half-bath at 82°; making four baths a week. Wet abdominal bandages were worn day and night, and the patient was gradually put upon a simple vegetarian diet.

Some three years ago, but after the occurrence of the case just related, a gentleman came to me to be treated for diabetes. He lived in the neighborhood of one of our inland cities, and had been under the care of the best physicians in his vicinity. He passed generally, under his diseased conditions, from one to two gallons of water daily; that is, within the twenty-four hours. He, too, had a voracious appetite, which he had been permitted to gratify. His food, by order of his physicians, had been made up almost entirely of flesh-meats, under which diet he had lost nearly forty pounds of flesh; and his disease had progressed so far, that he had a cough, night-sweats, bloating of the bowels, swelling of the feet, a hectic flush in the after-part of the day, and such paralysis of the neck of the bladder, that, when urine was secreted in his bladder, this organ acted upon the principle of a siphon, and urine flowed out; so that every night he would defile his couch, and wake up to find his clothes saturated with the fluid that had passed from him unconsciously. He stated, upon examination, that he had not had water enough to drink to satisfy his thirst at any time during the six months

just previous. I told him to drink all the water he pleased, and that I would insist upon changing his diet from meat to fruits and farinacea; inasmuch as I did not believe in the theory of the superiority of the former over the latter, in cases of diabetes.

The first night he was under my care, I gave him a sitz-bath, 85° 15′; the next day, a half-bath, as before; and the next night, a sitz-bath at 85°: and such was the distribution of vital energy to the diseased parts, that he lay all the third night without any unconscious passage of urine; though he had to rise frequently in order to relieve his bladder.

Under a fortnight's treatment, he gained some fourteen pounds in weight, his water was reduced to less than two quarts in twenty-four hours, he walked three miles to take the stage, went home, and the next summer was in the harvest-field.

I mention these cases, not for the purpose of creating marvel, but of showing that diseases oftentimes manifest themselves in extreme forms, and lead professional men to unfavorable prognostications, while as yet there are, lying back in the system, abundant energies for the recovery of the patient, if they are wisely appropriated.

In all diseases of the urinary organs, involving impairment of the organs of nutrition, I can recommend the hygienic treatment to my readers; affirming that it is as efficient as it is simple, and easy of application.

The treatment which I usually prescribe for diseases of the kidneys and bladder, is, as I have already hinted, predicated upon a recognition of the fact, that such diseases are often secondary in their character, and that the causes of their existence are frequently to be found in derangements of other organs. Thus persons having piles often experience relief in this direction by the substitution of a disease of the kidneys; and persons suffering from inefficient action of the skin frequently find themselves in conditions where their kidneys and bladder are seriously affected by being called upon to do twice or three times the work that would naturally devolve upon them if the skin was kept in order. Such being the case, it is well for the patient and his friends to look after the hidden causes of

his derangements. Whenever I have a case of kidney difficulty, or disease of the bladder, to deal with, unless it is of an organic nature, I turn my attention to the conditions of the skin and bowels; feeling assured that I shall find them out of order, and that any rectification of their states which I may be able to bring about will relieve the overburdened organs for whose relief my aid has been specially solicited. General baths, therefore, productive of a full and vigorous action of the skin, the use of foods tending to keep up a regular and healthy action of the bowels, with such topical* treatment as is calculated to lessen the congestion and inflammation of the organs specially affected, are the best means of cure in all such cases. There is not the least necessity for diuretics, cathartics, opiates, or any thing of the kind.

---

* *Local* treatment; that is, baths applied to the parts particularly affected; as, in this case, sitz-baths of a mild temperature.

CHAPTER XXV.

WHAT IS NOT THE TRUE TREAMENT FOR PULMONARY OR MESENTERIC CONSUMPTION.

The question now arises, What is *not* the true treatment of pulmonary or mesenteric consumption.

First, it is not by taking poisons, by whomsoever administered. The practice of giving poisons to people who are sick has almost the entire support of the medical profession, and, in addition, is largely sustained by the laity. Nevertheless, on sound philosophy, it is indefensible. The curative efforts put forth by Nature are positive in character, and direct in effect: hence all her "medicines" are substances which are health-preserving, and of course must be health-restoring. Poisons, in *their* nature, are health-destroying, and therefore cannot be health-restoring. True, persons, when laboring under certain diseases, who take poisons, get well; but this is in spite of remedial exhibitions, and is always to their disadvantage. I do not believe that there is a living physiologist or pathologist, who, called to the consideration, in the abstract, of the effect of poisons on the human system, would not admit that their tendencies are to injure the living organism just to the extent that they are introduced into the circulation. A very learned physician, in discussing this question, offers the following synopsis, as going to show the degree or extent of injurious effects which the administration of poisons may produce upon a human body. He heads his synopsis, —

"I. Modes in which Poisons are employed or exhibited.

a. To the respiratory organs, inhaled or inspired.

b. Taken into the stomach.

c. Applied externally, the cuticle not having been removed;

or to a surface, the cuticle of which has been removed; or introduced into a wound, or injected into blood-vessels.

d. Injected into the larger bowels.

e. Introduced or injected into the sexual organs.

f. Injected into the urinary organs.

