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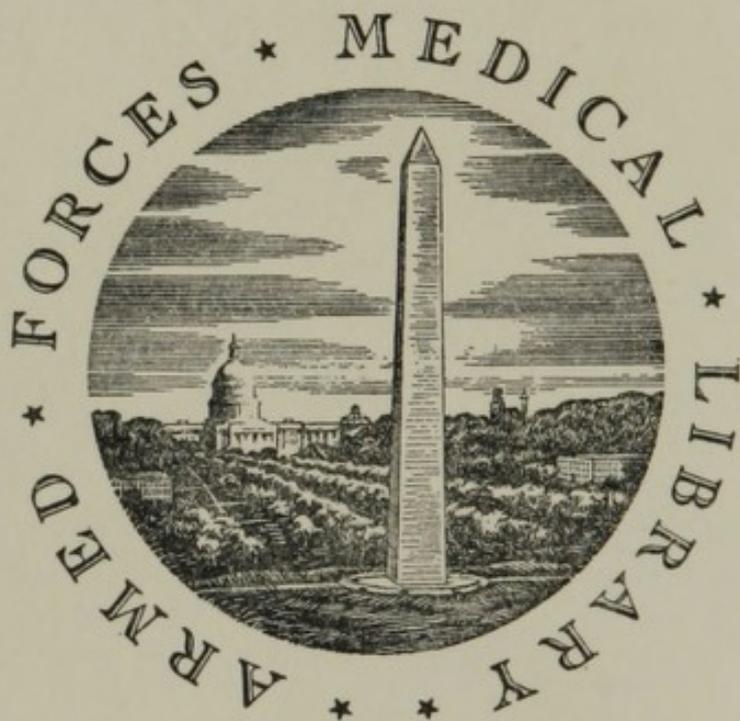
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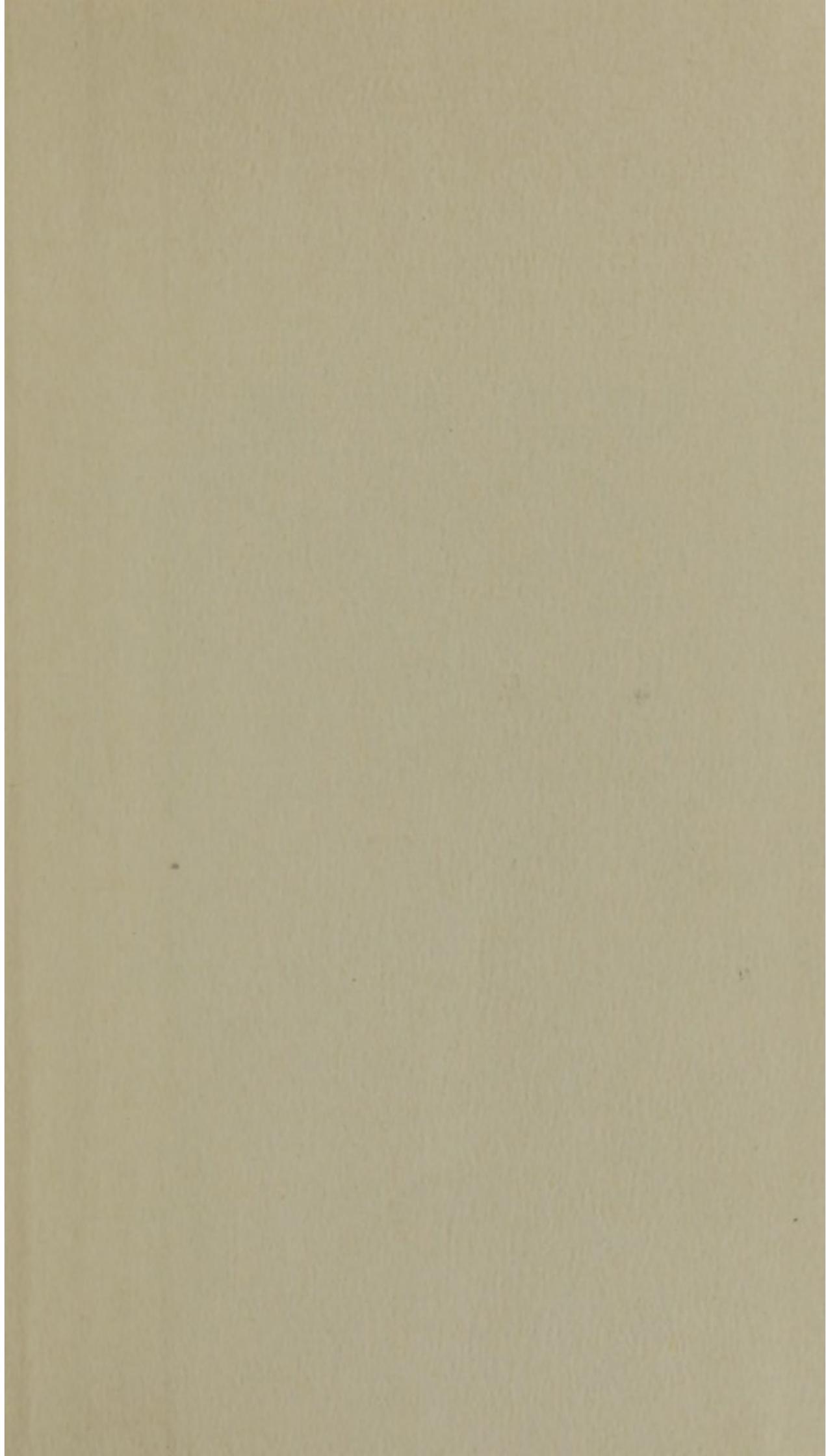
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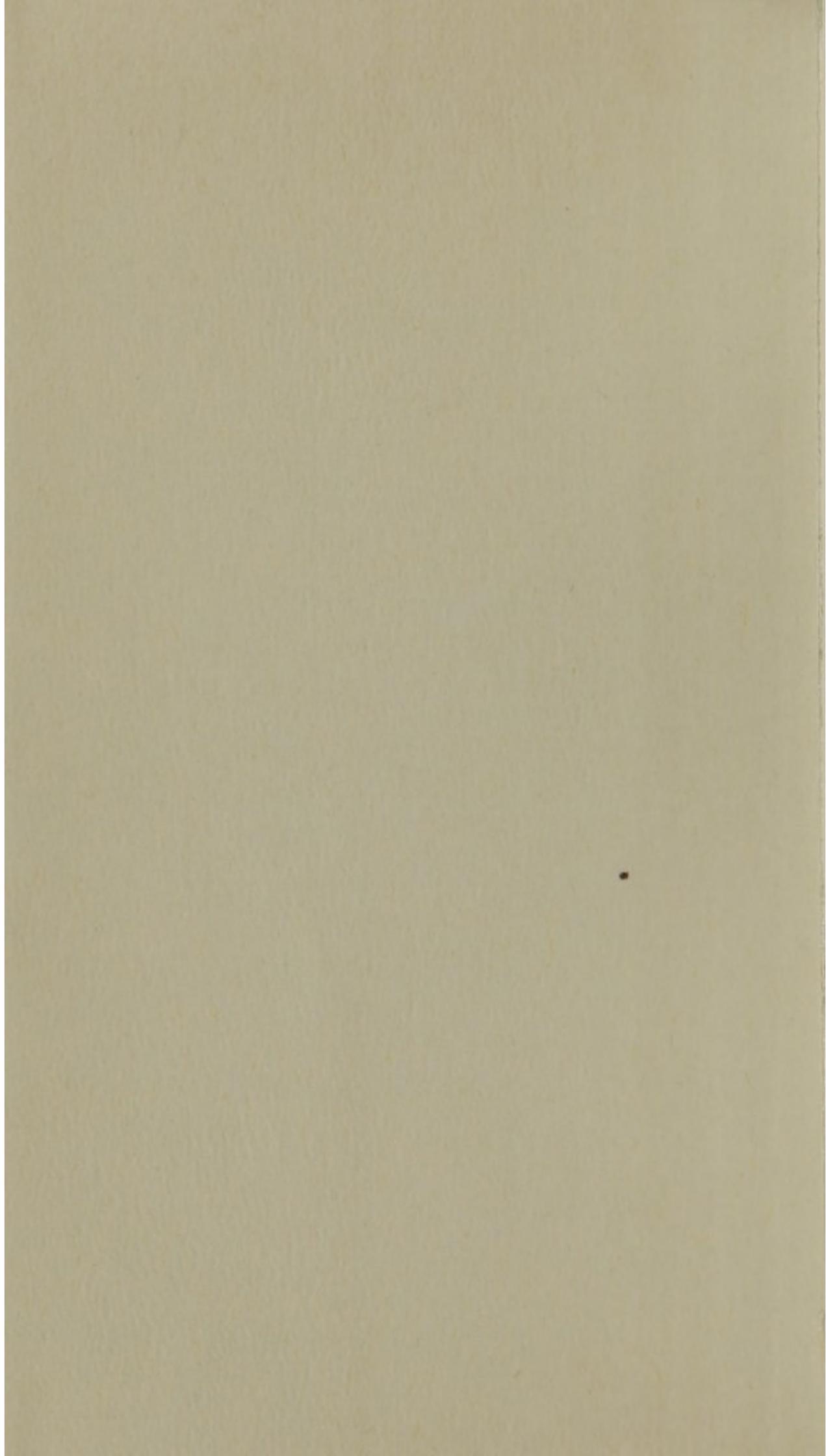
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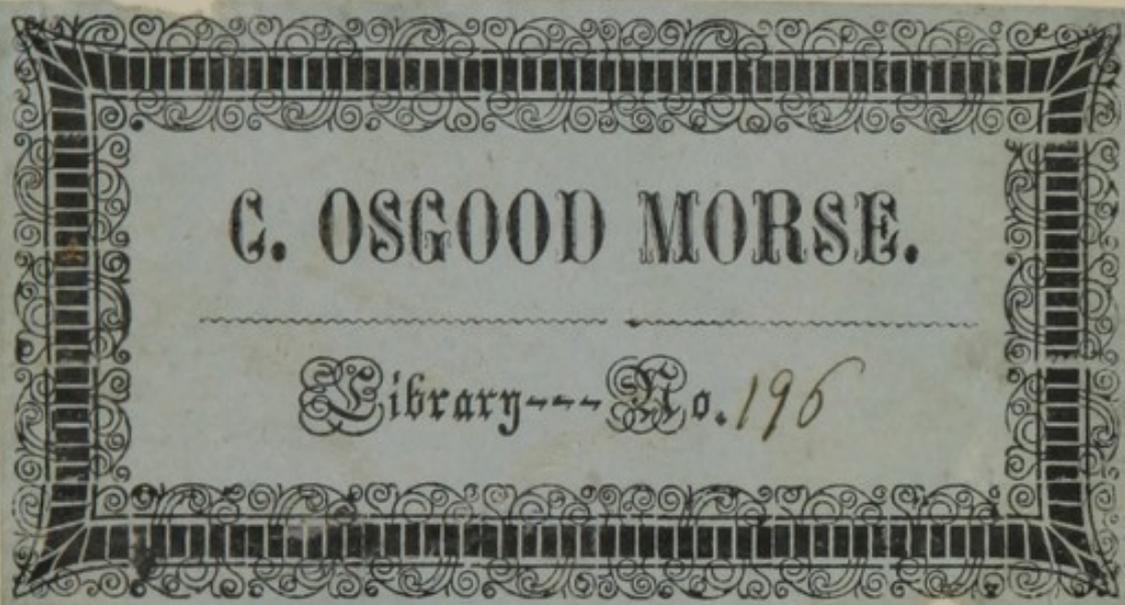


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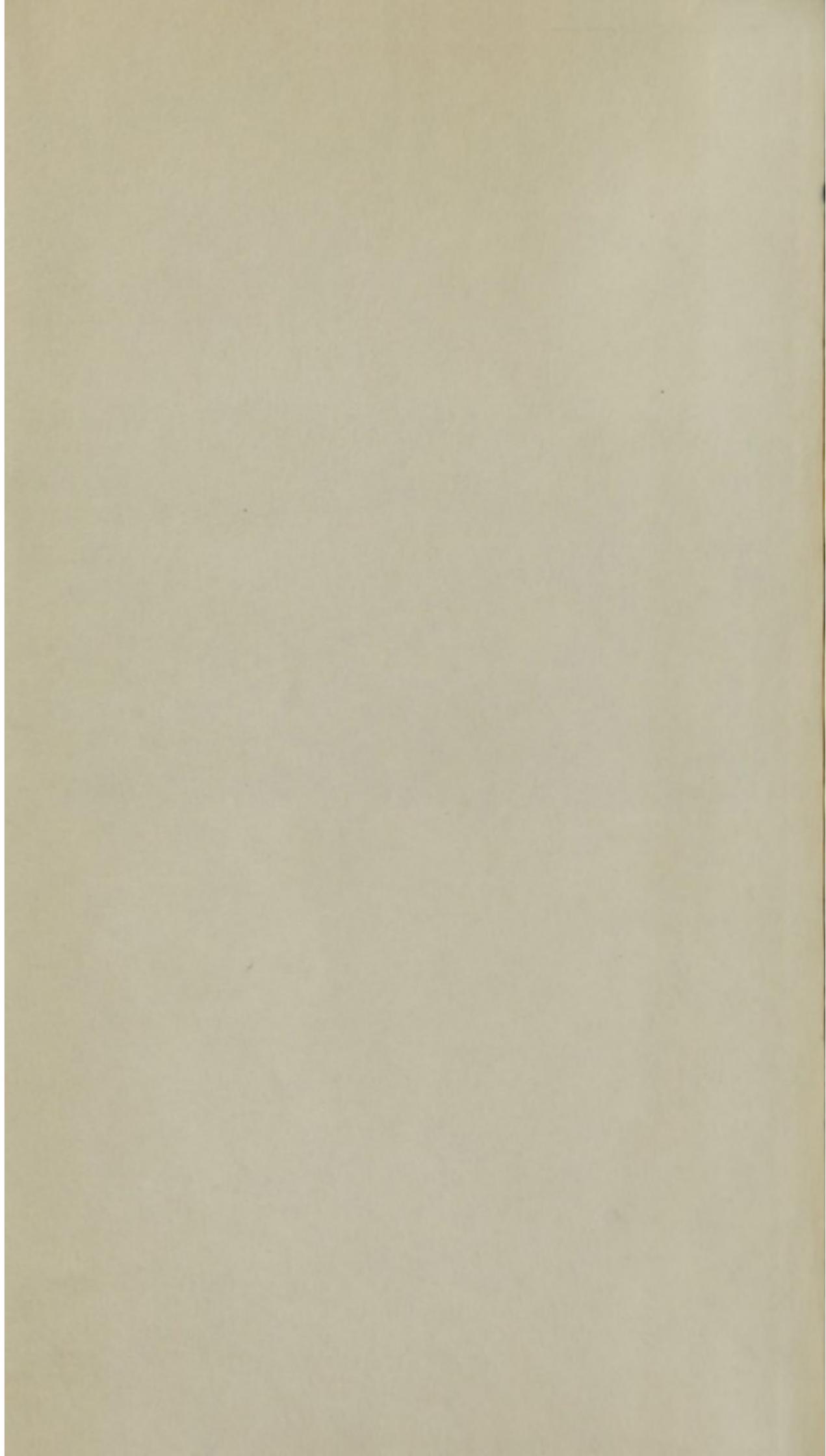






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WITH PRACTICAL REMARKS ON

BATHING, DIET, EXERCISE, DISEASE,

AND THE

WATER CURE.

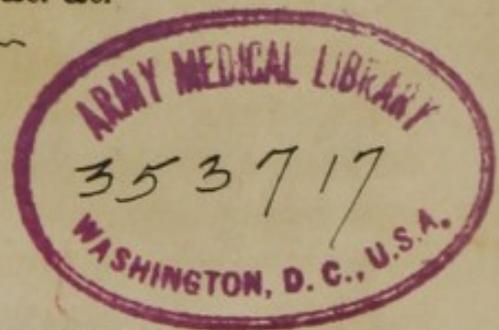
~~~~~  
BY LA ROY SUNDERLAND.

Author of "Pathetism: Man Physiologically and Mentally Considered;"  
"New Phrenological Chart," &c. &c. &c.

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CONTENTS.

CHAPTER I.

Importance of Self Knowledge, - - - - 5

CHAPTER II.

