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THE

DOMESTIC PRACTICE

OF

HYDROPATHY:

WITH FIFTEEN ENGRAVED ILLUSTRATIONS

OF IMPORTANT SUBJECTS,

FROM DRAWINGS BY DR. HOWARD JOHNSON.

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DEDICATION.

To thee, mild-eyed and ministering Spirit, who sittest by the bed of Suffering, dropping balm into the bosom of Sickness—to thee, sweet Smoother of the pillow, who sheddest thy gentle dews on the parched lips of Anguish, and stillest the throbbings of his heart by the soft accents of thy voice—to thee, whose home is in Heaven, but who dwellest among men that thou mayest help them in their need—who rainest down thy sympathies into the troubled soul of Affliction, watering the desert with the gushings from thy fountains—to thee, the Comforter, who borrowest the smiles of Hope that thou mayest lighten the darkness of Despair—to thee, mild-eyed and gentle HUMANITY, I dedicate this book.

E. J.

"The profession of Medicine, having for its end the common good of mankind, knows nothing of national enmities, of political strife, of sectarian dissensions. Disease and pain the sole condition of its ministry, it is disquieted with no misgivings concerning the justice and honesty of its client's cause; but dispenses its peculiar benefits, without stint or scruple, to men of every country, and party, and rank, and religion, and to men of no religion at all. And, like the quality of Mercy, of which it is the favorite hand-maid, it 'blesseth him that gives and him that takes;' reading continually to our own hearts and understandings the most impressive lessons, the most solemn warnings. It is ours to know in how many instances, forming indeed a vast majority of the whole, bodily suffering and sickness are the natural fruits of evil courses; of the sins of our fathers; of our own unbridled passions; of the malevolent spirit of others. We see, too, the uses of these judgments, which are mercifully designed to recall man from the strong allurements of vice, and the slumber of temporal prosperity; teaching that it is good for us to be sometimes afflicted. * * * * AFTER ALL, IT IS GOD WHO HEALETH OUR DISEASES, AND REDEEMETH OUR LIFE FROM DESTRUCTION."—*Dr. Watson's Introductory Lecture to his Class at King's College.*

PREFACE.

THE title of this work sufficiently discloses the general nature of its contents, which may be briefly particularized thus:—It contains, first, a very minutely detailed description of the various hydropathic processes, and directions as to the proper manner of performing them; with an enumeration of the several kinds of baths in use—their comparative powers, their individual effects, their temperature, the manner and times of taking them; observations regarding diet generally, clothing generally, sleep generally, and exercise generally, with necessary cautions concerning all these subjects. Secondly, it contains general observations on the hydropathic treatment; its mode of action on the living system; with remarks on the nature of general and local disease. Thirdly, it contains a detailed description of the symptoms by which each disease is recognized, with its appropriate treatment; and particular directions as to diet, exercise, clothing, &c. It is only necessary, therefore, to add a few words concerning the principal objects for which the book has been written.

One object has been to bring the benefits of hydropathy, as much as possible within the reach of the *poor*. The accomplishment of this has always appeared to me in the light of an imperative duty; and I can but regret that I could devise no better or more effectual means of achieving it, than by the publication of some such work as this.

There is another large class of persons, to whom the advantages of the water treatment have been hitherto a dead letter, on account of their inability to leave their homes, by reason of the pressing claims of business. I am constantly receiving letters from persons thus situated, requesting me to conduct them through the treatment by correspondence; but, for want of some book to which I could refer them for particular directions and general instructions, regarding their treatment, I have found it almost impossible to comply with their wishes, either with advantage to them, or credit to myself. It is, therefore, one of the objects and uses of the book, to facilitate the treatment of this class of persons, at their own homes, by correspondence; and to give as much efficacy and safety as possible to treatment so conducted.

It has frequently happened that some of my own patients, after having spent at my establishment as much time as they could spare—time

enough for improvement, but not for perfect restoration; and sufficient to enable me to appreciate with accuracy the nature of their diseases, the peculiarities of constitution, amount of their general powers, and the *sort* of treatment suitable to their cases—have expressed their desire of completing the necessary term of treatment at their own homes, under my guidance, by correspondence. To enable myself to comply with the wishes of such, with the more safety, precision, and success, has been to me a third object.