II. The Action of Poisons.

a. Poisons act locally and primarily.

b. Remotely and consecutively.

c. Both remotely and locally.

d. Chemically.

III. Channels through which Poisons act.

a. Primarily and locally; on the nerves of the part; on the capillaries and vessels of the part, and the contained fluids; on the irritability of the tissues; on the general structure of the part.

b. Sympathetically, or by nervous influence; or through the media of the organic and animal systems of the nerves.

c. Organically, or by imbibition or endosmose and absorption, or through the medium of the circulating fluids.

IV. General Effects of Poisons.

a. Depressing nervous influence and vascular action; lowering vital power.

b. Inordinately exciting nervous influence, either organic or animal.

c. Inordinately exciting vascular action.

d. Exciting nervous influence and vascular action; exciting vital power.

e. Exciting nervous influence, or exhausting vital energy.

f. Altering nervous influence and vital power.

g. Producing a succession of two or more of these states or effects.

V. Special Operation of Poisons.

a. Abstracting the animal caloric, or depressing the calorific process in a part or throughout the body.

b. Benumbing, depressing, or suppressing sensibility, or the organic nervous influence.

c. Paralyzing involuntary motion and voluntary movements.

d. Softening, liquefying, or dissolving one or more tissues or textures.

e. Irritating particular organs or parts.

f. Astringing and increasing the tone or vital cohesion of certain tissues.

g. Diminishing or increasing the irritability of contractile parts.

h. Augmenting certain secretions and excretions.

i. Stimulating the ganglionic, spinal, or sensory nerves.

j. Altering the vital actions, the secretions, and nutrition of particular organs or textures, according to the substance employed and the mode of employment."

Here, then, we have a synoptical description of the effects of poisons in the various forms in which they may be introduced into the body; and it is note-worthy that the writer evidently is impressed with the idea, that, whenever poisons are thus introduced, they are injurious. The delusion resting in the general mind on the subject of the therapeutic effects that may be produced in the use of poisons in given diseases, depends mainly upon the notion, that given substances are likely to produce different effects when administered by different persons. Thus, if a man were to take opium on his own responsibility, the popular impression would be that it would do him an injury; but, if the same quantity were given him by a physician, the impression would be that it might do him a service: as though, other things being equal, there could be any different result in the case because of a different administration of the poison. On this subject, however, suffice it to say, that, in the treatment of either of the forms of consumption to which I have directed public attention, there is not, in their entire classification, one which can be of any service whatever in preventing or curing consumption; but there are a great many, which, however judiciously and skilfully administered, may be productive of the most deplorable results. True, it is quite common

to suppose and to affirm otherwise; but facts are amply sufficient to justify my averment. Not a week goes by in any neighborhood, where there is a group of families numbering a population of five hundred, in which deaths from drug-poison of some kind do not take place. These deaths do not result entirely from poisons administered by physicians, but, perhaps in a majority of instances, from poisonous substances prescribed or administered by empirics. Patent medicines are a frequent and prolific source of disease and death to those who take them; and all the arrangements, which are organized by the great brood of ignorant and quackish practitioners in our land, are largely dependent upon the use of poisons, in some of the varied forms or ways described in the synopsis above. The poisons in most common use are mercury, opium, alcohol, arsenic, and the essential poison of tobacco. The first three are used by educated physicians; the fourth is used by cancer doctors in the cure of cancers, old sores, eating-ulcers, and skin-eruptions; the last is in common use by and among the people at large. I could instance a hundred individuals within my own personal knowledge, who have died most undoubtedly under the direct or remote influence of each one of the medicines I have named; and I can count hundreds on hundreds of persons whose lives have been destroyed by the use of alcohol and tobacco.

A very great mistake that exists sometimes with physicians, but generally among the people, is, that because the dose of any poison taken is small, and has been frequently repeated, the danger resulting from it is inconsiderable, and unworthy of notice. Now, slow poisoning is no less destructive to life than that which is rapid, and the difference between the two is only in the quantity taken. Where the dose is small and frequently repeated, instead of highly acute and inflammatory symptoms being immediately present, there are indications, unmistakable to the medical man, going to show, that, however insidious or occult the poison may be, there is no room for doubt as to the result. Inexperienced persons might readily mistake slow poisoning, in many instances, for chronic diseases of the nervous system or of the digestive organs. Hahnemann himself, the

father of homœopathy, has defined slow poisoning as the "gradual sinking of the powers of life, without any violent symptom; a nameless feeling of illness, failure of strength, aversion to food and drink, and all the other enjoyments of life." I have observed, that in many instances where poisons are medically administered, and changes of symptoms are consequent, these, though relied upon by the medical adviser as evidences of returning invigoration, are, oftener than otherwise, to be regarded as proofs of incurable conditions, and, in frequent instances, of rapidly approaching dissolution.