Health—Disease, - - - - 7

CHAPTER III.

Drugging, - - - - 13

CHAPTER IV.

Treatment of Disease, - - - - 18

CHAPTER V.

Pure Cold Water, Bathing, &c., - - - - 21

CHAPTER VI.

The Water Cure, - - - - 29

CHAPTER VII.

Regimen, Food, Exercise, - - - - 53

CHAPTER VIII.

Drink, - - - - 71

CHAPTER IX.

Clothing, - - - - 73

CHAPTER X.

Exercise—Employment, - - - - 75

CHAPTER XI.

Sleep—Rest, - - - - 79

	CHAPTER XII.	
Air—Light, - - - - -		82
	CHAPTER XIII.	
Parents, - - - - -		86
	CHAPTER XIV.	
Infancy, - - - - -		91
	CHAPTER XV.	
Childhood, - - - - -		93
	CHAPTER XVI.	
Youth, - - - - -		95
	CHAPTER XVII.	
Old Age, - - - - -		97
	CHAPTER XVIII.	
Causes of Ill Health, - - - - -		99
	CHAPTER XIX.	
Signs of Good Health, - - - - -		107

BOOK OF HEALTH.

CHAPTER I.

IMPORTANCE OF SELF-KNOWLEDGE.

THE remark is often made, that "we never sufficiently appreciate health, till it is once lost." If this be true, it follows that until we become invalids, we are not likely to feel, as we should, the importance of a knowledge of those laws upon which *Life* and *Health* so much depend. Persons not sensible of any interruption in their health, are not apt to imagine there is, or can be, any real danger of losing it; and hence, nothing offered to them upon this subject is thought worthy of much attention. Alas! that we should wait till

"——Maladies,

Ghastly spasms, racking tortures, qualms,

Heart-sick agony, fevers,

Convulsions, epilepsies, fierce catarrhs,

Intestine stone, or ulcer colic pangs,"

seize upon us before we can seriously give our minds to the consideration of a subject in which we

are so deeply interested? But so it is. We blunder on, sowing broad-cast the seeds of

“—— Wide, wasting pestilence,
Dropsies, asthmas, and joint racking rheums,”

till, in most cases, it is too late to see our want of information, or to repair the mischiefs we have done.

Reader! whatever your age or condition in life may now be, you are either destitute of good health, or *liable* to be so. Or, if you are not an invalid yourself, your child, your father, mother, husband, wife, brother, sister, neighbor, or friend, may now be suffering the pains of death, which might have been avoided by a knowledge of what you will find in the following pages. “*Knowledge* is power,” it is *Health*, it is *Life*, and *Happiness*, it is freedom from pain, freedom from

“Demoniac phrenzy, moping melancholy,
And moon-struck madness.”

Why not, then, “in all thy gettings,” get KNOWLEDGE? Knowledge of your self, of your mind, your body, the laws of your being,—eating, drinking, sleeping, thinking, acting, living and dying! What knowledge so important as this? Knowledge which tells you how to live, how to avoid pain, how to be happy, and how to render others so!

CHAPTER II.

HEALTH—DISEASE.

THE human body has been aptly compared to a sack filled with hair. Now, suppose each hair to be a *tube* of a *peculiar size*, through which a stream of *blood* is constantly flowing. These tubes are, everywhere, permeated with extremely small nervous threads, which communicate to them the *power* by which their *size* is increased or diminished. Their *activity*, or the quantity of blood circulated through these tubes depends on their *size*;—these, when *contracted*, convey the blood with greater *velocity*, and when enlarged, they convey *less*. The body is almost entirely made up of little *tubes* or *capillary* vessels, and *health* depends upon their *comparative size*, and, consequently, upon the *quantity* of blood which they convey *in a given time*. When the due amount of *nervous power* is communicated, at the proper times, the heart dilates and contracts regularly; the voluntary and other muscles obey without obstruction the several necessities which call them into action;—the various secretions are made at the proper periods—the *vital affinity* predominates in its tendencies to *preserve* all parts of the system against the destructive power of *oxygen*, which tends to break them down, and the balance of power is duly maintained between the *digestive, absorbing,*

circulating, assimilating, breathing, and excreting functions. This we call a state of perfect health.

But, if the tubes, or capillary vessels, from any cause, are deprived of their due amount of *nervous energy*, then, their healthy *tone*, or size, is disturbed or lost; the due velocity of their fluids is retarded, and *congestion* ensues.

On the contrary, when from any cause, the nerves are *stimulated* to give out too great an amount of influence, the tubes may be said to *contract* and become too small, and hence the current of fluid is, in its course, too much diminished. According to Dr. Billing, (and no higher authority need be sought) disease is caused by *impressions* made upon the *nervous centres* by which the *nervous influence* is exhausted or morbidly diminished. That the capillary blood vessels, which (in health) are always held in a state of semi-contraction (tone) by virtue of the *nervous power* given out by the nerves, become weakened and relaxed, (“the diminution of *vital resistance*” of Liebig) proving their diameters enlarged, whenever the exhausted nerves fail to supply them with the quantity of nervous influence necessary to preserve their *tone*, or state of *semi-contraction upon their contents*. That the *weakened, relaxed, and enlarged* capillaries now admit a larger current of blood, the motions of which through them become slower, which is a state of congestion. When this congestion takes place in the *veins*, it constitutes simple congestion; when in the *arteries*, it is accompanied by a degeneration of their coats. It now takes the name of *inflammation*. The de-

generation of the arterial coats is Liebig's "especial action of the destructive force of *oxygen*." The enlarged arteries now contain an excessive quantity of oxydized blood, while the *resistance* opposed to its influence is diminished, as we have seen above. But this degeneration does *not* take place in the veins, because the veins do not contain oxydized blood.

The *Vital Forces* give those *qualities* to the living body which constitutes the system *sympathetic*, and renders all its parts *excitable*, or *susceptible* to an *influence* from every other part; and hence, one part, or organ, is influenced by its *association* with another. The strength of the *associations* will depend on the difference in the qualities or functions of the parts, and the *nervous* or *mental* connection established between them.

This *susceptibility* of the nervous system to impressions from different causes, by which its power is increased or diminished, is differently developed in different persons. Its *degree*, in every case, is determined by the *nervous* or *sensorial* power. What this power is, has never yet been proved, and probably never will be.* We know, however, that by it the several parts and organs of the system are

* The best work extant on this subject is that by Dr. John Harrison, entitled "An Essay Towards a Correct Theory of the Nervous System." In this work Prof. Harrison has demonstrated beyond all question, that the prevalent notions of an Electric, Galvanic, or Magnetic, theory of nervous action are utterly unfounded. He concludes with Pearson, as follows:

1. That the existence of electrical currents in the nerves, is an hypothesis *contradicted by experiment*.

made capable of receiving active impressions. The eye, for instance, is capable of feeling the impressions made upon it by the rays of light, the ear by sound, the nose by odors, &c. The skin is also prepared to feel the impressions made by external agents or substances, as of heat or cold, soft or solid, rough or smooth. But the impressions made on the organs of sense are not immediately connected with that co-operative power upon which life depends. *Each of the senses*, when stimulated by any suitable impression being made upon them, manifests a perception, and in this way more or less influences the state of health. The influence

2. The action of electric currents on the nerves should be put in the same category with chemical and mechanical stimuli.

3. Metals are infinitely better conductors of electricity than the nerves.

4. The nerves are not better conductors than the muscles: their powers of conduction do not change when they are changed by mechanical violence, (though narcotics, as laudanum, instantly renders the nerves powerless.)

5. The covering of the nerves is incapable of isolating the most feeble electric currents which man produces in galvanic experiments, so that, if the muscle intervene, the current will pass from the nerve into it.

That these conclusions are correct, no one can doubt, for one moment, who has read attentively the work above referred to. And with the fall of the notions of the electrical action of the nervous system, must fall, also, the claims put forth in behalf of the numerous medicines said to be "Electrical," "Magnetic," or "Galvanic." Every one who knows any thing of the laws of "Magnetism," knows that you cannot render medicines of any kind "magnetic," in the sense claimed by many, and hence those who make this pretention are either ignorant or dishonest. If such drugs *do* perform the cures attributed to them, it is not done by magnetism, as might easily be shown.

of excitability upon the heart and arteries, veins, lymphatic glands and secreting vessels, make these several organs capable of feeling the impressions made by the stimulant which acts upon them, and predisposes them to perform their natural functions.

By the *alternating motions* of contraction and expansion, the blood and lymph are circulated, the various absorptions and secretions are carried on, and the different excrement is thrown out of the system. The organic operation kept up for these important purposes, we call *excitement*.

Excitement is maintained at the *expense* of excitability, and therefore there must be a constant reproduction of excitability in the system, equal to the expenditure necessary for the maintainance of constant excitement. If a diminution of excitability exist, (as is the case in the decline of life,) the system is diseased; and if it be accumulated to an over degree, it is also diseased in an opposite condition, the equilibrium being disturbed.

The agencies which operate on man's *susceptibilities*, and *excite* or diminish his *nervous powers*, are as numerous as the items which make up the universe, including, withal, every *emotion*, *perception*, *conception* and *thought*, which comes within the range of his mind. The different *elements* received into the stomach, also, *cold*, *heat*, *light*, *darkness*, *sound*, *color*, *odor*, *bodily* and *mental exercise*, *associations*, in a word, every thing, *real* or *imaginary*, which may touch the nervous system or occupy the mind, is capable of affecting the health, and producing those changes in the "nervous cen-

tres" which alter the tone of the capillaries, and thus bring on a state of disease, or remove it, as the case may require.

These various stimuli, acting upon the nerves, fibres, and tissues, excite them to action, and when in due quantity, the system is in a state of health; but when continued too long, or in too large a quantity, the *susceptibility* is exhausted, and the system sinks into a state of indirect debility. Weakness from the use of tobacco, or alcohol, is an instance of this kind of languor; and the same condition is brought on by inhaling a sultry atmosphere.

Hence, we see that disease is not a *substance*, a *thing*, added to the system, or existing in it, in the sense supposed by many. Disease is, in all cases, the *increase* or *diminution* of that amount of *nervous energy, heat and motion*, which constitutes health. When the interruption is merely *functional*, we call the disease *acute*; but when it has continued sufficiently long to alter the *structure* of the particles composing the parts affected, we say it is *chronic*, and the treatment should vary, accordingly.

CHAPTER III.

DRUGGING.

IN no one thing, probably, not even in *religion*, have the world of mankind been more deceived and injured, than in the views which have governed the multitude in the use of medical drugs. Indeed, the history of the "*healing art*," as it has been miscalled, begins with the most silly fables, and, for centuries, it rests upon nothing better than dubious tradition. Nor is it two centuries since the *rationale* of the *materia medica* began to contain scarcely anything either of science or common sense. No *trade*, no *art*, was ever made to combine more of rank nonsense, glaring absurdities, and disgusting ignorance, than may be affirmed of the medical profession. Whether we consider the number and varieties of their drugs, sometimes thirty and forty combined into one dose, or the *loathsomeness* of their prescriptions, such as "pulverized Egyptian *Mummy*," "bezoar" said to be from the intestines of animals, the "moss from a dead man's skull," and the like, one is at a loss to conceive how it could have been possible for one of the "learned professions" to be so shamefully ignorant of the laws of life and health,* or how any

*As a specimen, read the following:—"To cure the gout, take the *hair* and *nails*, cut them small, mix them with wax, and stick them to a live crab, casting it into the river again"!!!

The first "court physician" in London, when attending the

civilized people could be so duped by their unfounded pretensions to medical skill. And yet, we should not, perhaps, marvel, in view of the conflicting systems of Therapeutics which prevailed a few centuries ago; when systems, (if such they may be called,) are popular, at the present day, as peurile and as unworthy of the times in which we live, as any that have obtained votaries since the days of Esculapius.

The age we live in is one of *drugs!* and generations yet unborn will have occasion to speak of it as the "*Age of Drugs,*" the age of "patent pills," "patent powders," "patent syrups," "patent panaceas," and "patent" nostrums, without number! The aversion which multitudes long ago began to feel for the prevalent systems of bleeding and drugging, has given rise to various other forms of medical treatment, which have no more adaptation to the true laws of life and health, than the old ones which the new schools are now so zealous in their attempts to explode. Some of the new schools, however, have this to recommend them over the old ones; the former prescribe far less drugs than the latter; and one of the new schools, we know, prescribe "next to nothing," which is its only recommendation above its rivals.

That *drugging* has destroyed more lives than the sword, there can be no doubt at all. Indeed, I doubt

king's son for small pox, ordered the sick room to be hung with scarlet cloth, and the patient to be rolled up in similar stuff!—
Sketches of Imposture and Deception.

whether the use of alcohol has done more to depopulate the globe than the use of medical drugs. The reasons are to be found in the nature of the human mind. The inherent, all-prevailing *love of life*, and the dread of death, have urged on the trembling multitudes till they have, many of them, made apothecaries' shops of their stomachs, and swallowed pills and powders which might have been measured by the bushel!

It is certainly to be lamented, that many physicians do so often prescribe drugs, in the effects of which they, themselves, have no confidence at all. And the effects of those they have any faith in, are always more or less uncertain! Nor is this all.* It is surprising that invalids should continue to take drugs, most, or all of which, are decidedly pernicious, month after month and year after year, when they know themselves to be growing worse and worse all the time.

How extensive the mischiefs resulting from the ordinary methods of drugging are, may be inferred not only from the great number of invalids constantly in the habit of swallowing the nostrums

* The following facts were related to me by Capt. H. H. W., formerly of the U. S. Army. His sister had been under the treatment of Dr. J. C. W., for some sixteen years, and had often paid one hundred dollars and upwards for medicines alone, prescribed by Dr. W. One day her mother bethought herself, and said to him, "Dr., what is the matter with our daughter?" "Well," replied the Dr., "indeed, Madame, *I do not know!!!*" Sixteen years attendance and prescribing for a patient, and then confessing his utter ignorance of what her complaint was!!! And he one of the most popular physicians of the day!

offered to the public, but, also, from the fact, that so very many drugs are recommended for the cure of the same disease. And, is it agreeable to reason, that so many different substances, and some of them often poisonous, can be taken into the system without injury ?

Will the mass ever learn, that there is, there can be *no* real "Panaceas," no "Universal Medicine?" There cannot be any better evidence of *ignorance* or *dishonesty*, or both combined, than when a man offers what he calls a "Catholicon," or "Universal Medicine," for the cure of one disease in all cases, or for the cure of all diseases in all persons.*

* I speak what I know, when I affirm that many of the patent pill venders are as ignorant of medicine and therapeutics, as they are of the materials of which the moon is made. Many medicines are advertised under fictitious names, and imaginary persons are set forth as the great discoverers of the "Galvanic Rings," "Magnetic Fluids," patent powders, and the like, because the real originators of those impositions are so obscure, that they do not dare to be known as the authors of what they sell.

A Boston correspondent of the Hampshire Gazette makes the following statement in reference to the Patent Medicine business : The amount of business transacted and capital employed in making and vending these medicines, is almost incredible. The cargoes of some of the vessels arriving here, are composed almost entirely of some ingredient for some of the patent medicines. The virgin tar and wild cherry bark from North Carolina are imported by cargoes for this object. The bottles are manufactured in Pennsylvania, and oftentimes constitute the whole cargo of the vessel. Opium is used in large quantities in the manufacture. A manufacturer used eight hundred dollars worth of opium, last week, in the preparation of a single medicine. A gentleman in this city has \$180,000 capital employed in the manufacture and vending of a single medicine, and has 12,800 agents employed in vending

Full well I know, that some invalids do, sometimes, experience relief *after* taking one or more of the *thousand* patent nostrums, blazoned forth in such high sounding encomiums through the public papers. But what does this prove? Not that those vile compounds were necessary for those invalids, or that they might not have recovered far sooner, had they attended to their diet and exercise, without taking any medicine at all. For the last twenty-five years, during my travels in almost every State in the Union, I have found hundreds who have recovered from chronic diseases, without the use of medicine, where I have met with one who recovered from medicine alone.