There was another difficulty—and that, too, of a very grave nature—which constantly made itself felt, in all attempts to treat persons by the interchange of letters. I mean the very meagre, confused, and altogether inadequate manner in which patients reported their cases to me. In most instances, I found it altogether impossible to arrive at just conclusions, either as to the precise nature of the disorder, the nature of the constitution of the patient, or the amount of his general powers. And yet a correct appreciation of the *sort* of constitution, and the amount of living power, is just as essential to safe and effective treatment, as a knowledge of the disease itself; for it is by these that we are enabled to *apportion the dose*. To remedy this evil, I have affixed to the book a FORM OF REPORT, in which are indicated the particular points on which it is necessary that the physician should receive information, in order to enable him to judge correctly as to the nature, not only of the disease, but also of the constitution, and the general state of the living powers. And, although those points are many, yet all the information required can frequently be conveyed in two or three words, thus: "*The color and texture of the hair?*" Answer: "*dark, coarse, greasy, and thick.*" Or, "*light, silky, rotten, and thin.*" By the help of this FORM, something like professional accuracy and precision may be given to the report.

I had still another object. I believe, indeed I know, that there are many liberal-minded medical men who are deeply sensible of the inevitable evils inseparably connected with drug-practice, and who would be very willing (as, indeed, why should they not?) to give Hydropathy a fair trial in acute disease, if they had an opportunity of making themselves acquainted with the *details* of its practice. To offer them this opportunity, therefore, has been another of my objects.

Besides the difficulties herein enumerated, there were several others of a less prominent character; but all seemed to issue out of the want of some such work as this, to serve as a book of mutual reference—of mutual understanding and consultation—between patient and physician; a book which might lie open, at the same time, under the eyes of both; and which they might, as it were, read *together*—and so form a link of mutual understanding.

A book of this sort is also rendered doubly necessary, by the difficulty which patients experience of getting any medical man in their neighborhood to consent to treat them on the hydropathic system, although those patients have no faith in any other. This is certainly a great hardship.

Having thus fairly stated what my objects *are*, I will now as fairly state what they are *not*.

It forms no part of the objects of this work to lead the suffering to believe that they can altogether dispense with the services of medical men. In many slight cases, indeed, they may do so; but in severe forms of disease, I recommend no one, especially in acute disorders, to use this, or any other treatment, without professional guidance, *if they can get it*. So, also, there are many forms of chronic malady—as, for instance, those of the respiratory, circulating, and nervous systems—in which the hydropathic treatment should not be administered, without first taking professional advice as to its propriety; and if proper, as to the *degree* in which it may be used; and, above all, as to the *sort* of hydropathic treatment which it is proper to adopt. For, it must be remembered that, in diseases of these three fundamental systems, the three prime organs of life are involved, viz., the heart; the lungs; and the brain, with its appendage, the spinal marrow.

Neither is it one of the objects of this work, to induce people to suppose that their diseases can be as well and effectually treated at home as at a well-conducted establishment. It must be perfectly obvious to every one, that the advantages, to the patient, of living in the same house with his physician, whose duty it is to watch the varying phases of his disease from day to day, and sometimes from hour to hour—of living and moving daily under his eye—must be very great indeed, and such as no other circumstances can supply. I am also quite aware that all written guides to treatment must be more or less imperfect. Nevertheless, some good may be achieved, though not the greatest; and a little good is better than none—and an *imperfect* guide better than no guide at all. How far the following pages will constitute a competent guide, may be a question—one, however, which must be decided by the public, not by me. And I am quite ready to admit that this is a very grave question, as it regards the practical success of the treatment. For that treatment, like every other, will be successful or otherwise, exactly according to the manner and degree in which it is exhibited, and the discrimination of cases to which it is applicable. And, in making this discrimination, it is not only necessary, by careful examination (wherever this is possible) to make out the precise nature of the disease of which the *patient complains;* but it is equally important to ascertain that there is no lurking and latent malady of which the patient does *not* complain; and of which he is unconscious.