A distinguished physician admits, that in the use of arsenic, when applied to sores, ulcers, eruptions, or to blistered or other surfaces, deprived of the cuticle, fatal poisoning has been produced; and, when not fatal, local inflammation is excited, and constitutional effects of the highest injuriousness are caused by its absorption. A professional gentleman of large information says, that he has known three cases of death caused by the absorption of arsenic from cancer-plasters applied for the cure of the disease. Another says, that a friend of his being greatly annoyed by a carious tooth, he was induced by *his* friends to apply to the afflicted part a paste, one of the ingredients of which was white oxide of arsenic. After the application, local inflammation took place within two hours, so as to involve the whole jaw; and, though antiphlogistic means were promptly adopted, the inflammation soon involved the throat, larynx, and trachea; and he died in extreme distress of what was regarded as laryngitis, before twenty hours from the fatal application had expired.

Arsenic forms the basis of almost all the quack or patent medicines that are used in the shape of ointments. Persons having piles apply ointment with arsenic in it. It is used also for cutaneous eruptions, for vaginal diseases; taken internally to produce abortions, and into the stomach under regular medical advice.

A deadly poison, in common medical use for the cure of rheumatism, is colchicum. It is given on account of its influence in paralyzing or diminishing sensibility, and is supposed to have the effect of increasing the activity of the excretory organs.

It almost always acts as an irritant on the alimentary canal. In some instances, however, it greatly depresses vascular action and vital power. The smallest dose occasionally produces alarming symptoms, especially where there is a constitutional idiosyncrasy.

I need not say any thing in regard to the destructive effects of mercurial poisons, or of the like effects of alcohol or tobacco. The people are well aware of the terrible inflictions which these poisons produce; and if they cannot be made to avoid their use or administration, in the light of the facts they are constantly meeting, they would not be likely to be influenced by any thing I might say.

Poisons, however, are not confined to substances which are regarded as medicinal: they are often secreted in food. Meats are often poisonous; so are fish; so is cheese. All kinds of meats, it has been said by a very eminent allopathic physician, are sometimes poisonous, even in a fresh state, independent of any disease. They also may be poisonous owing to some disease of the animal at the time of its death. Some are injurious on account of the changes occurring after the killing of the animal. The secretions of certain animals are poisonous during their lives, especially those intended for self-preservation; and the fluids and secretions of others are sometimes poisonous both during life and after death, owing to the nature of the disease of which these animals are the subject. These latter affect the health, contaminating the fluids and soft solids.

Another distinguished allopathic physician says, "Fresh pork is often injurious, and gives rise to various morbid symptoms, according to the peculiar temperament of the individual, and the manner in which the animal is fed. In warm climates, especially, is pork very injurious, producing diarrhœa and dysentery. There can be no doubt of the estimate of the Mosaic law in regard to its use. Fresh pork, when eaten, produces various poisonous effects. In some cases, it creates a dry and burning sensation in the throat, with pain in the stomach, retchings and vomiting; a sense of sinking at the epigastrium, accompanied by coldness of the extremities; cold, clammy perspiration; colicky pain in the abdomen, with weak, small, and

irregular pulse. In other cases, the face swells excessively, extending over the entire scalp, without any redness; at the same time, however, accompanied by swelling and tenderness of the abdomen, and an eruption of a fiery-red and itching nature, particularly upon the breast, legs, and arms."

Some physicians believe that the poisonous effects arising from the use of pork are produced chiefly by the fatty portions of the meat. One celebrated doctor says, that, in "the United States, a preparation of pork, called 'head-cheese,' is more frequently injurious than any other variety of this food; and that this is probably owing to incipient decomposition of the centre of the cheese, as in the case of German sausages."

Dr. Copland says that he has known very severe effects produced by eating bacon; and Dr. Christison, speaking of the various kinds of animal substances that readily become poisonous, says that those most frequently affected are sausages, bacon, hams, dried beef, mutton, cheese, smoked salmon, and various other dried and animal substances.

The "London Medical Gazette" of November, 1842, gives an account of three cases which terminated fatally from the effects of eating sausages made of the liver of an apparently healthy pig, slaughtered only a week before. An inspection of the bodies threw no light on the immediate cause of their death.