the same. He had last week, orders on hand for 1300 gross, and on one day forwarded 600 gross (96,400 bottles) by the five railroads from this city; to one of which *seven* large trunk loads were carried. They were packed in 2,056 boxes, and the invoice amounted to \$57,768. A good operation for one day.

CHAPTER IV.

TREATMENT OF DISEASE.

BUT the invalid is ready to ask, what should be done? "Who shall decide when doctors disagree?" Answer, you must, and should, decide for yourself. Become acquainted with the nature of your disease. Enough has been offered in the preceding pages, to show that the *starting point of all disease is derangement in the nervous system*. The *nervous power* is generally, or in some *particular part, or parts, increased or impaired*. The next thing is the *contraction or enlargement of the capillaries*; and consequently too much or too little blood is circulated in the parts affected. One is *congestion*, the other *inflammation*, but in either case the balance of power between the *supply and waste* of the parts is lost. The *nutrition* is interrupted—the *secretions* are misdirected—the *circulation* is diminished or accelerated—the *excretions* are irregular. Oseous matter is left in the wrong places, hence tumors of various kinds are formed, and the functions of life are disturbed.

Now it is an axiom universally admitted among medical men, of every class, that *the only thing which medicine CAN do in the treatment of disease, is to ASSIST NATURE*. It is NATURE, or the laws of life, which constitute the *curative principle* in all cases. All we have to do, therefore, is to *assist her*.

She may be, and doubtless is, but too often hindered in her work by the prevalent modes of drugging. But the question comes up, as to *how* this *assistance* shall be rendered, and so rendered as not to do any mischief to the system :

1. That treatment is best which reaches, *most directly, the nervous energy*. That is, it should be such as will, with the least difficulty, reach the "nervous centres," without the process of *digestion, assimilation, and circulation*. Drugs which have to be taken into the stomach, and digested, or assimilated, and distributed through the system, *may, and often do, impair the stomach and the other tissues with which they come in contact, and in this way they do more hurt than good.*

The application of *cold water* to the *entire surface* of the whole body, has this advantage, and secures the above result in the treatment of disease.

2. That must be the best agency for assisting the nervous energy, or for diminishing it, (as the case may require) which we can bring to bear, at the same time, upon the largest number of the nervous susceptibilities. The nerves of sense are distributed all over the surface of the human body; and the sudden, or gradual, or continual application of cold water, with severe friction, produces these results, and with this advantage, water opens and cleanses the pores of the skin, and thus assists another of the most important functions at the same time.

Sedative effects are produced by prolonging the application of wet bandages, as by these the capil-

laries are relaxed, and the balance of power restored between the nervous and circulating systems.

If the proximate cause of disease be, as we have seen, the enlargement or constriction of the capillaries, then whatever appliances to the nerves of sensation, which will cause the capillaries to enlarge or to constrict, as the case may require, must be one of the best *processes of cure*. These results are secured by the application of cold water. *Suddenly* applied, it produces a constricting effect. When the system is enveloped in water for any length of time, so guarded as to allow it, as it were, to *steep itself* into a state of relaxation, the effects are *sedative*, and thus capillary tension is diminished and health is restored.

CHAPTER V.

PURE COLD WATER—BATHING, FOR THE PRESERVATION
OF HEALTH.

It has been truly said, that, from the first hour of man's existence to his latest breath, in health and in sickness, rich or poor, water is always requisite. Baths were dedicated by the ancients to the divinities of medicine, strength, and wisdom, namely:—Æsculapius, Hercules, and Minerva, to whom might properly be added the goddess of health, Hygeia. The use of water has been enforced as a religious observance, and water has been adopted as one of the symbols of Christianity.

The following remarks on bathing are so much to the point, and prepared, as I find them, to my hand, I do not hesitate to transcribe them here:*

The structure and purposes of the skin, the constant removal and reproduction of the cuticle, the functions of the oil-glands and perspiratory system, afford the ground-work for inferring the necessity of bathing. The cuticle is cast off in minute, powdery scales, many of which are retained upon the surface by the pressure of clothing. These mingle with the oily and saline products of the skin, and form a thin crust. This crust, on account of its adhesiveness, collects particles of dust and soot

*Dr. Cutter's Physiology.

from the atmosphere, and particles of foreign matter from our dress, so that in the course of the day, the whole body becomes coated with impurities. If this coating be allowed to remain, to become thick and established upon the skin, it will produce the following effects: 1st. The pores will be obstructed, consequently transpiration impeded, and the influence of the skin as a respiratory organ, entirely prevented. When the pores are obstructed, and transpiration is checked, the elements of the transpired fluids will necessarily be thrown upon the system; and, as they are injurious and poisonous if retained, they must be removed by other organs than the skin. These organs are the *lungs, kidneys, liver, and intestines*. When these organs are called upon to perform their offices, and in addition that of another, the healthy equilibrium is destroyed, and the oppressed organ will suffer from exhaustion, and become the prey of disease. Thus, obviously, habits of uncleanness are the cause of consumption and other serious diseases of the vital organs. Again; obstruction of the pores will prevent respiration through the skin, thus depriving the blood of one source of its oxygen, and one outlet for its carbonic acid, which will diminish the temperature of the system, and all the effects of chill, from inadequate clothing, will be manifested.

2d. The retained film will irritate the skin, both mechanically and chemically; it will keep it damp and cold, from attraction and detention of moisture; and, possibly, foreign matters, once removed from the system, may be re-conveyed into it by absorp-

tion. As a consequence, cutaneous eruptions and diseases will be produced, and the re-absorption of matter once separated from the system, will be the exciting cause of other injurious disorders.

3d. A film of foreign substance on the skin will inevitably become the seat of detention of miasmata and infectious vapors, which will rest here previously to being absorbed, and their absorption will engender the diseases of which they are the peculiar cause. These are the most serious results of uncleanliness of the skin.

Baths are useful for three purposes: 1. To promote cleanliness. 2. To preserve health. 3. To remove disease. In its first capacity, bathing enables us to remove the coating of impurities from our bodies. It effects this purpose by dissolving saline matters, and holding in temporary suspension those substances which are insoluble. These substances are of an oily nature, and the skin being provided with an oily secretion, soap renders the oily product of the skin miscible in water; hence it is an invaluable agent for purifying the skin. It is an indispensable aid, for in no other way can the substance upon the surface of the skin, and the impurities which adhere to it, be thoroughly removed. If any unpleasant sensations are felt after the use of soap, they may be immediately removed by washing the surface with water slightly acidulated with lemon-juice or vinegar.

Bathing may be partial or general, and the water used may be cold, temperate, tepid, warm, or hot. A person may apply it to his system with a sponge,

it may be poured upon him, or he may immerse himself in it. The simplest mode of bathing is to apply water to a small extent of surface, by means of a wetted sponge, and after being rubbed dry, again cover with the dress. In this way the whole body may be speedily subjected to the influence of the water, and to no less useful friction. The water used may be warm or cold. This species of bathing may be practiced by any invalid, and always with benefit, (if the bathing is succeeded by a glow of warmth over the surface, as *this is the test by which the benefit of all forms of bathing is to be estimated.*)

The bather may stand or sit in a shallow tub, while he receives the water from a sponge squeezed over the shoulders or against the body. In this form of bathing the body is more exposed; hence it is less suitable for very feeble individuals than the first-named method. In the early use of this form of the sponge-bath, the bather should content himself with a single effusion from the sponge, and should then dry the body quickly with brisk rubbing.

The third kind of bathing is that of the shower-bath, which provides a greater amount of affusion than the former, combined with a greater shock to the nervous system. The concussion on the skin by the fall of water, particularly distinguishes this from the previous modes of bathing. The degree of concussion is modified by the size of the openings through which the water issues, and the height of the reservoir. The shower-bath admits of mod-

ification, adapting it to the most delicate as well as the robust. The extent of fall, the size of the apertures, the quantity and temperature of the water, may be regulated at pleasure. In using the shower-bath, it would be judicious to commence with warm water, for which, by a gradual process, cold water may be substituted. In this way the system may be inured to cold water. After bathing, the skin should be wiped dry and rubbed briskly.

The fourth form of bathing is that in which the body, or a portion of it, is immersed in water. The temperature of the water in this form of bathing, may be modified according to the sensations and purposes of the bather. When the temperature is below 76 deg. it is termed a cold bath; when from 75 deg. to 85 deg., a temperate bath; from 85 deg. to 95 deg., a tepid bath; from 95 deg. to 98 deg., a warm bath; from 98 deg. to 105 deg., a hot bath. In using this form of bathing the skin should be wiped perfectly dry, and briskly rubbed. The length of time a person may remain in a cold bath with benefit, varies from two to ten minutes, while a person may remain in a temperate, tepid, or warm bath from ten to thirty minutes, or until special indications are exhibited.

In the *vapor-bath* the vapor is not only applied to the exterior of the system, but it is inhaled and brought in contact with every part of the interior of the lungs. The bather is seated upon a chair, and the vapor gradually turned on around him, until the proper temperature (90 deg. to 100 deg.) is attained. In this form of bathing, the skin should

be wiped dry, and smartly rubbed. The bath may be continued from ten to thirty minutes.

In order to increase and promote the reaction of the skin, various measures and processes are used, some of which are practiced in, and others after quitting the bath. Of the former, the rubbing and brushing the skin are the most common and important. The brisk and efficient friction of the skin with a coarse towel and flesh-brush, after quitting the bath, should never be omitted. This short catalogue embraces all the appliances requisite for the purpose.

Bathing, in its second capacity, preserves and promotes health by its immediate and remote physiological effects on the system. When the body is moistened with a sponge wetted with cold water, or when affusion by the sponge or shower-bath is effected, the skin instantly shrinks, and the whole of its tissue contracts. This contraction diminishes the capacity of the cutaneous system of blood-vessels, and a portion of the blood circulating through them is suddenly thrown upon the deeper parts and internal organs. The nervous system, among others, participates in it, and is stimulated by the afflux, and communicates its impressions of stimulus to the whole system. This causes a more energetic action of the heart and blood vessels, and a consequent rush of blood back to the skin. This is the state termed *reaction*, the first object and purpose of every form of bathing whatever. *It is the test of its utility and safety.* This reaction is known by the redness of the surface, the glow, comfort,

and warmth which follow the bath. *The bather should direct all his care to ensure this effect.* By it the internal organs are relieved, respiration is lightened, the heart is made to beat calm and free, the mind is clear and strong, the tone of the muscular system is increased, the appetite is sharpened, and the whole system feels invigorated. This is the end and aim of the bather, and to this all his training tends. The error is, to expect the result without the preparation.

In order to promote this reaction, and to be efficient in preserving health, bathing should be regular, should be commenced by degrees, and increased by a process of training, and should not be permitted to intrude upon hours devoted to some important function, as digestion. It must not precede or follow too closely a meal, or severe mental or muscular exercise, as reaction is less certain and vigorous, when important internal organs are employed, than when they are at rest. When the vital powers are greatest, and the system most free from exhaustion, bathing is most beneficial; hence, the morning is preferable to the evening, and the middle of the forenoon to the middle of the afternoon, for this healthful and agreeable duty; as the vital action of the system is most energetic in the early part of the day.

As regards the frequency of bathing, the face and neck,—from their necessary exposure to the atmosphere, and the impurities which the latter contains,—should receive at least two washings in twenty-four hours, one of which should be with soap; the

feet, from the confined nature of the coverings which are worn over them, require at least one; the armpits, from the detention, as well as from the peculiar properties of the secretions, at least one; and the hands and arms, as many as seem proper. The whole person should be bathed every second day, without fail, and every day if possible.

In diseases of the skin and internal organs, bathing is a remedial measure of great power. It should never be neglected or omitted. It is not only pleasant and safe, but is really more effective than any medicine administered internally.

CHAPTER VI.

THE WATER CURE.*

IF all disease consists, as we have seen, in the altered condition of the nervous centres, by which the capillaries become relaxed and enlarged, or too much contracted, it is easy to perceive how the application of *cold water*, in the various forms described below, corrects the evil and restores the little tubes to their sound, healthy state.

Water, that is used for any dietetic purpose, should be soft and pure. The rain that falls *unobstructed* from the clouds, may be taken as a standard of purity.

SHOWER BATH.

This bath may be taken in a variety of ways. Bathing machines are now quite common in this country.† But where these are not to be had, you

* The "Cold Water Cure," as a system of distinct medical treatment, had its origin with Vincent Priessnitz, a German peasant. His discoveries were by accident, but the good they have done, will carry his name down to the latest ages of the world with imperishable honor.

† No one can be excused for not providing a shower bath. A simple and very convenient one can be made of a common wooden pail, with its bottom thoroughly perforated. Then a new second bottom is put in about one-half or three-quarters of an inch above the perforated one, which has in it a hole as large

may stand in a large tub, of any kind, while an assistant pours a pail of water upon your head, through a cullender, or from a common watering pot.

A cold bath should never be taken when you are exhausted, or feel chilly; and if you feel cold or numb after taking it, warmth should be restored, IMMEDIATELY, by severe friction or exercise. For weak and feeble persons, tepid water may be used, at first.

It is a great mistake to suppose, as many do, that a cold bath should not be taken when the system is warm, or in a state of perspiration.* If it be in the morning, or while the stomach is empty, a state of free perspiration is so much the better. The bath, in such cases, gives a kind of a galvanic shock

as a dollar, to be covered with a common bellows-valve, i. e. one made of a piece of thin board about one and a half or two inches square, with the under side covered with sheep-skin. A string from this valve to a lever fastened on the brim of the pail, raises the valve when pulled. The whole is then suspended by cords and pulleys. A curtain made of common cotton cloth is then fastened up to the wall, in such a way as to allow the apparatus to rise and fall freely. The cloth may be sewed to a common barrel hoop, ingress and egress being where the edges meet. This last is necessary, both for concealment and to keep the water from spattering off on other articles. The other, and only other thing is a tub, in which the operator stands, and the lower end of the curtain terminates. Thus, the water that gets on the curtain is carried directly into the tub. The descent of the water should be from three to six feet, at least, above the head.

* The catamenial period is no objection against cold bathing. Indeed, I have known many cases where the shower, or hip-bath has removed uterine irregularities of long standing.

throughout the system, promoting the secretions, and benefitting, generally, the entire nervous economy.

ABLUTIONS.*

These are generally the mere preparation for more active treatment, and are a test of the degree of reactive power possessed by the individual; and a measure of the capabilities and necessities of the system for the ulterior processes of the cure. As a means also of maintaining recovered health, or of invigorating the constitution, when the full processes are not at command, or not indicated, ablutions deserve extensive if not universal adoption, and may be had recourse to with safety and benefit alike in infancy and in age, by females as by males. In even advanced stages of pulmonary consumption, the writer has long recommended their use, and with very decided advantage. The temperature and quantity of the water used—the length of time of its application to the entire surface by towel or sponge—and the degree of friction, wet and dry, with which it is to be accompanied and followed, are to be regulated by the feelings of the patient and the effect produced. When warm from bed in the morning is the best time for these ablutions; reaction is thereby more certainly ensured. A smart walk after it, or, in very debilitated patients, a re-

* The succeeding directions for the medical use of *cold water*, are from a most valuable little work, by Dr. Balbirnie, entitled the "Philosophy of the Water Cure." His directions with regard to *Diet*, however, I do not approve.

turn to bed again, with friction of the skin under the bed-clothes, will further conciliate this salutary effect. The same ablutions, &c., may be gone through at night; and under certain circumstances, once or twice during the day.

THE RUBBING WET SHEET.

This is an intermediate process between ablutions and immersion in the cold bath, whether of the half or of the whole of the body, and is, therefore, another of the preparatory measures of treatment. A large coarse linen sheet, adapted at once to imbibe water and to excite friction, wrung out of cold water, or allowed to be dripping, is dexterously thrown as an envelope round the body; the patient at the same moment commences active friction on the fore part of his person, while an assistant plies the same process on all the posterior parts. This rubbing may be continued from two to five minutes, when the skin becomes much reddened, and a comfortable glow is felt. A dry sheet is then used in the same way, and a very exhilarating reaction ensues.

This kind of bath is a more invigorating agent than mere ablution, because its momentary shock is more decided; evaporation from the surface is prevented, and a greater amount of friction is permitted. The temperature of the water, as well as the quality and quantity of friction, must be appropriated to the delicacy of the patient and the nature of the case. This is the cheapest, the readiest, and the best of all portable baths. It is a convenient

application at home, and no incumbrance on a journey; realizing the advantages of the shower and plunge baths, without their occasional disadvantages, and always at hand.