Besides this, people *will* treat themselves at home, whether hydropathic physicians desire it or not; and my hope is that this work, all imperfect as I acknowledge it to be, may yet have some tendency, not only to diminish the risk of self-treatment, but to increase the chances of a successful issue. I trust, too, it may have some tendency to induce medical men to take it up, though it be only in self-defence.

Neither do I mean to say that the exact treatment advised herein for

each case must be, in every instance, passively and blindly followed. My object has rather been merely to sketch the *character* of the treatment, in each disease, leaving it to be more or less modified, according to particular circumstances, and its effects upon the sensations and powers of the patient.

Neither have I meant, in whatever I have said against that profuse and irrational and daily administration of the most deadly drugs which characterizes the drug-practice of the present day—neither have I meant, I say, in whatever I have said on this subject, to join that senseless clamor against [redacted] drugs (in combination with hydropathy) which has been raised and reverberated in all the hydropathic works which I have read. I have always, in my earliest works, endeavored to show the gross folly, or still grosser dishonesty, of this cry. For this I have been censured—and not by the unlettered and unprofessional practitioner only. In his case, knowing nothing of the uses or effects of drugs, it was natural that he should seek to abolish them utterly, that so he might bring down the science of healing diseases to the level of his own knowledge and acquirements; and we must not pry too curiously into the weak side of human nature. But the practice of administering drugs, however sparingly and rarely—however urgent the occasion—in conjunction with hydropathic treatment—has been condemned, and unworthy motives attributed by those who should have known better. And as I believe myself to be the only hydropathic writer who, at that time, openly advocated their occasional use, it is to myself only that the attribution of such unworthy motives would seem to apply. I, however, heartily forgive all this; and am glad to find that these same persons, in whose writings these erroneous doctrines stand recorded, have since seen the propriety of adopting that practice, which, in such strong terms, they then condemned.

In the detail of symptoms, and general description of diseases, I have availed myself of whatever assistance I could derive from consulting the highest and best modern authorities. I have also been assisted by two of my sons, the eldest of whom, Dr. Walter Johnson, holding the appointment of Medical Tutor in the largest and wealthiest of our metropolitan hospitals—Guy's—enjoys such opportunities of studying the multiform phases of disease as fall to the lot of but very few.

In describing the symptoms of disease, there are often certain expressions which will communicate the correct idea, and which no other expression is capable of conveying. Whenever I have met with such expressions in any author, I have not hesitated to adopt them, rather than diminish the truth of the picture by the substitution of another form of words. In a few instances, where I may have found a particular group of symptoms, or phase of disease, so well described that I could not make it clearer, I have taken it just as I found it. The works of Dr. Graves, Dr. Gregory, Dr. Watson, Dr. Copland, and a few others, have been chiefly consulted; and I have added whatever my own experience could

furnish. I have everywhere preferred utility and perspicuity before all things else. I have also availed myself, in like manner, of such illustrative cases as seemed to me to be valuable. My main object has been to draw the picture of each disease as graphically and concisely as possible. But the symptoms of each disease will always vary somewhat in each individual case.

Such are the objects and such the nature of the work which I now venture to lay before the public; trusting that it may not be utterly without its use.

I have introduced several diseases which are never likely to become the subjects of *self*-treatment. I have done so because I think it highly proper that the non-medical public should have some clear and definite, though general knowledge of the intrinsic nature of all diseases whatever; for, in this whole matter, that public has a far greater interest at stake than anybody else. (See p. 242.)

I have just been very much gratified by the receipt of a Dutch work on hydropathy, as a present from its author, Dr. Waitz, a Dutch physician practising in Batavia, the capital of the Dutch settlement in Java, in the Indian Archipelago. After a cursory glance at the state of our knowledge concerning the curative influence of water anterior to Priessnitz, and an enumeration of those works on the subject of hydropathy, which he recommends to the perusal of his readers—those of Mauthner, Schuitzlein, Richter, Hirschel, Scouttetten, Champouillon, and my own on the Theory and Principles of the Water Cure—from which he has done me the honor to make extracts, and to recommend, in an especial manner, to the atttention of his readers—the rest of the book is chiefly occupied by the detail of one hundred and seventeen cases treated hydropathically. Of these, there are fifty-two cases of fever, of which only three died; and fourteen cases of dysentery and diarrhœa, of which only one proved fatal. The results of the whole seem clearly to establish the fact which Dr. Waitz is desirous of proving, viz. that the blessings of hydropathy are not limited to the temperate latitudes, but may be shared by those whose dwelling-places are in tropical climates.