Poisoning by the eating of sausages occurs more frequently in Germany than elsewhere on the Continent; and in thirty years, in the State of Wurtemberg, two hundred and thirty-four cases of sausage-poisoning occurred, of which a hundred and ten are said to have proved fatal.

But this is not the only way in which meats become poisonous. The flesh of animals which have been over-driven or heated, particularly if the animals have gone without drink for some time previous to their being killed, becomes poisonous. The milk of the domestic cow is often poisonous; becoming so from some poisonous vegetable upon which she has fed, either in the field or in her stall. In the early settlement of some of our Western States, the inhabitants were troubled with what was termed "milk-sickness," or "trembles." In a report by Drs.

Hoshack, Post, and Chilton, it is said, that owing to the symptoms of poisoning which have followed the use of beef, butter, and cheese, from these districts, the American Government caused a medical inquiry to be instituted; and the reporters recommended the prohibition of the sale of these articles.

Dr. Charles Lee, Professor of Materia Medica, and Pathology, in Geneva College, New York, states "that cases of poisoning from eating smoked beef, head-cheese, and ham, are not of uncommon occurrence.

"In December, 1841, about forty cases of poisoning from eating smoked beef occurred in a particular neighborhood, and could all be traced to the same source. About nine hours after partaking of the food, pain and uneasiness were experienced at the precordial region, attended with vomiting, great thirst, and a burning sensation at the pit of the stomach, the irritability of which soon became so great, that no substance could be retained by it for an instant, either as food or medicine. These symptoms soon assumed the most aggravated form. Extreme prostration followed; the functions of the nervous, muscular, and digestive systems were quite impaired; and the period of convalescence was very protracted and tedious."

He adds, "There can be no doubt, I think, that the poison was generated by partial decomposition after the death of the animal; or it is possible that the animal that furnished the beef was diseased. Analysis proved that the beef contained no mineral or vegetable poison. A decoction made from it, when thrown into the circulation, caused death in about three and a half hours."

Of the "milk-sickness," or "trembles" as it is called, which formerly prevailed, and still prevails to some extent, in some portions of the Western States, it is said "that its name had its origin in the circumstance, that it was frequently communicated by the use of milk or butter of the infected animal, though it would be as readily produced by eating the flesh; and the latter name arose from the symptoms of *trembling* motion of the voluntary muscles, manifested in cattle."

"Horses as well as cattle die of the poison; and dogs, cats, buzzards, chickens, and crows die from eating the flesh of ani-

mals that have perished by this disease. Sometimes the animals are affected to that degree, that their flesh and milk will produce the disease in men, and yet they themselves manifest no unhealthy conditions whatever." For the truth of this statement, the "American Medical Recorder" is responsible.

Dr. Graff, of Edgar County, Ill., says, "Hundreds of persons throughout the West and South-west annually perish from its attacks."

"Butter and cheese, manufactured from the milk drawn from the infected cows, are supposed to be the most concentrated forms of this poison. They possess no distinguishing appearance, color, or taste, from the healthy article; and a very minute quantity of either will suffice to develop the disease in man. The cream ordinarily added to the coffee drank at a single meal is said to have induced an attack. The butter or cheese eaten at one repast has been frequently known to be effective. The poison is not contained in any of the elements of milk exclusively, but distributed through the whole of them; being possessed by the buttermilk as well as by the whey." The same writer remarks, in the "American Journal of Medical Science" for 1841, as follows: —

"A murderous practice is now carried on in certain districts, in which the inhabitants, who will not themselves consume the butter and cheese they manufacture, send it in large quantities to be sold in the cities of the West, particularly in Louisville, Ky., and St. Louis, Mo."

A committee in New-York City, employed to report upon the subject of poisoned beef, of which the late Dr. Francis was chairman, observed in that report, that, from the inquiries they have been able to make, they "have ascertained that immense droves of cattle come from the West to supply our markets, are driven across the mountains, and reach New York from the South, and are hence called by the dealers Southern cattle. Many of these cattle become diseased on the route, and are then exchanged for the pasturage of the herd. In this condition they are frequently slaughtered by the farmers; the flesh sent to the city, and exposed for sale; producing, in persons who make use of it, symptoms of aggravated cholera-morbus."

Physicians attest having frequently met with such cases, which it was impossible to account for in any other way. It is well known that the livers in Southern and Western cattle are very liable to be diseased.

In the "New-York Journal of Medicine" for November, 1843, Dr. Forry observes, "Among the cattle of our Western country, and especially of Ohio, there are frequently found in the liver most extraordinary formations. This viscus is often discovered completely studded with osseous sacs containing a dark fluid, in which lives a species of entozoa, having physical characteristics almost identical with the native leech. Of these leeches, as many as fifty or sixty may be found in a single liver; so that not a cubic inch of normal liver remains."