THE SHALLOW, OR HALF BATH.

This is the common oblong bath used in our bedrooms, but containing only from three inches to one foot depth of water, of various temperatures, as the case may require. This bath is used in two opposite modes, and with two very distinct intentions. It serves, in one class of cases, as a preparation for the full bath; and it answers admirably in another class of cases, where a prolonged continuance in the bath is wanted to produce a derivative effect.

I. With the first object it is frequently used morning and evening, and commonly after "unpacking" from the wet sheet. The patient remains in it from three to ten minutes, being well rubbed by an assistant, and himself joining, if possible, in the operation; a few basins or buckets of cold water are generally thrown over him before he rises from the bath. Exercise is advisable to be taken after this, as after all the other baths.

II. The second object for which the shallow bath is employed, constitutes it the "decus et tutamen" of Priessnitz; demonstrating at once the resources of his system, and achieving some of the highest triumphs of his genius. In persons suddenly stricken down by violent maladies—in inflammatory attacks—in congestions of the nobler organs—or when collapse of the vital and voluntary powers

exacts the alternative of obtaining speedy reaction, or incurring sudden death—in such cases, prompt and powerful measures, directed by the soundest judgment can alone save the patient: this means, or without its *ally* before mentioned, is the single resource and the sole warranty of hope. The temperature of the bath for this purpose must be lowered, and its duration prolonged from one to four or six hours, with continued friction, until reaction, consecutive fever, or derivation to the extremities, is decidedly established.

THE FULL BATH, OR GENERAL COLD BATHING.

This is of immemorial usage, whether in sea, river, or lake, both as a curative agent in disease, and a preservative in health. Its genial action depends on the degree of shock received, and the amount of reaction ensuing. Much fallacy prevails as well among the learned as the illiterate, as to the supposed danger of cold bathing, when the body is bedewed with perspiration. The practice of Priessnitz, and of ancient and modern nations, shows with how little risk, and how much benefit, the body covered with sweat, may be plunged into cold water, or rolled into the snow. But the same holds true with the body freely perspiring from active exercise; provided there be no material structural alteration of the heart, lungs, or great vessels; and the system is not in a state of decided fatigue or exhaustion. It is a customary thing for school-boys in the summer season, in the brief mid-day interval of their classes, to run to the bathing spots of rivers

or canals, and plunge into the water in profuse perspiration. This the writer has done, and hundreds of his school-fellows, hundreds of times, not only without any bad effects, but with great advantage. Animals when pursuing their prey, or escaping from their pursuers, invariably take through all opposing waters, and emerge from the bath not only unharmed but invigorated. This aquatic hardihood may, with a very little preparation, be safely tested throughout the severest weather of winter, if a smart walk be taken *after* as well as *before* it. But this is counsel only for the strong in limb and valiant in heart. Those with whom it agrees will not soon regret the recommendation, or decline the practice.

In the water cure treatment, before taking the cold bath, the temperature of the body is duly raised, the circulation equalized, and visceral irritation soothed by the wet sheet fomentation; much more rarely now, and very properly so, by the sweating blanket. The shock is thus more general, and the reaction more complete. The strength, spirits, and appetite are all simultaneously increased. The early morning is the best time for this bath; but it may be repeated with great benefit more than once during the day, if the immersion be but momentary, and the system possessed of tolerable vigor. The patient must never remain in the bath till he feels chilly, unless under febrile excitement. The more active exercise while in the bath, as by swimming, the better. Under severe crises, as well as in the

bodily conditions formerly mentioned, cold bathing, for its stimulant effect, is obviously improper.

THE HIP BATH.

Had Priessnitz done nothing else than develope the manifold and manifest advantages of this energetic remedy, he would still have done enough to entitle him to the lasting gratitude of posterity. Its powerful aid is had recourse to, to accomplish two opposite intentions.

I. As a *tonic, stimulant, solvent, anti-spasmodic,* and *anodyne*, in obstructions, engorgements, chronic irritation, and acute inflammations of the digestive apparatus, and of the pelvic viscera.

II. As a powerful *dirivative* in acute and chronic affections of the heart, lungs and brain.

According as either of these intentions is to be accomplished, so is the temperature, duration, and frequency of the bath to be varied. The person is covered while in the bath, all except the parts immersed. The water usually reaches the height of the navel, and the tub is only large enough to admit of free motion of the hands and arms for rubbing. The temperature varies from 40° to 60° Fahrenheit, and the duration in it from a quarter of an hour to a full hour or longer. While in the bath, the patient to employ himself in *thoroughly* rubbing the belly, sides, and loins, first with one hand and then with the other. Very soon the first chill of the bath subsides, and the heat of the water by degrees equalizes itself to nearly that of the body. If the stay

in it therefore be prolonged, it is necessary to change the water once or oftener.

To fulfil the first intention specified, the temperature must approach the higher range given, that is near 60° , and its duration need not exceed twenty minutes; but the bath should be repeated several times a day; on quitting it, reaction is further promoted by hard friction with a coarse dry towel. Two of such baths *per diem* is a usual dose; in special cases, and for a short time, five or six a day may be taken as in severe constipation, chronic diarrhœa, dysentery, passive uterine hæmorrhage, uterine and vesical catarrh of a profuse character.

To fulfil the second indication, the water must be colder, the duration in it more prolonged, and the friction more severe. To aid its derivative effect, it is sometimes necessary to apply evaporating bandages to the head or chest, according to the existing disease to be combated.

The best time for the administration of hip baths is between meal hours, when the stomach is not loaded; and the indispensable exercise can be made both to precede and to succeed the bath. The muscularity of hip, their prolonged use induces, is very striking.

THE HEAD BATH.

This is a highly energetic remedy used in determinations of blood to the head, the delirium of fever (the patient being in the wet sheet,) headaches, convulsions, epilepsy, rheumatism of the scalp, neu-

ralgia, ophthalmic diseases, deafness, loss of smell and taste.

The patient lies on a rug or mattress, and the back of the head is placed in a broad shallow basin, containing from two to four inches depth of cold water. Each side of the head is also placed in the water in succession. The duration of the bath may be from five minutes to half an hour. At the conclusion the head is to be well dried and rubbed with a towel. This friction, however, is only allowable where there is no inflammatory action to combat.

The frequent and prolonged affusion of cold water upon the head, even to the production of intense pain from the chill, is one of the most powerful tonics of the nervous centres, and has been long our main anchor of hope when combating with the old weapons, Hypochondriasis and other nervous affections.

THE FOOT BATH.

Unless in sprains and local injuries, this is chiefly, if not entirely, used as a *derivative* bath in affections of the head, chest, stomach, intestines, and uterus. For this purpose the water should be from two to six inches deep, and the whole foot, sole, ankles, and legs, are to be thoroughly rubbed with firm hands from ten minutes to half an hour, changing the water as it gets hot. The feet must be warmed by exercise, both before and after the bath. This is the remedy, *par excellence*, for habitual cold feet. It is an effectual controller of uterine hæmorrhage.

If the determination of blood to the higher organs still continues, wet compresses to them (uncovered by dry bandages) will be occasionally necessary.

PARTIAL BATHS.

The application of *partial* baths, adapted to different members of the body, has been considered as a proof of Priessnitz's admirable tact, and knowledge of derivation. If the bandages in question are *heating* bandages, i. e. wet compresses covered by dry ones, so as to prevent evaporation, then the proof is valid, and the praise deserved. For the nature and object of such a bandage is to determine a *molimen* of the fluids to the part whereon it is applied, of course diverting them—deriving them from neighboring localities, and at their expense. This is at least the *received* theory of derivation or counter irritation. But if, as we take it, Priessnitz's practice is to place a higher part of an affected member—as an elbow or a knee in the case of an injury in the hand or foot—in a constant cold bath, or to cover it with compresses constantly renewed before they evaporate or get warm, his object then is, *Sedation*—to lessen the *molimen hæmorrhagicum* to the part *in another way*; and show at once his clear conceptions of the varied operation of water, and his strong inductive powers in turning them to practical account—a tact and discrimination greater than in the other case at least; as using the better means to attain the same end.

The *leg-bath*, or *arm-bath*, when ulcers, fixed pains, skin diseases, nodes, &c., affect any of the

extremities, are highly useful applications: according to the duration of the bath and the temperature of the water, a sedative, stimulant, revulsive or anodyne effect is produced. The *eye-bath*, *ear-bath*, *finger-bath* belong to the same category.

THE DOUCHE.

This remedy belongs almost exclusively to the treatment of chronic diseases. As it is the most powerful of all the water-cure processes of its class—the most powerful when properly indicated and judiciously applied, to exalt the energies of the organism to complete what the other parts of the treatment might fail to cure by a *crises*;—so when misapplied—when the true pathological condition of the patient is not determined—when fever is present, when there is disease of the blood-vessels, heart, or brain, or the organic nerves are paralyzed, it is the most pregnant with mischief.

The Douche is the strongest local stimulant of the vascular and nervous systems. Inducing a strong reaction and determination to the surface, it tends pre-eminently to dissipate the remnant of chronic engorgements of the mucous tissues, and visceral congestions of all kinds; but after other remedial means have laid the foundation of recovery—resuscitating the energies of the whole organism, exhilarating the spirits and quickening the senses, it is very intelligible how it should facilitate and hasten the arrival of the crisis. The whole secerning and excreting apparatus *seem* to take a new activity; and their altered products *seem* as if the

elimination from the system of every thing morbid and efféte, that had resisted the usual decompositions and transformations.

The Douche is a column of water of variable thickness, descending from a variable height; from three to six inches is its ordinary diameter, and from ten to twenty feet its usual fall. Its effect is determined by the state of the body, the force of the fall, and the coldness of the water. To insure its good effects, it should be taken at the time of the highest bodily activity and vigor, as early in the morning in the stronger, and between breakfast and dinner in the weaker—in both cases always premising smart exercise short of fatigue. Active exercise is especially necessary *after* the douche. The reason that necessitates this, forbids the drinking of much cold water at this particular time of the day, at least till reaction be fully established.

The average duration of the douche is from three to ten minutes: the uninitiated should never exceed the former. It is usual to commence this bath by receiving it on the palms of the hands, and washing the face, head, and chest. The shoulders, neck, spine, loins, hips and extremities are then subjected to the powerful stream; avoiding the stomach-pit, and the abdomen. The hands are sometimes held up and spread above the head to protect it from the fall of water; allowing the stream to act as a shower bath. In *local* complaints, as palsies, sprains, tumors, the affected parts are particularly subjected to the influence of the douche. This bath is highly enjoyed, and always gladsomely anticipated—a

proof that it leaves no ungrateful reminiscences—which is much more than can be said for any of the *old* modes of cure.

In cases where this measure is strongly indicated, two short douches per diem are more advantageous than one prolonged one.

THE WET SHEET.

This application is used for the two-fold purpose of increasing or diminishing the animal temperature; in either case it is equally *anodyne* and *antiphlogistic*—soothing aches and irritation—removing languor and fatigue—tranquilizing the pulse, and subduing fever. It opens the pores, favors cutaneous transudation, and aids the elimination of effete elements and morbid materials. Hence the intolerable odor sometimes exhaled from the sheets; the thick coating of slimy matter with which they are varnished; the debris, smell, and color of medicines and ointments long before used deposited in them; and the eruptions that soon appear upon the skin. The fluids repelled from the surface by the first chill, return with a brisker circulation: the escape of caloric is prevented by the covering: and the moisture of the sheets is converted into vapor. According to the delicacy of constitution, and the feebleness of the reactive power, the heat of the water, and the weight of the covering must be increased. The imbibition of water by the body in this and the other processes, is manifested by very *unequivocal* symptoms. *This* origin of the effect in question, in the wet sheet at least, is a *legitimate* inference.

The wet sheet is Priessnitz's greatest discovery, and far outstrips all other therapeutical improvements ever made in the healing art. This is destined to be, by-and-bye, the universal domestic remedy used by mothers and nurses in the outbreak of all illnesses; and will supersede, in nine cases in ten, both the employment of medicine, and the attendance of the physician. With every water-cured person its efficacy will be an article of *faith* that no arguments will stagger, and its practice in every emergency a source of confidence that no authority will baffle. Henceforth the name of Priessnitz will be a household-word, and a grateful posterity will embalm his memory. Few are the complaints, in young or old, in which this remedy will not be hailed as one of the best boons ever given by Heaven to suffering mortals. This language is strong, and may be called enthusiastic. But we appeal to those who have tested the powers of the wet-sheet fomentation, whether our meed of praise is commensurate with its merits. In weariness and watching—in fatigue and cold—in restlessness and anguish—in acute diseases and in chronic ailments—in fevers and inflammations—in shivered nerves and fretted brain—in worn-out stomachs and palsied bowels—in irritated skin and broken bones—in quelling morbid heat and soothing morbid sensibility—in the quiet routine of home, and the bustle of travel abroad—in infancy and in age—in the weak and in the strong—in cottages and in palaces—in courts and in camps—in hospitals and in prisons—in all climates and seasons—shivering at the poles,

or scorching in the tropics—in all the multiform ills that flesh is heir to—the wet sheet will be the first remedial resource of the sick, and the last earthly refuge of the dying.

The wet sheet is applied in the following way: A very thick blanket is first spread upon a mattress; a sheet of coarse linen is then wrung out on a pole; this is smoothly spread over the blanket; the patient then reclines at full length, and has the sheet wrapped round him, fitting it closely about the neck, and securely covering the feet. The blanket is then with equal care tucked under the neck and shoulders, the trunk and limbs of one side, and then of the other. This “packing,” which resembles a compact bale of goods, is then completed by a load of additional blankets and coverings, or preferably by a down-feather bed, which is well tucked in from the neck to the feet. In this state the patient is allowed to remain from half an hour to an hour. The first impression is disagreeable, but it is only for a minute or two; and is succeeded by a soothing freshness heightening into a delicious glow; which would end in perspiration if prolonged. On being unpacked from this envelopment, the patient takes the cold or tepid half-bath or full-bath, and is well rubbed in the water by an attendant for a longer or shorter time, himself assisting in the operation. He then dresses quickly, and goes out to his customary walk. This process is usually gone through the first thing in the morning, and commences the daily routine of treatment. It is repeated or not in the subsequent parts of the day,

according as it is indicated. The sensations of the patient will often be the monitors for his extrication, and the inducement for its repetition or cessation. When the object is to quell fever, the sheet must be changed every quarter of an hour or half hour, or as often as may be necessary to bring about a cool surface. When the due abstraction of heat and reduction of fever is effected, the patient is then put into a slightly tepid bath, and well rubbed.

If determinations to the head occur during this process, cold applications to the scalp are to be constantly renewed as they get warm. If the feet or legs continue cold too long, they may be kept out of the envelopment, and wrapped in flannel.

THE WET BANDAGES.

These applications accomplish on a small scale, and on fitting places, what the wet sheet does for the whole body. They are employed, also, with the two-fold object of cooling or heating, of *diminishing* or *increasing* action, according as evaporation is permitted or prevented, and according to the frequency of their renewal. In the one case, when the object is to lessen action—to subdue or prevent inflammation—to allay the irritation of wounds, bruises, or fractures—the fomentation is kept constantly renewed, but allowed to evaporate. In the other case, it acts as a counter-irritant; it transfers action from the deeper-seated parts to the surface, allaying irritation, relieving visceral congestions, dissipating engorgements, opening up obstructions, solving spasm, and restoring secretions. These

objects are further aided by *derivation* to distant parts, as by the hip-bath and foot-baths.

The wet bandages are applied to various parts of the body. The first or refrigerant bandage consists of linen of suitable size for the part affected, folded several times, and dipped in cold water, gently expressed, and placed on the part affected. This application is renewed every five or ten minutes, according to the cooling effect intended, and continued night and day without interval, until the inflammation is removed or danger averted. Neglect in their change may cause the worst results, by promoting what it is intended to prevent. These cooling bandages are used when active inflammation is going on; in acute affections of the head; in local injuries; in suppurating surfaces, as boils; in compound fractures—and wherever the indication is to lessen action.