To those who may choose to take the Domestic Practice of Hydropathy as their guide, I particularly recommend the attentive perusal of the index, where they will meet with subjects in which they will be sure to find themselves more or less interested. They should also read carefully the General Directions, the article on Urine, and that on Stomach Symptoms.

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Whenever a symptom requires several words to express it, that [illegible] *of the body in which it occurs* is placed in the Index. For instance, "[illegible] sensations about the lower bowel," look in the Index for "bowel."—"Twitchings of the hand," look for "hand."

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* The reader's attention is particularly requested to this subject.

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INDEX OF GROUPS OF SYMPTOMS.

THE principal object of grouping together into one view the more marked symptoms of some of the more important and insidious diseases, is to assist persons to obtain as early warning as possible of approaching disorders of a severe kind; and to enable them to ascertain the particular kind of disease of which they probably stand chiefly in danger. All the symptoms, however, of each group will never be experienced in one and the same case.

PREMONITORY SIGNS.—

Headache; Giddiness; Transient blindness; Partial or transient paralysis; Double vision; Inarticulate speech, Numbness of one or more fingers; Dropped eyelid; Strange failure of memory; Fanciful terror; Small, contracted, fixed pupil; One pupil dilated while the other is contracted; Semi-vision, Great nervous alarm; Confusion of thought; Unnatural sounds in the ears.

APOPLEXY.

Early PREMONITORY SIGNS OF THE COMMENCEMENT OF SOME KIND OF BRAIN DISEASE.

Bilious vomitings or sick headaches; Severe or dull pain in the head; Flatulence; Sudden attacks of shivering and fever; Creepings over the skin; Severe pains in the legs or arms; Confusion within the head; Constipation; Nervousness; Inability to apply the mind; Throbbing of the temples; Whitish foul tongue; Dreamy sleep; Occasional giddiness; Neuralgic pains in the heels: Hot head; Disposition to weep on slight occasions; Constriction across the brow or throat; Craving appetite and other painful and indescribable sensations about the stomach; Hard, lumpy stools.

APOPLEXY. EPILEPSY, PARALYSIS, OR SOME OTHER BRAIN AFFECTION.

PREMONITORY SIGNS:—

Loss, or caprice, or voracity of appetite; Foul tongue; Offensive breath; Tumid belly; Torpid bowels; Unnatural stools; Pallor of face; Wasting; Heaviness; Languor; Dejection; Fretfulness and irritability of temper.

It will be observed that though the disease is in the brain, nearly the whole of the early symptoms are experienced in the stomach and bowels.

ACUTE HYDROCEPHALUS, OR WATER IN THE BRAIN IN YOUNG CHILDREN.

Dyspepsia, extreme difficulty of breathing and sense of impending suffocation, occurring in paroxysms. Loud wheezing respiration, and tightness of chest—terminating with an expectoration of mucus.

Cough, shortness of breath, expectoration of a frothy, transparent, and tough mucus, tightness of chest, and feverish excitement.

Cough, shortness of breath, expectoration of an opaque, yellow, friable phlegm. No fever.

CHRONIC BRONCHITIS.

Dry stuffing of the nose; Sneezing; Oppression over the eye-brows, and watery eyes. Defluxion from the nose, at first thin, watery, and irritating, and then thick, opaque, and yellow. Shivering, feverishness, and soreness of the skin.

COMMON COLD.