Dr. Copland remarks, "I have repeatedly had occasion to observe, that the *milk of a nurse* has produced all the symptoms of slow poisoning, occasioning vomiting, diarrhœa, and sinking of the vital power, with and without convulsions, in the child which she suckled; and that this state of her milk was not occasioned alone by the nature of the substances eaten as food, but also by the more violent mental emotions."

A Mr. Abbott, who travelled in the East, states that persons are often poisoned by eating honey. The symptoms are a violent headache, vomiting, and a condition resembling intoxication.

Xenophon, in his account of the retreat of the ten thousand Greeks, alludes to the effects produced by poisoned honey.

Dr. Barton, an American physician, says that the symptoms arising from the over-use of poisoned honey are dimness of sight, or vertigo; succeeded by a delirium, which is sometimes mild and pleasant, and sometimes ferocious; attended with convulsions, foaming at the mouth, vomiting, purging, and, in a few instances, death."

Dr. Hoshack, in the "Edinburgh Philosophical Journal," says "the chief symptoms, as witnessed by him, were violent vomiting, cold extremities, and livid appearance of the countenance, the pulse being remarkably reduced."

Tobacco. — This poisonous weed goes by two names, — Indian tobacco, or lobelia; and Virginia tobacco, or tobacco of

the shops. "The poisonous operation of these two plants," says Dr. Copland, "closely resembles that of each other; the Virginia tobacco being the most energetic. In doses exceeding fifteen or twenty grains, lobelia causes speedy and severe vomiting, with distressing nausea, and sinking sensation at the pit of the stomach. The most prominent symptoms are extreme prostration, great anxiety and distress, and ultimately death, preceded by convulsions."

Dr. Charles Lee, in a foot-note in Dr. Copland's "Dictionary of Medicine," states that "several cases of the fatal effects of the administration of this poison have been embodied in the Massachusetts Reports, which contain an account of the trial of old Dr. Samuel Thompson for the murder of Samuel Lovett by administering lobelia." He also makes a note of a similar trial which took place before the Court of Sessions in the city of New York, in December, 1837, in which a doctor by the name of Frost was tried for the killing of a Mr. French by the administration of lobelia. In the case of Dr. Thompson, acquittal was the result of the trial. In the case of Frost, the jury declared him guilty; and he was sentenced to undergo fine and imprisonment.

But, where lobelia has killed one person, Virginia tobacco has killed thousands. Doubtless it is the most deadly poison in common use in this country. Dr. Copland classes it as one of the most deleterious poisons furnished by the vegetable creation. Sir Benjamin Brodie confirms this view.

Of the manner of using it, undoubtedly chewing is the worst form in which the habit can be confirmed. Persons who use it as snuff are almost always dyspeptics. Its effects upon the stomach, in this form, are more severe than in any other; and oftentimes malignant diseases of the stomach and liver result from its use.

Dr. Marshall Hall states that "the use of tobacco by smoking tends to render the mind of the person using it weak and effeminate, and his offspring puny, and stunted in growth; and that it particularly awakens a desire for spirituous liquors."

Another distinguished physician says that "persons habituated to the use of tobacco by chewing are proverbially irritable,

restless, and miserable, when deprived of it. If they continue to indulge in it, they lose their healthy appearance; and, although they may not evince any severe or specific disease, the nervous system, and especially the mental powers, are weakened by it, and the persons become prematurely aged and short-lived."

My readers can see, then, that it is not by taking poisons, whether administered by physicians or under popular usage, that the subject of pulmonary or mesenteric consumption can hope to be cured; nor is it by taking patent-medicines, nor by medicated inhalations, nor by using stimulating beverages, nor by eating scrofulous flesh-meats, nor by using mineral waters, nor by being shut up in the house. Invalids have no more fatal habit than that of shutting themselves up in houses, and especially in close rooms. In order to have healthy conditions of the nervous system as well as a healthy state of blood, life in the open air is absolutely necessary. The strongest man immediately begins to fail in the direction of vigor, actual strength, and powers of endurance, when circumstances force him to dwell within shady walls, and to breathe the air which they contain: for, in the first place, it is very difficult indeed to get thorough and complete ventilation of any room which one may inhabit; and great pains must be taken, or only partial success is had.

We have accustomed ourselves, as I have said in a previous chapter, to consider the benefits of pure air, and the injurious effects of impure air, as consisting mainly in the effects which are produced on the *blood;* but the larger my experience, and the wider my observation of the causes of disease, and of the difficulties that lie in the way of overcoming them, especially diseases of the lungs, stomach, and brain, I am strengthened in the belief, that the most serious ill effects from the use of impure air are to be seen in debility of the cerebro-nervous system. It is nearly always the case, that persons who are suffering under any form of consumption, be it incipient or in more advanced stages, show nervous derangement, either of the brain, the organic nervous system, or both, previous to the appearance of their consumptive disease.