The heating or stimulant bandage only differs from the last in evaporation being prevented by an effectual covering, or bandage, of dry linen, and in the water being more thoroughly wrung out. These are not changed till they begin to be dry. This fomentation is universally applied in all local chronic diseases, all wounds, injuries, and ulcers; in disorders of the liver, stomach, bowels, heart, lungs, and ganglionic nervous centres—in short, to any painful spot, or seat of irritation—to some eruptions and boils, and to gouty and rheumatic joints.

The abdominal fomentation or bandage is almost of universal application. This consists of a towel of about three yards long, and from half a foot to a

foot wide. One-third of it wetted and well wrung out is wound round the abdomen and back, and covered by the dry part drawn as tightly as can be conveniently borne; for otherwise it would permit evaporation, and produce chill. It is to be renewed whenever it becomes dry; and is usually to be worn by night as well as by day. If the back should remain chilly, the front part only of the bandage is to be wetted; and exercise should be used after it. This fomentation is of great utility in all derangements of the abdominal and pelvic viscera; facilitating remarkably the functions of the stomach and bowels; allaying morbid sensibility and inflammatory irritation in its several tissues; relieving constipation on the one hand, and diarrhœa on the other. Patients subject to sore throats, or to pulmonary affections, wear constantly the heating bandages round the throat, and over the chest.

THE SWEATING PROCESS.

This is the most liable to abuse of all the water-cure measures, and requires for its due administration more practical acumen, and pathological knowledge, than any of the other parts of the treatment. It is a powerful depletant, draining the system of its fluids; and indiscriminately prescribed, or injudiciously prolonged, determining the worst evils.

Fully to decarbonize the blood—to purify it from the poisonous properties acquired in its returning circuit—the *equilibrium* of the circulation and respiration is necessary. The want of the due relative proportion between the circulation and respiration

—the more excited state of the former relatively to the latter, produces a greater afflux of blood into the lungs than can be fully oxygenated: hence streams of this fluid, greater or less, unchanged by the vivifying process, and charged with their noxious ingredients, must again go the round of the system, to the manifest detriment of the more delicate functions. A large coarse blanket is spread upon a mattress;—the patient lies down upon it, as in the wet sheet, and is closely packed from neck to toe, and covered with a number of other blankets, preferably with a feather bed: the amount of covering being regulated by the difficulty of perspiration: to any diseased part a wet compress is applied, and it is generally requisite to enclose a urinal in its proper place. If there be headache or fulness of the vessels of the head, the wet (evaporating) compress must be kept on it.

This operation is generally performed the first thing in the morning, so early as four o'clock; or if the sweating is with difficulty produced, an after period of the day, when the patient is warmed by exercise, is selected. When perspiration breaks out (which is sometimes, especially at first, several hours after the packing,) it is allowed to continue a longer or shorter time, according to the necessities of the treatment, and the *tolerance* of the constitution; during this time the window is opened to admit fresh air, and the patient is supplied with a small glass of cold water every quarter of an hour. The active exercise of the limbs in the blanket, sometimes recommended to promote perspiration, is,

on the grounds above stated, dangerous counsel, as it is bad practice. Having duly (and too often, *unduly*) sweated, the patient is unpacked, and steps into a shallow bath, preferably a shower or a plunge-bath, if at hand, containing tepid or cold water. If the shallow bath be used, the water should not be above a foot deep, and he should be thoroughly rubbed from two to ten minutes, by an attendant, and have a few buckets of cold water poured over him. After a little practice, the cold plunge-bath is preferred, as possessing more tonic power; or two baths are used, one cold, the other having the chill taken off; the patient transferring himself from one to the other. In all cases, as a general rule, the patient washes the face, head, and chest just before immersion.

This transition from copious perspiration to cold water, is not only perfectly innocuous, but highly salutary. A powerful reaction, and a high degree of exhilaration and vigor are the result. Active exercise should then be taken, if possible, before breakfast.

In this process, there is a powerful revulsion of the fluids of the body from the centre to the surface. Hence there must be a general elimination of morbid elements by the skin. This is manifested in the change of the nature of the perspiration as the process is persevered in: from clear aqueous and devoid of smell, it becomes colored, viscid, glutinous, fetid, &c. The odor, and sometimes the *color* of medicines, in the sweat of those who have "drugged" much, is very remarkable. The urine also

alters in like manner; even the breath and open sores come to partake of the same fetor. These morbid phenomena *appear* to be *critical*, and are hailed as tokens of convalescence. They are generally intense in proportion to the powers of reaction; and the reaction is, *cæteris paribus*, in proportion to the suddenness and intensity of the stimulation produced by the change from heat to cold.

In persons of full habit, of inflammatory diathesis, or laboring under pulmonary congestions; in cases characterized by much nervous debility; in fevers, catarrhs, &c., the sweating blanket is bad practice, and should give place to the wet sheet.

The blanket perspiration—in cases where it is *tolerated* and indicated, as in gouty and rheumatic subjects, and in cold, sluggish, and phlegmatic temperaments—is a much more favorable preparative for the cold bath, than the sweat produced by *heat from without*, as in the vapor bath. The chief noxious effect in this case is from so much heated air being inhaled by the lungs, and consequently not only irritating the lungs by its heat, but robbing them of their due supply of oxygen by diluting it. The cool air inhaled by the lungs in the sweating blanket, and the cool liquid taken into the stomach, make an essential difference in favor of the latter process.

LAVEMENTS AND INJECTIONS.

Lavements and injections of cold water are staple articles of water-cure treatment. The former thoroughly remedy constipation, and afford relief in

certain cases of diarrhœa. Their use for the former purpose may safely be left to the discretion of the patient, or at least should be a standing order, if the other processes of the cure fail to produce a daily evacuation. A large quantity, as two pints, taken to produce distention of the colon, and then immediately rendered, will generally operate more effectually than a small quantity, which is apt to be retained and absorbed, and fail of its effect; a second lavement may sometimes be necessary fully to relieve the bowels. The best time for its use is immediately after breakfast. This is its use as an ordinary measure of hygiene. In the treatment of disease it is a great subsidiary aid; but its administration must be under professional direction.

Cold injections into the uretha and vagina are of indispensable necessity in *all* chronic or acute mucous or muco-purulent discharges of these passages. For leucorrhœa and uterine catarrh, the most effectual restoration of the relaxed mucous lining, when the *fountain of the issue* has been dried up (which *ordinary* water remedies will fail to do,) is the introduction of a small tube (speculum) into the passage, and retained while the patient takes the cold hip-bath. This instrument is four inches long, and of various calibres, from half an inch to two inches in diameter, made of a sheet of zinc wire-work. This allows the water to come in contact with the walls of the passage. Its introduction is not painful; and its salutary results inconceivable by those who have not used it. In painful uterine affections, in dysmenorrhœa, cancer, euralgia (the

irritable uterus of Gooch,) used in the tepid hip-bath, it is an unfailing resource. In passive uterine hæmorrhage it is a *specific*; but the soundest knowledge and discretion must dictate its use in such cases.

CHAPTER VII.

REGIMEN.

It seems strange, indeed, that among professed medical men, so little attention should have been given to regimen in the treatment of disease. But the regulation of the dietetic habits is, as a general thing, of infinitely more importance than all the medical drugs in the world. The first and the last attention should be given to the food with which the stomach is filled. From that food are elaborated all the fluids and solids of the system. From that food is eliminated, in part, that peculiar *nervous influence* which supplies the capillaries with their power, without which disease and death ensue. The slightest reflection would seem sufficient to show the great importance of attention to the *kinds*, and the *quantity*, of food. True, no absolute rule could be given for all cases. The most we can do, is to lay down general principles—principles founded upon the laws of Chemistry and Human Physiology, and from which each one may be able to discern what course of living is the best, and the most conducive to health.

FOOD—EXERCISE.

It would seem to be a dictate of reason that there should be a correspondence between the amount of

food taken into the stomach and our exercise. According to Professors Liebig and Lavoisier, an adult man takes into his system, every year, 835 lbs. of oxygen, and yet does not increase in weight. What, then, becomes of the enormous quantity of oxygen introduced in the course of the year into the human system? The carbon and hydrogen of certain parts of the body have entered into combination with the oxygen introduced through the lungs and through the skin, and have been given out in the form of carbonic acid and the vapor of water. At every moment, with every expiration, parts of the body are thus removed, and are emitted into the atmosphere. No part of the oxygen inspired is again expired as such. Now, it is found that an adult inspires $32\frac{1}{2}$ oz. of oxygen daily; this will convert the carbon of 24 lbs. of blood into carbonic acid. He must, therefore, take as much nutriment as will supply this daily loss; and, in fact, it is found that he does so; for the average amount of carbon in the daily food of an adult man, taking moderate exercise, is 14 oz., which require 37 oz. of oxygen for their conversion into carbonic acid. But it is obvious, as the inspired oxygen can be removed only by its conversion into carbonic acid and water, that the amount of food necessary for the support of the animal body must be in direct ratio to the quantity of oxygen taken into the system. Thus, a child in whom the organs of respiration are naturally in a state of great activity, requires food more frequently and in greater proportions to its bulk than an adult, and is also less patient of hunger.

A bird deprived of food, dies on the third day; whilst a serpent, which inspires a mere trace of oxygen, can live without food for three months. The capacity of the chest in an animal is a constant quantity; we therefore inspire the same volume of air, whether at the pole or the equator; but the weight of the air, and consequently of the oxygen, varies with the temperature. Thus, an adult man takes into the system, daily, 46,000 cubic inches of oxygen, which, if the temperature be 77° , weigh $32\frac{1}{2}$ oz., but when the temperature sinks down to the freezing point (32°) it will weigh 35 oz. Thus, an adult in our climate in winter may inhale 35 oz. of oxygen; in Sicily he would inspire only $28\frac{1}{2}$ oz.; and if in Sweden, 36 oz. Hence, we inspire more carbon in cold weather, when the barometer is high, than we do in warm weather; and we must consume more or less carbon in our food in the same proportion. In our own climate, the difference between the summer and winter in the carbon expired, and therefore necessary for food, is as much as an eighth. Even when we consume equal weights of food, an infinitely wise Creator has so adjusted it as to meet the exigencies of climate. Thus, the fruit on which the inhabitants of the South delight to feed, contains only 12 per cent. of carbon, whilst the bacon and train-oil enjoyed by the inhabitants of the Arctic regions contain from 66 to 80 per cent. of the same element. Now, the mutual action between the elements of food and the oxygen of the air is the source of animal heat. All living creatures whose

existence depends on the absorption of oxygen, possess within themselves a source of heat, independent of the medium in which they exist; this heat, in Liebig's opinion, is wholly due to the combustion of the carbon and hydrogen contained in the food which they consume. Animal heat exists only in those parts of the body through which arterial blood (and with it oxygen in solution) circulates. The carbon and hydrogen of food, in being converted by oxygen into carbonic acid and water, must give out as much heat as if they were burned in the open air; the only difference is, that this heat is spread over unequal spaces of time, but the actual amount is always the same. The temperature of the same in the torrid as in the frigid zone; but as the body may be considered in the light of a heated vessel, which cools with an accelerated rapidity, the colder the surrounding medium, it is obvious that the fuel necessary to retain its heat must vary in different climates. Thus, less heat is necessary in Palermo, where the temperature of the air is that of the human body, than in the polar regions, where it is about 90° lower. In the animal body the food is the fuel, and by a proper supply of oxygen, we obtain the food given out during its combustion in winter. When we take exercise in a cold atmosphere, we respire a greater amount of oxygen, which implies a more abundant supply of carbon in the food; and by taking this food we form the most efficient protection against the cold. A starving man is soon frozen to death; and every one knows that the animals of prey of the Arctic

region are far more voracious than those of the torrid zone. Our clothing is merely equivalent for food, and the more warmly we are clothed, the less food we require. Were we to go destitute of clothes, like certain savage tribes,—or if, in hunting or fishing, we were exposed to the same degree of cold as the Samoyedes,—we could with ease consume 10lb. of flesh, as warmly-clad travellers have related with astonishment of those people. We thus perceive an explanation of the apparently anomalous habits of different nations. (The macaroni of the Italian, and the train-oil of the Greenlander and the Russian, are not adventitious freaks of taste, but articles fitted to administer to their comfort in the climates in which they have been born; the colder the region, the more combustible must the food be.)

This is further shown by Liebig's account of the composition of the blood, and of the identity of chemical composition of fibrine and albumen. The nutritive process is simplest in the case of the carnivora. This class of animals live on the blood and flesh of the graminivora, whose blood and flesh is identical with their own. In a chemical sense, therefore, a carnivorous animal, in taking food, feeds upon itself; for the nutriment is identical in composition with its own tissues.

Liebig further shows, that the nitrogenized compounds of vegetables forming the food of graminivorous animals are called vegetable fibrine, vegetable albumen, and vegetable caseine. Now, analysis has led to the interesting result, that they are exactly of the same composition in one hundred parts;

and what is still more extraordinary, they are absolutely identical with the chief constituents of the blood—animal fibrine and animal albumen. By identity we do not imply similarity, but *absolute identity*, even as far as their inorganic constituents are concerned. These considerations show the beautiful simplicity of nutrition. In point of fact, *vegetables produce, in their inorganism, the blood of all animals.* Animal and vegetable life are therefore most closely connected. When exercise is denied to graminivorous and omnivorous animals, this is tantamount to a deficient supply of oxygen. The carbon of the food not meeting with sufficient oxygen to consume it, passes into the compounds containing a large excess of carbon, and deficiency of oxygen; or, in other words, fat is produced. Liebig is led to the startling conclusion, that fat is altogether an abnormal and unnatural production, arising from the adaptation of nature to circumstances, and not of circumstances to nature—altogether arising from a disproportion of carbon in the food to that of the oxygen respired by the lungs, or absorbed by the skin. Wild animals, in a state of nature, do not contain fat. The Bedouin or Arab of the desert, who shows with pride his lean, muscular, sinewy limbs, is altogether free from fat. And the professor points out the diseases arising from this cause, and furnishes some valuable hints to therapeutics. From all that has transpired, we may sum up the nutritious elements of food as follows. The ingredients adapted for the formation of the blood, and which the professor calls the plas-

tic elements of nutrition, are as follows :—Vegetable fibrine, vegetable albumen, vegetable caseine and animal flesh. The other ingredients of food, being fitted to retain the temperature of the body, he calls the elements of respiration.

DIFFERENT KINDS OF FOOD.

A few years ago, a series of experiments were made by Dr. Beaumont on a young man's stomach, which had been opened by a gun-shot wound, from which he undertook to determine the *digestibility* of different articles of food. The following table was drawn up by him, but I am far from supposing, that we may safely infer from this, the precise digestibility of the different articles of food, here mentioned, when taken into the stomach of different individuals, without regard to the intervals between the meals, the health, or the *amount of exercise* taken at the time.

FARINACEA.—Rice, boiled soft, was digested in one hour; sago an hour and three quarters. Tapioca and barley, two hours. Bread, fresh, three hours; stale, two.

VEGETABLES.—Potatoes, roasted, two hours and a half; boiled, three hours. Parsnips and beans, two hours and a half. Carrots, boiled, three hours and a quarter. Cabbage, raw, two hours; vinegar much assists in digestion. Beet, three hours and three quarters.

FRUITS.—Apples, sweet and ripe, one hour and a half; mellow, two hours—hard and sour, nearly three. A mellow peach, an hour and a half.

FISH AND SHELL-FISH.—Trout, boiled or fried, one hour and a half. Codfish, cured and boiled, two hours. Oysters, undressed, nearly three hours; roasted, three hours and a quarter; stewed, three hours and a half. Salmon, salted and boiled, four hours.

POULTRY.—Turkey, roasted, two hours and a half; boiled, five minutes more. Chickens, fricasseed, two hours and three quarters. Wild goose, roasted, two hours and a half. Fowls, boiled or roasted, four hours. Roasted ducks, four hours; and, if wild, half an hour more.

BUTCHER'S MEAT.—Soused tripe, pig's feet boiled or fried, one hour. Venison, steak, boiled, one hour and thirty-five minutes. Liver, calf's or lamb's, two hours. Sucking pig, two hours and a half. Mutton, boiled, three hours; roasted, a quarter more. Beef, fresh boiled or roasted, three hours; lightly salted and boiled, four hours and a quarter. Pork steak, broiled, three hours and a quarter; stewed, three hours; lately salted and boiled, four hours and a half; roasted, five hours and a quarter. Veal, boiled, four hours; fried, half an hour more.