PREMONITORY SIGNS IN CHILDREN:—

Pale, pasty, or dark and muddy complexion; harsh skin; large head; narrow chest; protuberant belly; soft and flabby muscles; languid circulation; large, sluggish pupil; sluggish and dull intellect; or, light or red, silky hair; grey or blue eyes; large sluggish pupils; long, silky lashes; brilliant, transparent, irritable skin, and rosy cheeks; white of the eye of a pearly lustre; great liability to chilblains; eager temper; ardent imagination; quickness, and precocity of intellect; sometimes blear-eye; chronic inflammation of eyes; swollen chapped lips; redness and swelling about nostrils; moist eruption behind ears; enlarged glands.

CONSUMPTION OR OTHER SCROFULOUS DISEASE.

PREMONITORY SIGNS IN YOUNG PERSONS:— Large sluggish pupil; clubbed state of the ends of the fingers; convex, thin, adunque or hooked nails, bent over the ends of the fingers; irregular roughened teeth; thick upper lip; soft, red, or light colored, fine, silky hair; or thick, coarse, dark hair; redness of the edges of the eyelids; dark, [redacted] complexion; or fair, brilliant, transparent skin; [redacted]r swellings; erruptions on the skin; blue or grey [redacted] pearly whiteness of the white of the eye; narrow chest; [redacted]oneness to chilblains; general delicacy of frame and of constitution; crooked spine; weak ankles.	CONSUMPTION OR OTHER SCROFULOUS AFFECTIONS.
Cough; spitting of blood; shortness of breath; slight pain in the chest; emaciation; diarrhœa; night sweats, and copious expectoration of a thick, yellow matter; hoarseness; rapid pulse; hectic flush on one or both cheeks.	CONSUMPTION.
A frequent and urgent desire to pass motions, but an inability to discharge anything beyond a little mucus tinged with blood.	DYSENTERY.
Want of appetite; nausea, or vomiting; flatulence; acid eructations; uneasiness of the stomach after eating; rising of the food; heartburn, or spasm of the stomach; constipation, with hard, lumpy, but sometimes relaxed stools.	DYSPEPSIA, OR INDIGESTION.
Dyspepsia; severe pain in a small joint, most commonly the ball of the great toe; heat, tenderness, swelling, and glistening redness of the part. High-colored urine, depositing on cooling a brick-dust colored sediment; motions pale, or of a dark green color	GOUT.
Pain or uneasiness in the left side; Palpitation; Cough; Spitting of blood; Shortness of breath; sometimes blueness of the lips and nose. Irregular pulse; Coldness of the hands and feet; sometimes dropsical accumulations in various parts.	HEART DISEASE.
Pain in one or both loins, passing down to the thigh; Frequent desire to make water, which is coagulable by heat, of a smoky brown color, or sometimes blood-red; Skin dry; Sickness and retching; and sometimes dropsical swellings; Dyspepsia.	KIDNEY DISEASE.

Fulness, weight and tenderness, in the right side; Preference for lying on the same side; Yellowness of the eyes and skin; Sometimes dropsy; Urine dark brown, or with a pink deposit; Stools of the color of clay when jaundice is present; Pain in right shoulder sometimes. — LIVER DISEASE.

PREMONITORY SIGNS:

Weakness of the legs; Tingling or numbness of the toes or of the legs; or of the lower parts of the body; a feeling as though ants were crawling on them; straddling or unsteadiness of gait; pain in the back; great sense of weariness in the loins; dilated pupil. — PARALYSIS.

PREMONITORY SIGNS:—

Shivering, followed by a great heat of the skin, and a hard, frequent, bounding pulse; Severe pain in the back and head; Nausea, or vomiting; An eruption of small red pimples. — SMALL-POX.

Uneasiness at the pit of the stomach; Swollen belly; Flatulence; Colicky pains; Itching and picking of the nose; Itching of the fundament; Foul breath; Grinding of the teeth during sleep; and other convulsions; Appetite scanty, greedy, or variable; Action of the bowels fickle and motions of a foul odor; Great emaciation of the body. — WORMS.

PRELIMINARY REMARKS.