If it be true, then, that atmospheric air in its purity is necessary to the maintenance of health of the nervous structure,

and the proper transmission of vitality by the nervous systems, — then just to the degree that impure air, or air from which oxygen has been expelled, is substituted, may it be set down as a safe and certain conclusion, that diseases which depend upon the depravation of the brain and the organic nervous system cannot be cured; for, while the cause of such disease is active, the effect cannot be made to cease, unless by such a change in the direction of the vital force, as, at no distant day, will prove terribly injurious, if not positively destructive, to the life and health of the sufferer.

Life in-doors, to the extent common with our people, is highly perilous to the health of every one who subjects himself to it. Whether the person be male or female, makes no difference; or, if it does, the difference is in favor of the former. Women, owing to the peculiarity of their sexual organism, need life in the open air even more than men do. If either is to be shut up in the house constantly, man can bear it the best, without being made positively and seriously sick by it, and can endure it the longest; for while it is, without doubt, true that the vitality of woman is quite equal to that of man, and that her power of endurance, in directions where she possesses strength to perform the duties laid upon her, is equal, if not superior, to his, — yet the relations which her special organism bears to her general structure are such, that, if she has not good opportunities for the maintenance of her general health, her special organism becomes involved, and re-acts upon her health at large: so that, while it is true that a great many persons of the male sex can be found suffering from ill health consequent upon previous derangements of their sexual organism, the number of males thus suffering is proportionally much smaller than the number of females. Women are to be found in great numbers, in this country, suffering from diseases which affect their entire organization; which diseases have their origin in derangement of their sexual structures, originating in the subjects of them having had imposed duties which required them to remain shut up in houses. Hired girls, who do kitchen-work; chamber-maids in hotels or private houses; seamstresses; girls who work in cotton-factories, paper-mills, and shops where mechani-

cal arts are in operation, and where they have given to them the lighter forms of employment, — are all compelled to undergo so long and uninterrupted confinement daily, within the walls of the buildings where they labor, as to make it impossible for them to continue, for any considerable length of time, in good health. Whenever cases of this kind come to be examined, it will be found, that the brain and the organic nervous system were originally at fault; that the sexual organism next became involved, then the digestive organs, and then the general health.

Now, as pure air is of the greatest importance, and the only proper place to get it is out of doors (because there it can be had in profusion, and in connection with another agent not less necessary to the maintenance of the highest health, and for the cure of consumptive disease), to live in such a way as to be prevented from having opportunities for breathing it, is greatly to increase the improbability of recovery from any lung-diseases under which one may labor.

Light does not have given to it, in the estimation of those who are seeking to recover from disease, any thing like the importance which really belongs to it as a therapeutic agent. In a former chapter of this book, I have alluded to this subject, and spoken of the influence of light in preventing disease; but it is worthy of still further notice when viewed from the curative point.

The best qualified investigators into the nature of the nervous energy, and the means whereby it is maintained, have come to the conclusion, that electricity is, for this purpose, the most essential agent of all the imponderable forces. It is said that light is the agent by which this substance is transmitted through space in the largest and best arranged manner; that facts go to show that the electrical conditions of living substances, whether animal or vegetable, are essentially modified by those changes in the planetary system which interfere with the rays of light, and prevent them from playing upon the surface of the earth; that the period of the twenty-four hours wherein there is no light, or only a reflected light, upon the earth's surface, presents the exhibition of the living forces, in the human

as well as in all other animal and vegetable organisms, at a lower point, by a number of degrees, than during those periods of the day in which the sunlight falls with little or no obstruction upon the surface of our earth.

The reason of this deficiency of vigor in the human body, as well as in other animal organisms, is attempted to be accounted for on the ground, that electricity cannot be communicated in any positive degree when light is absent; and that because of the absence of light, and the consequent impossibility of having electricity transmitted to the brain and blood of living creatures, is it that nature imposes rest and sleep upon them during the hours of darkness. In proof of this statement, facts have been accumulated, going to show, that, on a large scale, human beings, as well as animals, who have tasks given them to perform in the night-time, of the same kind and character as those which are usually performed in the daytime, uniformly break down under such tasks, while they retain vigor and ability necessary in order to their performance in the daytime. This cannot be accounted for simply on the ground, that sleep is not obtainable by such persons in as perfect a manner in the daytime as at night, for this is not true; but it is to be accounted for on the ground, that sleep is not as refreshing in the daytime as in the night-time, simply because of the different conditions in which, under the transmission of electricity, the nervous system is to be found. There is an essential difference in the conditions of the nervous and circulatory systems, both as regards the quality of their force and the perfectness of its exhibition, when the subject is surrounded by light, and when he is entirely deprived of it. Light gives vigor to the organism which it touches; and it does so because it communicates electricity. It is the medium through which this imponderable yet mighty force is transmitted. We never see exhibitions of electricity, except where they are accompanied by light: therefore we denominate those manifestations of it, displayed in the heavens, by a word coined for the purpose. We call electricity "lightning," when seen in the clouds; we call it "a *spark* of light," or "lightning," when we see it issue from a battery.