EGGS.—Raw, two hours; roasted, a quarter more; soft boiled, three hours; hard boiled or fried, half an hour longer.

MILK—Two hours. Custard, baked, two hours and three quarters. Butter and cheese, three hours and a half. Apple dumplings, three hours; Suet, four hours and a half. Oil, somewhat longer. Calves foot jelly, half an hour.

It will be seen that of farinaceous substances,

rice digested more easily, and old bread more rapidly than new; and that oily food is particularly indigestible.

VEGETABLE FOOD.

There is just as much evidence to prove, that the monkey is an omniverous animal as there is to prove that man is. Man *can* live on a mixed diet, but it never has been, and never can be shown either, from Anatomy, Physiology or experience, that he might not, as a general thing, in climates like our own, be more healthy and live longer, upon a pure vegetable diet. The following are among the names of men distinguished for their attainments and intellectual worth, who have given their testimony in favor of a pure vegetable diet, viz:—Cheyne, Geoffroy, Sir John Sinclair, Cranstoun, Hufeland, Abernethy, Cullen, Lambe, Lawrence, Buchan, Whitlaw and Cuvier. Abernethy says:—“If you put improper food into the stomach it becomes disordered, and the whole system is effected. Vegetable matter ferments and becomes gaseous, while animal substances are changed into a putrid, abominable, and acrid stimulus. Now some people acquire preposterous noses; others, blotches on the face, and different parts of the body; others, inflammation of the eyes; all arising from the irritations of the stomach. I am often asked why I do not practice what I preach. I reply by reminding the inquirer of the parson and the sign-post—both point the way, but neither follow its course.”

Sir John Sinclair says:—“I have wandered a

good deal about the world, my health has been tried in all ways, and by the aid of temperance and hard work, I have worn out two armies, in two wars, and probably could wear out another before my period of old age arrives. I eat no animal food, drink no wine, or malt liquor or spirits of any kind; I wear no flannel, and neither regard wind nor rain, heat nor cold, when business is in the way."

It is well known, that the almost exclusively vegetable diet of the Irish is highly favorably to vivacity and good health. It is certain that vegetable food has a happy influence on the mind and tends to preserve a delicacy of feeling, a liveliness of imagination, an acuteness of judgment, seldom enjoyed by those who live on animals. Dr. Franklin ascertained that vegetable diet promoted clearness of ideas and quickness of thought, and that a transition from vegetable to animal food produces injurious effects.

A gentleman who has paid much attention to this subject, states that he has more than once selected from his tenant's children a boy remarkable for that smartness of intelligence so common in the Irish youth, while in the capacity of errand boys on the farm, or helpers in the stables, and before they became pampered with better food than their parents' cabin afforded. The lads were at first lively and intelligent, and displayed a degree of shrewdness exceeding what is generally met with from youths of a more exalted walk of life in England. But he invariably found that in proportion as these boys are better fed, they relaxed in activity, became dull

and stupid; and he is confident that change in disposition sprung from the effect of change in diet, and was not owing to corruption of mind from their intercourse with the other servants. In fact they lose all that vivacity of manner so inherent in the Irish boys, whether born in the vast bog of Allan, or in the dry and rocky counties of Mayo and Galway. He is therefore inclined to think that the character of the people does not depend so much upon climate or soil, as upon food, for no part of the globe can differ more than these parts of that kingdom.

A potatoe diet is found greatly to improve the quality of the blood. Hence roasted potatoes have been successfully employed as a specific against the sea scurvy, when other remedies have failed.

According to Dr. Smith, in no other part of the world, (in proportion to the population,) are there more instances of extreme longevity, than among the Norwegian peasantry, who scarcely ever taste animal food. (In the severe climate of Russia, also, where the inhabitants live on a coarse vegetable diet), there are a great many instances of advanced age. The late returns of the Greek Church population of the Russian Empire, give (in the table of the deaths of the male sex) more than one thousand above a hundred years of age; many between a hundred and a hundred and forty; and four, between one hundred and forty and one hundred and fifty. It is stated, that, to whatever age the Mexican Indians live, they never become grey-haired. They are represented as peaceable cultivators of

See P 57

the soil, living constantly on vegetable food; often attaining a hundred years of age, still green and vigorous.

Of the South American Indians, Ulloa says, he has "known several who, at the age of a hundred, were still very robust and active, which unquestionably, must, in some measure, be attributed to the perfect sameness and simplicity of their food." Both, the Peruvian Indians, and the Creoles, are remarkably long lived; and retain their faculties to a very advanced age. Slaves in the West Indies (now *free*) are recorded from a hundred and thirty to a hundred and forty years of age. *

BREAD.

AS BREAD may truly be said to be "the staff and stay of life," and, as it is, unquestionably, the most important article of food, which man takes into his stomach, it seems proper, that we should give it a distinct consideration here. Lavater cautions us against even keeping company with that man "who eats no bread for his dinner." That is, the man who substitutes *flesh*, or even other kinds of vegetables, for BREAD, shows such an utter ignorance, or disregard for the laws of his own life and health, that he should be shunned as a dangerous companion.

There is no one article of food, with which man could not dispense with greater safety to his health, than that of good bread. Other articles, to be sure, may, in a measure, be used as substitutes, but not

* Fruits and Farinacea.

one, nor indeed, all combined, could by any means, fully supply its place. Bread is *the* article which we *should* miss the soonest,—the one which we *should* make the principal article of diet; and the one which we should be the most unwilling to dispense with, if compelled to make choice between that and something else.

Bad bread, that is, bread made of *bolted* meal, and eaten hot, and saturated with *animal oil*, is bad, and worse than no bread, in many cases. The mischiefs the use of such bread has produced could not be told. *Dyspepsia*, *Intemperance* in the use of intoxicating liquors, nervous and sick head-ache, are among the effects produced by the use of this kind of bread. Surely, such stuff ought not to be called the "*staff of life*." It is more like the staff of death. It has laid the foundation for diseases, which have carried thousands to an untimely grave.

Bread should, in all cases, be made of meal, from which the bran has not been separated. Indeed, no food should be taken in a highly concentrated form, such as honey, butter, sugar, &c. The innutritious parts are necessary to assist the process of digestion. Nature never produces nutriment in a concentrated state. The *grain* is combined with the *chaff* and the *straw*. The sugar, the acids, the mucilage, and the oil of fruits, is united with farinaceous, and fibrous principles—husk! Animals fed for some time on these highly concentrated forms of nourishment, become ill and die.

The best grain for bread is WHEAT. But Indian

corn, rye, oats, barley, rice, and many other vegetables may be made into good bread; however, none will compare with wheat. Bread made of the pure wheat meal, *unbolted*, and eaten cold, is the first and best article of diet for all. And if I could only be the means of inducing my countrymen, one and all, to come back to the use of *good bread*, I know that I should be the means of greater good "both to their souls and bodies," than was ever done before by any one man. No military glory, no bloody victory ever achieved on the field of battle, no discovery in the mechanic arts, not even those of *Steam* and the "Magnetic Telegraph," would begin to compare in my own mind, with the benefits to be anticipated from the universal use of GOOD BREAD. Nothing but good results have followed the use of this bread among the thousands of families who have adopted it, in different parts of the country, within the last ten years, good, that no one will, or can, appreciate whose appetite has become vitiated by years of bad habits, in the use of the hot, greasy and vile compounds, such as have smoked from day to day, upon the tables both of the rich and the poor, for ages past.

VEGETABLE FOOD.

To show the reader how little necessity there is for eating flesh, from the want of a variety of vegetables, the following enumeration is made. It might be greatly enlarged:—

1. *Wheat*.—The most common preparation of this article for food is to make it into bread, but it is

very good boiled or baked whole, or cracked. It may be cooked as hommony, or the unbolted meal made into plain puddings, mush or gruel.

2. *Maize or Indian Corn*.—This grain may also be prepared in a variety of ways. If boiled whole, it may first be hulled with alkali of considerable strength, so that the hull may wash off before the kernel is softened. In this way the natural flavor of the corn will be preserved. If the corn be cracked or ground, it is capable of being cooked into a variety of dishes—either as hommony or mush, or boiled or baked into puddings.

3. *Rye*.—This grain may be prepared in the same way as wheat. It is, to some constitutions, somewhat laxative, and hence should be used by persons disposed to costiveness.

4. *Barley*.—This makes a wholesome article of diet. It may be boiled whole or cooked in a variety of ways when properly hulled.

5. *Oat Meal*.—This is much used in Europe, and properly prepared, is excellent food.

6. *Rice*.—From Beaumont's tables it will be noticed, that only one article of food was found so easily digested as this. It is the principal food of the Hindoos and many of the Chinese. In point of importance it may be placed next to bread. And scarcely another article can be cooked in so great a variety of ways. Indeed, bread may be made of it, besides, pies, puddings, porridge, gruel and custards.

7. *Tappaoca and Sago*.—Make excellent puddings of various kinds.

8. *Beans*.—These, in numerous varieties, abound

in all parts of the country: and boiled, baked, or stewed, are highly nutritious, except when mixed with *hog-oil*.

9. *Pease*.—It was pease of some kind upon which the three Hebrew children thrived so remarkably, while the Chaldean flesh eaters, made no advancement in size or health.

10. *Potatoes*.—This vegetable should be ranked with bread and rice. Its place could not be supplied with scarcely another in the vegetable kingdom. It grows in numerous varieties, and may be cooked in many different ways. It is subject to disease, but, when in a good condition, it forms a most excellent article of food for man and animals.

11. *Garden vegetables*, “too numerous to mention,” such as mellons, tomatoes, &c., &c.

12. *Fruits*.—Of fruits the *apple* is at the head of the list. The different varieties of berries, and, indeed, all ripe indigenous fruits, are excellent for food, and should be taken as a part of the regular meal.

DIETETIC RULES.

The following axioms are submitted as the sum and substance of all it may be necessary to say, here, upon diet.

1. *Meals*, should be taken *regularly*, as near as may be, six hours apart.

2. *Luncheons*.—These break in upon the regular operations carried on in the system and impede them, by calling to the stomach a part of that physiological energy, which is requisite to their

successful results. Consequently digestion is impeded and health impaired.

3. *Drinks.*—Avoid tea, coffee, and all kinds of alcoholic, or fermented liquors. The best and only drink, should be pure cold water. The best time for taking it is before eating or some time after. The use of fruits obviates thirst, and the necessity for drinks of any kind.

4.  *The stomach should NEVER be over loaded, and especially at night. This rule is of IMPERATIVE importance!* Indeed, it may be doubted, as a general thing, whether, in this country, at least, as much mischief is not *often* done in the quantity as in the quality of the food.

5. *The less variety* in our food the better. Not more than three different articles should constitute a single meal. The variety should be from time to time and then it will be abundant.

6. *Mastication.*—As a general rule, articles should be cooked so as to secure mastication, that the saliva may be thoroughly mixed with our food, and the teeth properly exercised.

7. *Desserts.*—It were better to dispense with these altogether. Whatever articles would properly constitute a dessert, should make part of our regular meal.

8. *Temperature.*—Hot drinks and hot food injure the digestive powers, consequently the whole system suffers from it. Food that is cold is as relishing as hot food when we get accustomed to it.

9. *Liquid Food.*—Liquids received into the stomach have to be taken up and absorbed be-

fore digestion commences. Hence, as a general rule, food which does not require chewing should be avoided.

10. *If animal food* be taken, it should never be oftener than once a day. And it should be known that the flesh of young animals is not so nutritious as that of the older; and wild animals are better than tame, inasmuch as they are possessed of more highly fibrinized tissues, from their having more exercise and better air. We should eat no flesh from diseased animals.

11. *Poisons.*—The following may be considered as poisons which should never, or seldom, be taken into the human stomach, viz:—Most kinds of *medicinal drugs*, and *patent nostrums*; *panaceas*, *pills*, *syrups*, *intoxicating liquors*, *confectionaries*, *hot cakes*, *pastry*, pickles, *greasy* and highly seasoned food of all kinds.

CHAPTER VIII.

D R I N K .

PURE cold water is the best drink, when it can be received without the dust and other properties with which it often becomes mixed. As it falls upon the roofs of houses it is soft and pure. "Hard water," as it is called, is unwholesome. When no other water can be obtained, as is often the case in cities, "hard water" may be filtered, or distilled, and in this way rendered perfectly pure and fit for drink.

If we except milk, which is the *aliment* nature has provided for infants, it may be put down as a rule from which it is safe never to depart, that every substitute used for pure cold water, as a drink, is an injury to the health. As a general thing, we drink too much, even of water. When the diet is what it should be, and the health is good, there is little or no *thirst*. The immoderate use of salt creates an unnatural desire for drink.

All *intoxicating* liquors, such as ardent spirits, cider, beer, tea and coffee, are poisonous, and should never be taken into the stomach at all. Dr. John Burdill, a distinguished dentist of New York, informs us that he boiled down a pound of young hyson tea, from a quart to half a pint, and ten drops killed a rabbit three months old; and when boiled

down to one gill, eight drops killed a cat of the same age in a few minutes! Think of it! Most persons who drink tea, use not less than a pound in three months. And yet a pound of hyson tea contains poison enough to kill, according to the above experiment, more than seventeen thousand rabbits, or nearly two hundred a day! And, if boiled down to a gill, it contains poison enough to kill 10,860 cats in the same space of time! Dr. Burdell made similar trials with coffee, and black tea, and found the results nearly the same.

Now, can any one in his senses believe, that any human being can take poison enough into the stomach, in one day, to kill one hundred and eighty five rabbits, and not suffer from it? Or, that the use of this poison can be continued from day to day, without injury to health and life?

It is not generally known, that the different kinds of imported teas are colored; that is, in the process of curing the leaves, after they are gathered, there is coloring matter added to them. A gentleman in London, connected with the East India Company, who has the most intimate knowledge of this business, has recently disclosed the above fact, and he adds, that "green tea," or "black," might be any other color, as blue, or yellow, as well as the colors by which these teas are now known. The same reasons against drinking too much, especially with our meals, may be urged as a general rule against the use of soups, and liquid food in general. And hence, adults should not drink milk, even; if taken at all, it should be eaten with coarse bread or ripe fruit.

CHAPTER IX.

CLOTHING.

OUR habits of dressing have so much to do with health, that it would be the height of folly to expect perfect freedom from disease, where no attention is given to this subject.

1. *Cotton* is by far the best material to wear next the skin. For children and healthy people, and even most invalids, no substitute can supply its place. Flannel is too exciting, and produces an extra amount of heat,—renders the skin more delicate, and doubly susceptible to atmospheric changes.

2. Too much, or too warm clothing should be avoided, as productive of more evil than when less is worn.

3. *Tight dressing.* Tight cravats produce headache, congestion of the brain, apoplexy, and other nervous difficulties. Indeed, it would be much more conducive to health if all cravats were discarded at once. Nothing should be worn tight around the neck; and the same remark may be made of the limbs. Tight garters, tight shoes and boots, interrupt the circulation of the blood, prevent the free use of the muscles, and bring on those troubles called “corns,” which often exhaust more patience than most people find it easy to command.

Tight lacing is another name for *self-murder*. It

hinders the full expansion of the lungs, and the free play of the heart, and intercostal muscles. It presses down the diaphragm, and with it the liver, stomach and bowels, and in this way brings on piles, dyspepsia, consumption, and a long train of other evils too numerous to detail. Sometimes the system is injured by the want of suitable clothing, as when females go out in the wet with thin shoes, or expose the neck and chest without regard to the state of the weather.

CHAPTER X.

EXERCISE—EMPLOYMENT.

The rule for all (who are capable of exercise) is this :

1. *Regular exercise should be taken in the open air, daily, (especially after bathing) sufficient to produce a degree of perspiration.*

2. The *occupation* should always be such as to agree with the health. It is nothing less than *self-murder* to continue in an employment which you know, or have good reason for believing, lessens your health, and thus shortens your life. The following facts are from an article in the British and Foreign Medical Review, for October, 1840, containing a review of a memoir on this subject, founded on the Tables of the Institution for Sick Mechanics, at Wurtzburg.