I SHALL preface the observations I have to make under this head, by quotations from the published works of some of the most eminent among the present heads of the profession of medicine—gentlemen holding posts of honor in our various metropolitan hospitals—lecturers on the science of medicine—the *teachers*, in fact, of the rising generation of medical practitioners. These quotations will amply verify what I have said in some of my former works, viz.: that it is *not* among the higher ranks of the professors of medicine that hydropathy is decried—nor amongst the higher intellects. It is among the lower intellects, and chiefly among the lower ranks. But by *lower ranks* I do not mean lower professional *grade*, but those whose practice, and therefore whose experience, is small.

The first quotation is from the great work of Dr. Pereira, called the "Elements of Materia Medica"—a performance of stupendous labor and research—two volumes of nearly one thousand pages each. The quotation will be found on page 33, vol. i. Third Edition. "The cold water cure, or hydropathy, though not yet admitted by the medical profession among the legitimate means which may be beneficially employed in the treatment of diseases, undoubtedly includes powerful therapeutic (i. e. healing) agents; which, in the hands of the educated and honorable practitioner, might be most beneficially resorted to as remedial agents. It does not confine itself to the use of cold water only, but includes dry sweating, diet, exercise, and regulated clothing." And, on page 31, he says: "The douche is one of the remedies emplyed by hydropathists. It is a powerful and dangerous stimulant, and requires great caution in its use and application." On the same page, he adds: "Topical douches are applicable in some cases of local disease requiring a powerful stimulus; as old chronic affections of the joints, whether rheumatic, gouty, or otherwise; para-

lytic affections; sciatica; old glandular swellings; chronic headache; deafness, &c. Dr. Butzke has recently employed it, with good effect, in old ulcers of the feet. The eye-douche has been employed as a hygienic agent. Jungken regards it as an effective stimulant for promoting the restoration of convalescent eyes." Dr. Pereira ranks among the first chemists of the present age; is the lecturer on chemistry to the London Hospital, and one of the physicians to that institution.

The next quotation is from Dr. Carpenter, whose works on microscopic physiology are of the highest character, and are the text-books of the present day. He is professor of physiology in the Royal Institution of Great Britain.

"The hot air bath, in some cases, and the wet sheet, which, as used by the hydropathists, is one of the most powerful of all diaphoretics, will be probably employed more extensively, as therapeutic agents, in proportion as the importance of acting on the skin, as an extensive collection of glandulæ, comes to be better understood. The absurdity of the hydropathic treatment consists in its indiscriminate application to a great variety of diseases; no person who has watched its operations can deny that it is a remedy of a most powerful kind; and if its agency be fairly tested, there is strong reason to believe that it will be found to be the most valuable means we possess for various specific diseases, which depend upon the presence of a definite materies morbi in the blood, especially gout and chronic rheumatism; as well as that depressed state of the general system, which results from the wear and tear of the bodily and mental powers."—*Manual of Physiology, by W. B. Carpenter, M.D., F.R.S., Prof. of Physiology in the Royal Institution of Great Britain.*

In the above extract Dr. Carpenter observes: "The absurdity of the hydropathic treatment consists in its indiscriminate application to a great variety of diseases." If the application of the hydropathic, or of any *other* treatment, be *indiscriminate*, undoubtedly the *indiscriminate application* is absurd. But this observation, clearly, is equally true of the drug treatment, and of every other treatment under the sun; for the absurdity does not lie in the treatment, but in its *indiscriminate* application. Putting aside its *indiscriminate* use, then, there is no absurdity in its application to "a great variety of diseases;" or, if there be, that absurdity applies, with equal force, to the drug treatment. For, is not the *one* remedial agent, bleeding, applied in a great variety of diseases,