Light and electricity are not regarded by scientific men as

one and the same substance; but they are considered to be separate substances, yet so connected by some relation, yet undiscovered, that they always go together and appear together. Where electricity shows itself, light is seen; where light shows itself, electricity is present: and, if one can make up his mind as to the dependence of his nervous system upon electricity for its highest exhibitions of force, he can then determine the importance of light in the preservation of health and the cure of disease.

In all cases, therefore, where sick, debilitated, or delicate persons are placed under my medical charge, one of the essential requisites to their recovery or improvement is that they shall have abundant opportunity to be out in the sunlight. As a common but very significant evidence of the value of sunlight in its effects upon the sick, one has only to recur to instances and facts, within his own experience, of the invigorating effects produced upon a sick person by being carried out of doors on a bright, sunshiny day. Whatever, then, may be the value to be attributed to the influence of light in determining and maintaining healthful relations of the human body, that measure is not lessened an iota when we view it as an agent to be used where the body has lost its health. Give sick persons, especially consumptives of both classes, plenty of light and rest; assured that, if such persons are curable, the benefits resulting from such measure will be far greater than the trouble required in order to place them in such conditions.

The true treatment of consumption will not be found in eating an insufficient quantity of food. Among a certain class of reformers in the United States, the idea has gone abroad, that, for the cure of disease, long fasting is highly beneficial and essential. I have known a number of physicians, calling themselves "water-cure physicians," who have undertaken to cure dyspepsia, liver-complaint, bronchitis, piles, constipation, and sexual infirmities of both sexes, by withdrawing entirely from them all nutriment for quite lengthy periods of time. One physician undertook to cure a lady, who subsequently became a patient of mine, of chronic inflammation of the stomach, by giving her no food: and he kept her (so he reported, and she

confirmed his report) over twenty days, during which time she ate nothing; taking into her system water simply. The point he wished to gain, before giving her any thing to eat, was the removal of the evidences of gastric irritation which the tongue showed. When she began fasting, her tongue was very much furred; and he said that the tongue was an exact index of the conditions of the stomach, and that, as long as the tongue was furred, the stomach was not in a fit state to receive food. So day after day went by; she, poor creature! starving, in the vain hope that at length the period would arrive when there would be no fur upon her tongue, and her physician would pronounce her stomach to be fit to receive nutriment, and dispose of it. When twenty days had elapsed, and she was nearly dead, her friends, I believe, interfered, and insisted upon her being taken out of the hands of her physician. This was done; and very slowly and with great difficulty she was brought back to such a degree of strength and measurable health as she possessed at the beginning of her abstinence. The manifestations in her case rather puzzled her doctor. The longer she went without food, the more furred became her tongue; and, if he had not been interfered with, it is not at all unlikely that the result in her case would have been like that in the case of the horse, whose owner undertook to teach him to live without food, of whom history records, that, when he had reached this point, the horse disappointed him by dying.

The starvation or hunger cure is a humbug. People do not need to live without food. There is no condition of the human body in which nutriment may not properly be administered, save in such cases as show the existence of severe inflammation, and where depletion is necessary. Under such circumstances, it is proper and better that the patient should go without food, and thus suffer the necessary depletion, than that he should be bled or catharticized. But consumptives are not cured by starvation. What they particularly need is *nutriment*. If one can contrive to furnish this in proper quantity, and have it rightly distributed, the patient cannot help getting well. Consumption always has at its bottom imperfect action of the nervous and nutritive forces. In a large majority of cases, dyspepsia is a

condition precedent to consumption, whether of the lungs or bowels. Let persons who are laboring under consumptive disease eat plentifully; but let their food be unstimulating.