Among the curious items which the table affords, is the following : Of 10,000 persons of various occupations receiving high wages, only 1634 were sick in a year, and only 59 died ; while of those who received low wages, 2714 were sick, and 103 died.

The foregoing, we say, is one of the most *curious* items which the table in question affords ; for one would hardly suspect such an effect to follow as the result of what seems to be so trifling a cause,

at least comparatively, as a difference in wages. But there are other and more important comparisons and facts.

No fact is better established than that professions and occupations in which very little muscular exercise is required, are far *less healthy* than those which require more exercise. Thus, of 10,000 coopers, thatchers, sailors, brewers, blacksmiths, stone-cutters, masons, millers, carpenters, wheelwrights, butchers, nailers and slaters, only 2133 were taken sick, and 67 died; while of 10,000 glovers, lace-makers, brush-makers, confectioners, hair-dressers, goldsmiths, shop-keepers, furriers, tailors, shoe-makers, tapesterers, watch-makers, gilders, pewterers, dyers, book-binders and surgeons, 2371 sickened, and 101 died. The proportion of deaths in 10,000 who were treated, was also very great in the latter case, being no less than 439, or almost one twentieth, while in the former it was only 317 in 10,000.

Again, a comparison is made in the table, of the healthiness of those who sit, stand, &c., at their occupations. Thus, of those who almost always sit, 2577 in 10,000, sicken annually, and 99 die. Of those who work in a stooping position, 2858 sicken, and 95 die. Of those who stand, 2451 sicken, and 69 die; while of those who alternately sit and stand, only 1713 sicken, and 61 die. The proportion which die, of those who are treated at the institution, is greatest among those who constantly sit at their employment; being almost 400 to 10,000.

This last is a most important fact—one which

requires the profoundest attention. For many an individual who now sits wholly at his employment might contrive to stand a part of the time; and the same might be said of those who work in a stooping position. Thus, glovers, lace-makers, brush-makers, goldsmiths, belt-makers, furriers, saddlers, tailors, shoe-makers, tinmen, weavers and watch-makers, all of whom are represented as sitting at their employment in the region of Wurtzburg, might, the most of them, stand a part of the time, as is known by experiments made in our own country.

Once more. Of those who are employed in warm, moist air, 1913 sicken, and 52 die; while of those employed in cold, moist air, 2165 sicken, and 83 die. Of those, too, who are subject to rapid alternations of heat and cold, 2482 sicken, and 86 die.

Want of muscular exercise, bad wages, constant sitting, the bent posture, sudden changes of temperature, low spirits, cold moist air, working in doors, mineral dust, and a sedentary life, are obviously inimical to health.

3. There are some kinds of exercise, taken for health, which, in many cases, are injurious; such as jumping, when carried to excess, and riding in a chaise. The motion in these carriages brings the body into a stooping posture, and thus the chest is contracted, and pulmonary difficulties are either brought on or very much aggravated.

4. *Friction.* As a general rule, severe friction with a hair-belt, or hair-gloves, all over the system, should always precede and follow cold bathing, and

especially in the winter. It is an excellent habit, also, for persons to accustom themselves to the use of the flesh-brush or hair mitten on retiring at night, and also in the morning before putting on the linen for the day. At the same time, move about or dance in the open air, without your clothing, for five, or twenty minutes, before and after the cold bath; at least, brisk muscular motion of some kind should be continued till you feel warm; but it need not be protracted to a state of fatigue.

CHAPTER XI.

SLEEP—REST.

§ SLEEP is one of the great *alteratives* of animal life. We have, *waking* ; *sleeping* ; *motion* ; *rest*. About one third of our existence is spent in that state we denominate *sleep* ; from which we infer, that sleep is just as necessary to our continued, healthy existence, as wakefulness. Indeed, continued wakefulness, without sleep, becomes *insanity* ; and so does sleep, when continued too long, have a tendency to destroy the healthy action of the nervous system. It is, evidently, therefore, a matter of the first importance, that our sleep should be so regulated and secured, that it may not be interrupted, neither becoming deficient in quantity, nor disturbed with unpleasant dreams. In good sound sleep, there is no dreaming. We dream only when there is more or less activity in the cerebral system, during sleep ; and the portions of the brain which are excited during sleep, determine the character of the dream. Sometimes parts of the brains become diseased, and, in such cases, they are easily excited, or it becomes difficult, and often impossible, to produce in them a state of perfect inactivity, or sleep. Pressure upon the head will often produce cerebral excitements, when asleep ; wearing tight hats, bands,

or caps upon the head, and "doing up the hair," as is the fashion among females, is often injurious and prevents sound sleep.

Eating full meals, within three or four hours before retiring to rest, is often a preventive of good sleep. The principal meal should be taken in the middle of the day; and it would be better to take it in the morning than at night, as many do. I have often cured cases of incubus and somnambulism, by inducing the persons afflicted to eat no supper, nothing after the second meal.

Beds made of down, or feathers, are decidedly objectionable, as they induce too much heat, and soon become impure, by retaining the effluvia of the body, and in this way, they bring on numerous forms of disease. The best bed is made of hair, husks, the "everlasting flower," palm-leaf, or cotton. "Comfortables" are liable to the same objections made above, and so is too much bed clothing of any kind. Besides preventing the effluvia from escaping from the body, too much clothing retards the free circulation of the blood, and often produces a numbness or coldness in the limbs, highly injurious.

The position of the body in bed, is of considerable importance. Lying on either side, with the head turned down upon the chest, has a bad effect. The best position to sleep in, is upon the back. In this position, no pillows would be needed. And cases very seldom occur where the head should be elevated so much as is often done.

To insure good sleep, the hours of retiring and rising should be observed regularly.

“Early to bed, and early to rise,
If you would be *healthy*, wealthy and wise.”

And to the sleeping room, the light of the sun and pure air should have free access. During the night, and the coldest weather, the room should never be perfectly closed. The bed clothes should be cleanly and daily exposed to the pure fresh air. Unless the room be very large, no more than two persons should sleep in one apartment, together, and on no account should the sick and the well sleep together, nor should children sleep with the aged.

No part of the apparel worn during the day should be continued upon the system during sleep. The better way is to have linen prepared in which to sleep, which may be laid aside in the morning. From your bed to your bath, and then after cleansing the pores, and invigorating the system with cold water, the clothing appropriate to the day, is put on, with far more comfort and satisfaction, than if it had been worn and saturated with perspiration during the night.

CHAPTER XII.

AIR—LIGHT.

1. THE air we breathe should be *dry, pure* and *cold*. By this air abundant oxygen is supplied to the lungs; muscular energy is augmented; the appetite is increased; digestion invigorated; perspiration is less; the urine more abundant. Its benefits depend on sufficient exercise being taken to make the organs react energetically. But very cold air is uncongenial to those who cannot take active exercise, as persons debilitated by age or sickness, those of lymphatic temperament, and new-born infants. The interior congestions determined by cold inadequately resisted, predispose to inflammations, and hæmorrhages.

2. Cold, *moist* air, sometimes benefits the bilious and strong, but generally it determines powerful abstraction of heat; repels perspiration; produces rheumatisms, inflammation of the mucous membranes of the lungs, and the gastro-intestinal canal. *Hot, dry* air produces muscular weakness, copious perspirations, diminished secretion from the kidneys, frequent thirst, weakened appetite and digestive powers; inaptitude for intellectual as well as bodily exertion; sleepiness during day, and sleeplessness at night. It induces cerebral affections; gastric, bilious, and intestinal diseases. It aggravates hysteria, epilepsy, hypochondriasis, and insanity.

3. When it becomes *hot* and *humid*, it is still more unhealthy. Respiration is more difficult. The energy of the nervous and muscular systems is depressed. This state of the air is the precise condition most favorable to the decomposition of animal and vegetable substances, and to the carrying off of putrescent emanations. Hence, the prevalence under these circumstances of epidemic, intermittent, and typhoid fevers. It is uncongenial to the lymphatic temperament.

4. In a weaving mill near Manchester, where the ventilation was bad, the proprietor caused a fan to be mounted. The consequence soon became apparent in a curious manner. The operatives, little remarkable for olfactory refinement, instead of thanking their employer for his attention to their comfort and health, made a formal complaint to him that the ventilator had increased their appetites, and therefore entitled them to a corresponding increase of wages! By stopping the fan a part of the day the ventilation and voracity of the establishment were brought to a medium standard, and complaints ceased. The operatives' wages would but just support them; any additional demands by their stomachs could only be answered by draughts upon their backs, which were by no means in a condition to answer them. In Edinburg a club was provided with a dinner in a well ventilated apartment, the air being perfumed as it entered, imitating in succession the fragrance of lavender and the orange flower. During dinner the members enjoyed themselves as usual, but were not a little surprised at

the announcement of the provider that they had drunk three times as much wine as he had usually provided. Gentlemen of sober, quiet habits, who usually confined themselves to a couple of glasses, were not satisfied with less than half a bottle; others, who took half a bottle, now extended their potations to a bottle and a half. In fact, the hotel keeper was drunk dry.*

5. The breathing should never be obstructed, either by the bed-clothes at night, nor by handkerchiefs, &c., worn over the mouth, at any time during the day.

6. Next to pure air, *light* is indispensable to health, both in our working and sleeping apartments. Bed-rooms should always be so situated as that the sun may shine into them sometime during the day. Vegetable, as well as human beings, deprived of light, are *blanched*. The former also are changed in their taste and other properties. The flesh of the latter is rendered soft, flabby, pasty, and sallow. The tissues are infiltrated with pale liquids; the blood abounds unduly in serum; the fibrine and coloring matter are bad. This is observed in persons who work underground, in prisons immured in dungeons, in the inhabitants of narrow dark streets and lanes, in the cretins of the deep-shaded Alpine valleys, and in the natives of the polar regions who are for half the year without the light of the sun. Those who are constantly exposed to the rays of the sun, or who go entirely

* Wyman's Practical Treatise on Ventilation.

naked, as the New Zealanders, the Mexicans, the Peruvians, the American Indians, have thick, rough, freckled, deep-red tawny skins, florid blood, muscular bodies, perfect forms. These are the united results of constant *insolation* and exercise. The application of these facts to the physical education of youth must not be lost. Lymphatic, scrofulous children cannot be too much in the open air. Too much exposure to the sun, however, especially of the *naked head*, produces head-ache, apoplexy, inflammation of the membranes of the brain, and insanity.

5*

CHAPTER XIII.

PARENTS.

CHILDREN receive their temperaments, their constitutions, dispositions, and, we may add, their characters, from their parents. It was no more true of Adam, when it was said he "begot a son in his own likeness," than it is now, and always will be, of every man and woman who shall become a parent. The fact, that children often come into the world with physical "marks" upon their systems, so striking as many of them are, would seem sufficient, of itself, to impress an unfading conviction of the truth of this doctrine upon every reflecting mind. Mental and physical qualities are transmitted, always. The habits, dispositions, feelings and passions, of fathers and mothers, are transmitted to their offspring. Volumes might be filled with testimonies to this point. Diseased parents cannot, in the nature of things, have healthy children. Hence, the necessity of care, and the utmost vigilance, on the part of all such as are in the way of becoming parents. A want of a knowledge of this law of nature, has been, no doubt, the fruitful cause of a large proportion of the still-born infants, in our tables of mortality. *

* Chitty, in his Medical Jurisprudence, puts the number of still-born, at one in every fifteen. Estimating the population of the United States at 20,000,000, the number of still-born children in this country, annually, must be nearly 30,000!!

1. *The passions.*—I use the term passions, to signify the undue *excitement* of any one of the mental faculties. The following case is in point; it was communicated to me, by a gentleman, who has, from the first, been well acquainted with the parties.

“ Mr. B—— of ——, Vt., is now thirty years of age, and has, from childhood, conversed freely, with every other person, except his *own father!* When he first began to talk, it was noticed, that, when his father attempted to talk with him, he invariably turned his head the other way, and has never once been able to speak to his father, while looking him in the face, from that time to the present! Two months before he was born, his father came into the house behind his mother, and addressed her in very severe and opprobrious language. It very much excited her combativeness, and, looking round, she attempted to reply, but was literally *choked* with *indignation*. The impression which her mind made upon the nervous system of that fœtus, has, now, lasted more than thirty years, sufficiently long, certainly, to demonstrate the truth of the doctrine I am here attempting to inculcate.

2. Whatever occupies the mind of the mother, with a certain degree of *intensity*, at particular times, during the period of gestation, will be sure to make an impression upon the physical and mental systems of the child. Hence the danger of ugly, or disagreeable objects. The Lacedemonians were accustomed to place beautiful statues in the rooms with their pregnant wives, and the same law is

recognized in the Bible account of the patriarch Jacob.* During this period conjugal abuses should be avoided. Departures from the law of absolute continence, are attended, always, with mischievous results, both to the mother and the child.

3. *Nursing* mothers, should be particularly observant of these rules.

Sir A. Cooper says :—A *fretful* temper lessens the quantity of milk, makes it thin and serous, and causes it to disturb the child's bowels, producing intestinal fever and much griping. *Fits of anger* produce a very irritating milk, followed by griping in the infant, &c. *Grief and anxiety* diminishes the quantity, and alters the quality of the milk. *Fear* has a powerful influence upon this secretion; and *terror*, which is sudden and great fear, instantly cuts off the supplies of the infant. A few facts given by Dr. Carpenter in his "Principles of Human Physiology," will fully sustain Sir A. C.'s view of this subject. A carpenter fell into a quarrel with a soldier, billeted in his house, and was set upon by the latter with his drawn sword. The wife of the carpenter at first trembled from fear and terror, and then suddenly threw herself furiously between the combatants, wrested the sword from the soldier's hand, broke it in pieces, and threw it away. During the tumult some neighbors came in and separated the men. While in this state of strong excitement, the mother took up her child from the cradle, where it lay playing, and in the

* Gen. 30: 37.

most perfect state of health, never having had a moment's illness; she gave it the breast, and in so doing sealed its fate. In a few minutes the infant left off sucking, became restless, panted, and sank dead upon its mother's bosom. The physician, who was instantly called in, found the child lying in the cradle as if asleep, and with its features undisturbed; but all his resources were fruitless. It was irrecoverably gone.

A lady having several children, of which none had manifested any particular tendency to cerebral disease, and of which the youngest was a healthy infant a few months old, heard of the death of an infant child of a friend by acute dropsy on the brain. The circumstances naturally made a strong impression upon her mind; and she dwelt upon it the more, perhaps, as she happened, at that period, to be separated from the rest of her family, and to be much alone with her babe. One morning shortly after, having nursed it, she laid the infant in its cradle, asleep, and apparently in perfect health; her attention was shortly attracted to it by a noise; and, on going to the cradle, she found her infant in a convulsion, which lasted but for a few moments, and then left it dead.

Mr. Wardrop mentions* that, having removed a small tumor from behind the ear of a mother, all went well until she fell into a violent passion; and the child being nursed soon afterwards, died in convulsions. The same author was sent for hastily to see another child in convulsions, after nursing a

* London Lancet, No. 516.

person who had been severely reprimanded, and he was informed, by Sir Richard Croft, that he had seen many similar instances. Burdach * records a case of an infant who was seized with convulsions on the right side, and hemiplegia (a paralytic affection of one side of the body) on the left, on nursing immediately after its mother had met with some distressing occurrence.

During the period of gestation, and while nursing, the laws of life and health should be observed with undeviating fidelity. The strongest sympathies exist between the *uterus*, *stomach*, and *brains*. † Hence the necessity of keeping the nervous system quiet and composed, by cold-bathing, and by avoiding all those associations which have a tendency to disturb the mind. Pope ascribes all the *bad* passions of men to the use of *animal* food. And that the food of mothers has much to do with the mental dispositions of their offspring, there can be no doubt at all. Follow the directions given in another chapter of this work, with regard to diet and exercise. Many mothers suffer themselves, and bring unhealthy offspring into the world, for the want of regular exercise in the open air, at the proper time.

* Physiologie, p. 522.

† I always use the term *brains* (not brain) because there are two, distinct brains, in every head.

CHAPTER XIV.

INFANCY.

THE best food during the first nine months, or a year after birth, is the mother's milk, of course. But, when this is forbidden by disease, or death, a young, healthy, wet nurse should be provided. When the infant has a full supply of its mother's milk, it should not be fed with anything else.

Avoid too much nursing; never nurse the infant to keep it from crying. Its stomach, like every other organ, wants periodical rest. As a general rule, infants should be *gradually* weaned between the ninth and twelfth month. After the breast of the mother, the next best food is *good* cow's milk; from cows that are fed on grass or hay, and which are known to be healthy. It should not be *boiled*, but may be given with pure ground rice, cooked; sago, arrow-root, and bread.

Avoid sugars, sweetmeats, and all kinds of "soothing syrups." If sugar be given with their food, let it be added at the time the food is taken.

From fifteen months, and upward, other vegetable food may be given, but only at their meal times, which should be observed regularly.

From birth they should be subjected to bathing, night and morning, with tepid water at first, but if the child be healthy, within a week or two, cold

water may be used with great benefit. When the weather permits they should have free access to the open air.

The dress should be merely sufficient to keep them warm. The more loose and free the better. The fastenings should be with tape, or buttons. Have no curtains about their beds, and see that their faces are not covered or muffled while sleeping.

Intelligent parents who understand the laws of health will avoid the following, among other bad habits :—

1. Covering the head of the infant with caps. The head should be left bare, and always kept cool.
2. Compressing the chest and abdomen with "swaddling bands." There is no need of this practice, and it has often caused serious mischiefs.
3. Leaving the arms and chest without any covering, in cold weather.
4. *Rocking* children in cradles, and *hoisting* them about by the arms.
5. Premature attempts to cause them to walk. "Bow legs" are produced in this way.
6. Such words and actions as tend to excite their combativeness. When they are ill-natured, they should be *diverted*, not punished.
7. The force of associations is as strong in children as adults. And hence, regular hours for their meals, the movement of the bowels, and rest, are as necessary as when the system becomes matured with age.

CHAPTER XV.

CHILDHOOD.

1. ONE of the great evils common to childhood in this country, is over-feeding. The quantity and variety, as well as the quality of the food taken into the human stomach, must, in all cases, be regulated by an enlightened judgment. This we do not look for in children, and hence the necessity of parental oversight, in relation to their diet.

2. *Physical* and *mental* exercise. The former should be not only allowed, but encouraged, while the latter is repressed, or at least left for time to develop. They should not be compelled to labor, nor fatigued with effort, but allowed as much recreation as their natures seem to require. Many children, especially in our cities, are put to study and compelled to attend school, long before their brains are sufficiently matured to endure the tax which is imposed upon them. No definite rule can be laid down to meet each case; but generally, it has a very bad effect to compel children to a course of lessons in reading, before they are four or five years of age. What they learn as an amusement is a different thing, altogether.

3. Dress. Except in the case of very feeble children, with cold extremities, they should not be

clothed with woollen next the skin. Their shoes should be large, and broad at the toes.

The habit of allowing girls and boys to wear their hair very long, is attended with bad consequences in many cases,

CHAPTER XVI.

YOUTH.

1. SENDING youth away from home, where their habits of bathing, exercise and diet cannot be attended to by their parents or guardians, is the fashion, but a very bad one indeed. The writing benches of most school-houses throughout the country, are so constructed, that it is impossible to sit up straight on them, and in this way spinal curvatures, and its attendant evils are the horrible results. Writing desks should, in all cases, be elevated nearly as high as the shoulders, so that the chest may not be cramped over while sitting at them. In the case of girls, confined from month to month, on benches, and at desks like the above, more cases of stooping, round shoulders, and spinal curvatures have been brought on, than have been produced by any other one cause. This habit of stooping contracts the chest, compresses the lungs, and disposes to pulmonary consumption. To correct it, elastic shoulder braces should be worn, and the practice broken up which has led to it.

According to Dr. Orpen, one of the most effectual means of removing stooping, and even of checking incipient *lateral* curvature of the spine, is by making the patient carry weights on the head, gradually augmented; this compels all the muscles, by which perpendicularity is produced and preserved, to exert

themselves, and by this exertion they grow: and as the body cannot be allowed either to bend forward or to either side, the muscles gradually pull all the bones and ligaments into their proper position, and keep them, as well as themselves, in due posture. In fact, lateral curvature is caused by disproportioned strength, or exertion of different lateral sets of muscles, and by relaxation of ligaments, and can only be cured by producing a contrary state, by exercise and a well balanced perpendicularity of spine; never solely by either artificial machines nor by mere rest. The peasantry in those parts of the country where it is the custom to carry burthens on the head, are remarkable for their erect stature and ease of motion.

2. Choosing occupations for children without regard to their physical and mental capacities, is highly objectionable. Could anything be more inconsistent than putting a feeble young man with small muscles and a large brain, to the trade of a stone-cutter or a blacksmith? Or putting a young man with full chest, large bones, and strong constitution, to the occupation of a shoemaker or jeweller?

In the case of both sons and daughters, the great evil has been in separating physical from mental exercise. When they are put to school, they are required to do nothing but exercise the cerebral system; and when put to trades, the *mind* is neglected. Study and physical exercise should, in all cases, go together. And when parents fail to give this information among their very first lessons, they omit the first, and one of the most important of all the duties they owe to their children.

CHAPTER XVII.

OLD AGE.

It was, probably, in ages past, when the habits of our ancestors were more simple, and when they lived to much more advanced ages than now, that the proverb was originated, "Once a man and twice a child." At present, it is certain that an immense proportion of the human family do not live to reach a state of manhood; and of those who do, how few the number who live down to ripe old age! The reasons are to be found in our habits. "Soonest ripe, soonest rotten." Stimulating food and drinks push the system forward into a state of precocity, which soon exhausts the vital powers, and we die before we have "lived out half our days." And when we find our lives thus shortened, and that we cannot live any longer, we very *piously* attribute our disease and death to the God of Heaven, whose laws we have violated in our habits of eating, drinking and exercise, just as really as if we had committed the crime of murder!

Can any intelligent, candid mind suppose, for one moment, that it is *God's will* that one hundred thousand human beings should be still-born, annually? Or that a majority of all the human beings born *alive*, should die before they are five years old? Or, what is still worse, that all that are born, and

live to a state of maturity, a mere *fraction* should be permitted to live down to a comfortable old age? Alas! that men can believe in such a God! It is just as much the will of the Deity that human beings should live "three score years and ten," as it is that they should live at all. And all might reach that period, and even far beyond it, were all the laws of God developed in human physiology, faithfully obeyed.

1. Beyond the meridian of life, as the body advances in age, less food and exercise are necessary.

2. The system needs more rest, and the mind should be free from care.

3. The rules laid down in the preceding pages, with regard to living, especially, *diet* and *bathing*, should be faithfully followed; and when this is done from infancy up to manhood, when there are no accidents nor unavoidable disturbing causes in the way, the result will be **HEALTH, HAPPINESS, and a "GREEN OLD AGE!"**

CHAPTER XVIII.

CAUSES OF ILL HEALTH.

THERE are many cases of ill health beyond the control of those who are doomed to suffer; such as the bad conduct or ill-health of parents, neglect of children, &c., &c. Of these our limits do not permit us to speak here, but merely of such causes as may be avoided, and of which all should have more or less knowledge.

A I R.

1. *Changes in the atmosphere.* One of the most common causes of obstructed perspiration, or catching cold in this country, is the changeableness of the weather, or state of the atmosphere. With us the degrees of heat and cold are not only very different in the seasons of the year, but often change almost from one extreme to another in a few days, and sometimes even in the course of one day. That such changes must affect the state of the perspiration, is obvious to every one.

The best method of fortifying the body against the changes of the weather, is to be abroad every day. Those who keep within doors are most liable to catch cold; such persons generally render themselves so delicate as to feel even the slightest changes

in the atmosphere, and frequently are afflicted with pains, coughs, oppressions of the breast, &c.

2. A current of cold air upon a part or parts of the system, while in a state of perspiration.

3. *Wet clothes.* The danger from wet apparel consists in keeping it on the body after you have ceased exercising. It is impossible for people who frequently go abroad, to avoid sometimes being wet. But the danger may generally be lessened, if not wholly prevented, by changing the clothes soon; when this cannot be done, they should be kept in motion till they are dry.

DWELLING HOUSES.

1. Many houses are so situated, that the sun cannot shine into many of the rooms. The light of the sun is necessary to health.*

2. Others are situated near rivers, which fall and leave their banks to exhale miasmi and disease, for all such to inhale as live in their immediate vicinity.

3. Houses newly plastered, or painted, inside.

4. *Cellars* that are damp, or in which the water collects a part of the year.

5. *Cellar kitchens*, or sleeping rooms, one side of which are below the surface of the ground.

6. Different families crowded together in one tenement.

* Animals, such as dogs and birds, have been known to sicken and die during an eclipse of the sun.

DIET.

1. Food, badly cooked.
2. Too many kinds of food at once.
3. Unripe and diseased fruit, whether in its natural state, or cooked.
4. Green vegetables, such as corn, squashes, &c.
5. *Irregularity* in the time of taking the meals.
6. *Eating too often.* The meals should be six hours apart, and nothing taken between them.
7. *Eating too fast.* Americans are proverbial for the rapidity and hurry in which they swallow their food. The *haste* in which many laboring people and servants are *compelled* to take their meals, is a burning shame to all who aid in upholding that state of things which has brought about this destructive habit.
8. Eating animal food after it has begun to decay.
9. *Late suppers*, or eating just before retiring to rest.
10. *Eating confectionaries*, condiments, wafers, &c.
11. *Unwholesome drinks*, such as tea, coffee, chocolate, beer, cider, wine, vinegar, bad water and intoxicating liquors.
12. *Poisons*—such as patent nostrums, medicinal drugs, chalk, slate-pencil, pickles, and dirt of various kinds.
13. *Diseased animal food.* A large proportion of the animals slaughtered for market, are diseased, and unfit for food.
14. *Hot drinks* and *hot food* of any kind.
15. Want of wholesome food.
16. All kinds of pastry.

CLOTHING.

1. *Tight lacing*, tight cravats, garters, small shoes or boots.
2. *Wearing woolen* next the skin.
3. *Too much clothing*, and, rarely, too little.

S L E E P .

1. *Want of sufficient and regular sleep.* Of this many are deprived, who are forced to begin at their labor at an unseasonable hour in the morning, and to prolong it till late at night. Ten hours out of the twenty four is as much as the system can endure, regularly, without injury.

2. Sleeping with the head bent over upon the chest. The best position in which to sleep, is upon the back, without a pillow.

3. Sleeping with the arms extended above the head.

4. Sleeping in a bed surrounded with curtains.

5. Sleeping in rooms where the sun never shines.

6. Sleeping in small rooms with a number of other persons.

7. Sleeping with the sick.

8. Sitting up late, or watching.

9. Sleeping in the linen worn during the day.

10. Lying in bed, after the time to rise, in the morning.

11. Sleeping in damp beds, when the system is *chilled with cold.*

LIGHT OF THE SUN.

1. Exposure of the head to the rays of the sun.
2. Working by candle light, or in mines, cellars, and places where the sun never shines.
3. Looking too intensely at the sun, or for a long time at any other strong light.

EMPLOYMENT—EXERCISE.

1. *Indolence!* Hence the far famed recipe for dyspepsia, "Live on a sixpence a day, and *earn it.*"
2. Want of *relaxation* from labor. Both body and mind need rest.
3. Violent labor, especially immediately after meals.
4. *Sitting*, or working in a *recumbent posture*. Holding the head forward, stooping so as to bring the shoulder-blades upward and forward.
5. *Want of regular exercise* in the open air.
6. Working in factories, and places where the lungs inhale an impure atmosphere.
7. Standing for a long time with the feet in the water.
8. Lifting beyond the strength.
9. Riding in chaises or carriages which bring the motion upon the chest and lungs.
10. *Rowing* has a tendency to bring on spinal curvature.

BAD HABITS, PASSIONS, &C.

1. Solitary sexual excitements. Those who transgress this law, do so at the peril of their health, both of body and mind. Derangements

and diseases the most *terrible* follow in the train of sexual abuses. The system is not sufficiently matured, in this country, to allow of *lawful* sexual indulgence, before twenty one years of age, as a general rule.

2. The undue excitement of the sexual organs, even among married people, is an evil, and a fruitful cause of barrenness, uterine weakness, besides the still-born which it occasions, and the terrible consequences which show themselves in the dispositions and conduct of children born of such parents.

3. *Mental excitements*, extravagant *joy, fear, love, hope, grief, and despair.*

4. *Disagreeable associations.* Husbands and wives who do not live happily together, and neighbors who are constantly exciting each other's combativeness.

RECREATION.

1. *Want of variety in the mental exercises.* All the faculties should be exercised at the proper time, in perfect harmony.

2. *Want of amusement, music and mirth.*

BATHING.

1. *Want of cleanliness.* Cold water should be applied to the head and face, twice a day, at least.

2. The pores of the skin should be cleansed with pure cold water, daily.

3. The cotton worn next the skin should be changed every night and morning, and always kept clean.

MISCELLANEOUS.

1. The teeth should be kept clean, and when decayed should be removed.

2. The mouth and nostrils should be rinsed with cold water, daily.

3. Resisting the calls of nature for relieving the bladder and bowels, is very injurious to health.

4. Inhaling dust, of any kind.

5. Inhaling the fumes of *tobacco*, *heated oil*, and other offensive gasses, not excepting that of nitrous oxide, or sulphuric ether.

6. Over taxing any one of the mental faculties with study.

7. *Breathing.* The breathing is *quicken*ed and *shorten*ed by *stooping* and *contracting* the chest, which tends to pulmonary consumption. Long and deep inspirations should be taken frequently, in cold pure air, holding the breath as long as possible, and in this way, by throwing the shoulders back, the chest will be expanded, and sufficient room be left for the heart and lungs to perform their appropriate functions.

8. *Abuses of the head and hair.* Suffering the hair to grow very long; daubing it with hog-oil and other greasy mixtures; wearing tight hats, caps, &c., and "doing up the hair" in an unnatural position, so as to cause soreness in the scalp, head-ache, &c.

9. Finger rings, so tight as to impair the circulation.

10. Holes and sores made in the ears artificially.

11. Chewing india-rubber, camomile-flowers, or

any other substance except good food, at the regular meal time.

12. Taking urine into the stomach as medicine.

13. Obstructing the breath by bed-clothes, and wearing bandages over the mouth.

CHAPTER XIX.

SIGNS OF GOOD HEALTH.

As persons may be affected with disease without thinking about it, or even knowing it, so they may, also, enjoy perfect health, without being conscious of it. Indeed, as a general thing, perhaps that is the best state of the system, in which the mind is not compelled to be occupied with the thoughts of pain, or any irregularities, in any of the functions, either of body or mind. But, to enable all to judge accurately, we give the following signs of *good health* :—

1. *Regular, slow, and deep breathing.*
2. *Slow, and regular pulse.* The pulse is modified by the age, sex, temperament, state of the mind, &c. Other things being equal, a *slow, regular* pulse, indicates good health.
3. *Sound, and regular sleep.* Sleep without dreams.
4. *Regular evacuations,* bowels, bladder, uterus, &c.
5. *Steady, agreeable perspiration.*
6. *Equable temperature.* A hot head, and cold hands and feet, indicate disease.

7 *Good appetite*—one which *regularly* gives a *disposition* for wholesome, unseasoned food.

8. When wounds heal, rapidly.

9. Little, or no thirst.

10. Little, or no *expectoration*, or *salivation*.

11. Sound teeth.

12. The perfect use of the five senses, *sight*, *hearing*, *taste*, *smell*, and *feeling*.

13. Disposition to rise early in the morning.

14. Freedom from adipose matter. "Fat" is a state of disease, or indicative of one.

15. Resistance of disease, ability of the system to ward off disease, (so to speak) when attacked by those agencies likely to disturb the nervous energies.

16. When the propensities are strong, and well controlled.

17. *Self possession*—a quiet mind in times of excitement.

18. Ability to endure, and to labor, physically and mentally, without fatigue.

19. The natural color, that is, the color in the cheeks, according to the temperament, age, sex, &c., which indicates health.

20. Constant sense of feeling WELL, especially in the morning.

Index

Fitch's Lectures on the Lungs
Book of Health for the Million.

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