The true treatment of consumption is not in the use of hard water. I do not think there is a point connected with the hygienic system of medication upon which the people are so much in need of instruction as upon the use of water. Medical men, from time immemorial, have written of the uses and abuses of air; but few persons have ever been enlightened on the subject of the uses and abuses of water. Now, I affirm that no disease exists which is not certain to be aggravated by the use of impure water. I care not what the morbid condition may be, if the water used as a detergent or solvent is impure; to the degree that it is so is it unfit to be used: and nothing can more significantly illustrate the quackishness or empiricism, which, from the very birth of the water-cure treatment, has surrounded it in the United States, than the fact, that physicians who are its advocates and defenders, and claim to be its public representatives in their practice, are willing, for mere mercenary considerations, to use hard water in the treatment of those who confide themselves to their care. Hard water was never made to be used for drinking, for culinary purposes, or for purposes of ablution. Nature, in her efforts to furnish perfect agents for human use in health and disease, has exhibited this in the wide-spread arrangements made for getting rid of the impurities to which this very essential substance is subject. Water, by running through the earth or upon its surface, or by standing in pools, becomes impure. In some instances mineral, in others earthy, in others vegetable, substances mingle with it; and just to the extent that they do so mingle with it is the water less serviceable, less healthy, and less fit for therapeutic or other purposes, than though it were free from all such substances. I do not deny that hard water may be used, in some cases, with a qualified degree of success, as a therapeutic agent: but it is shameful for any man, who undertakes to represent or direct the hygienic idea, to place himself in such relations to an agent so essential in the treatment of disease as water, as to

leave the public under the impression, that water which is hard is just as good as that which is soft, because he happens to be in the use of it through necessity or interest; and he is knavish who allows himself to say, that, in some cases, he "is not sure that it is not better." Let Nature be true, though every man be a liar. God has made water to serve such important purposes in the building-up and preservation of the human frame, that those who advocate the laws of life and health must not degrade the subject by any modifications or admissions, which, while they may tend to subserve personal interests, are destructive of the integrity of the principles upon which the hygienic philosophy is based.

In conclusion, the true treatment of consumption is to be found in the judicious and skilful use of *all* agents, the ordinary and legitimate effects of which upon the human organism are health-sustaining. The laws which govern health and its preservation furnish the exact measure of the efficiency of the agents ordained by the Creator for the cure of disease. The means that he has furnished for the maintenance of life and health are those, and those only, which he has furnished for the cure of disease. The art-curative is nothing but a special application of the art-preventive; its special character growing out of the circumstances of the case. He who seeks to be a doctor, and, by his skill, to aid the sick in the recovery of their health, should know that a prerequisite to great success is that he should become a good *physician*. A doctor may be learned, and he may be worth something to the sick; but I am sorry to be compelled to say, that he is, in many instances, not only of no value, but of decided injury, because he seeks to place himself in advance of Nature, and to show by his skill in creating combinations, and his tact in bringing them to bear, that whoever he treats, if cured, is to be indebted to *him* for recovery.

The *physician* does no such thing. He takes his place as an aid to Nature. He recognizes her as his authority. Whatever he does, he desires to do in perfect conformity with her wishes, and subject to her control. She takes him largely into her confidence: and therefore, making him intelligent, she

makes him skilful; for she touches the enthusiasm of his nature, quickens him in his spiritual perceptions, educates and brings into high culture his intellectual forces, enables him largely to comprehend her laws and their bearings and relations, and so makes him measurably perfect in his work.

If my readers have followed me patiently in the discussion I have made of the causes that predispose human beings to consumption, and of the true methods of treating it when the disease has become active, I trust I may say without vanity, that they will rise from the perusal of this book with ideas in regard to life and health, the true methods of preserving and maintaining them, and the treatment of pulmonary and mesenteric consumption, different, in many respects, from those with which they sat down.

I have written this work because of the love I bear my fellow-men. No selfish motive has prompted me in doing it; and I commit it to the public with the assurance, that the truths it contains will fall into the popular mind as seed falls into good ground, to come forth in a harvest of a hundred-fold.

I long to see the day when health shall be the ordinary, and sickness the incidental, condition of our people. If such a day ever arrives, the moral character of the people of the United States will then be as much in advance of its present state, as their physical health will be superior to what it now is; for just to the degree that human creatures learn to honor *all* the laws of God may it be safely asserted of them, that they will actually and positively grow in goodness and truth, and come to find knowledge of God. Believing, as I do, that Christianity is necessary to man, that a belief in Christ's gospel and the practice of its truths are of infinite service, and that it is clearly within the province of those truths to impress upon man the worth of physical health and the reflex benefits which its possession confers upon his higher nature, I have aimed to make what I have said conform thereto. As I am a physician, I would not forget that I am a man. As a man, I would not forget that I am a Christian. As a Christian, I trust I may be so related to whatever pertains to the happiness of my fellows,

as to be ready, in season and out of season, to offer them advice and counsel in any case where it may be needed, and where I can hope to do good; looking forward to that time when He to whom the earth belongs shall come, and righteousness shall flow down its streets like a river, and peace like an overflowing stream.

THE END.

THE ARMY MEDICAL LIBRARY, Washington, D.C.

THE ARMY MEDICAL LIBRARY, Washington, D.C.

MAR 1 1954

NATIONAL LIBRARY OF MEDICINE
NLM 03277216 2