as pneumonia, pleuritis, enteritis, pericarditis, early stages of phthisis, acute dropsy, epilepsy, apoplexy, some forms of skin diseases, local congestions, and many others? Is not the *one* remedial agent, quina, given in a variety of diseases which is almost infinite? Is not mercury given, in one form or other, in almost every disease to which mortal flesh is heir? Is not the *one* remedial measure, purging the bowels to a greater or less extent, applied in diseases of every variety, and every shade of variety —to diseases of every form, color, shade, and degree? But the truth is, the absurdity, in these cases, is only *seeming*, not real. It entirely vanishes when we consider how many *forms* of disease, having *different* names, and, therefore, spoken of as different diseases, all depend upon one cause, and are indeed but *one* disease. Thus pleuritis, enteritis, pericarditis, peritonitis, arachnitis, are said to be so many diseases. But they are, of course, only *one* disease —viz., inflammation of a serous membrane; and whatever *one* remedy can cure *one* of these diseases, can cure them *all*. A different name, as no one can know better than Dr. Carpenter, is merely imposed on each, in order to indicate *which* of all the serous membranes in the body happens to be the seat of the inflammation—the disease itself being precisely the same in all, viz., inflammation. The same argument applies to whole hosts of other diseases. How many scores of diseases are there which depend solely upon mere want of power in the system? If quina be applicable to one of those, it is equally applicable to the whole. Want of power being the sole cause in all of them; whatever is capable of removing this sole cause, is capable of curing all the diseases depending upon that sole cause. So again, how many diseases depend upon suppressed secretions? Whatever one thing can restore the secretions, can cure all the diseases depending upon their suppression. I might multiply these instances without end. For the truth is that though we may have many *names* of diseases, of actual diseases themselves we have very few. The disease is the same thing—the mode in which it manifests itself quite another. Diseases are few—*forms*, or *modes* of disease are many. The term disease is usually applied to the mere signs or symptoms of disease. But it is the cause producing those symptoms which constitutes the true disease, and which requires to be removed. There is nothing absurd, therefore, either in the drug-treatment, or the hydropathic treatment, as it regards their applicability to a great variety of diseases.

The next quotation is from Dr. C. J. B. Williams.

"The reaction which follows the judicious use of cold, as a therapeutic agent, will prove serviceable not only in resisting the further progress of disease, but also to remove congestions and irregularities in the circulation from other causes, and to excite in the capillaries and secernents new actions which may supersede those of disease. It is thus that the water cure of Priessnitz chiefly operates; and although too powerful an agent to be entrusted to unskilled and unscientific hands, it promises to become a valuable addition to the means of combating diseases, particularly of a chronic kind," p. 36.—*Principles of Medicine, by C. J. B. Williams, M.D., F.R.S., Professor of Medicine and First Physician at University College Hospital.* I, however, believe that it is even more applicable to acute disease than to chronic; and this is also the opinion of Priessnitz.

I had intended to quote also from the writings of Professor Forbes, but regret that I cannot spare the room. Several of these, however, may be found in one of my works, entitled, "Results of Hydropathy," (since translated, I find, into German.) Professor Forbes, I believe, was the first among what may be called the Dignitaries of the high-physic party in the State of medicine, who had the moral courage to look steadily into the honest face of Hydropathic Truth, and shake him heartily by the hand.

In examining the subject of hydropathy, we are first to consider it as one great *whole*—consisting of many parts, as the wet sheet packing, the blanket packing, the dry sweating, the vapor sweating, cold baths of various kinds and different degrees of power; clothing, systematic exercise, and regulated diet. In inquiring into its mode of action, therefore, we must first look to its *general* effects as *one whole.* These, I presume, will not be disputed by any one. They are, to strengthen the digestive functions; to cool the system; to increase the appetite; to allay excitement; to purify the blood; to strengthen the muscular fibre of the heart; to [redacted] the action of the skin (which is, in the hydropathic treatment, what the stomach and bowels are in the drug treatment); to overcome internal congestions; to restore and augment all the secretions and excretions; to accelerate the *change of matter,* and thus to renovate the tissues of all the organs; to invigorate the vital principle; or, in other words, to give increased energy to the cell-forces, by making the body of the invalid the *focus* in which all those conditions meet which are most favorable to cell-force

activity. But the term "vital principle" will probably be more intelligible to the general reader, than the phrase "cell-force."

It is this general effect of the whole treatment which makes it of such signal advantage, as a general tonic and alterative, in many cases of old chronic disease, in which perfect restoration has become hopeless. And it is this general effect which makes it so peculiarly adapted rapidly to restore to health and strength those who are suffering, or likely to suffer, under that slow and lingering convalescence which, under the drug-treatment, so frequently happens after a long and protracted illness—resulting partly from the disease itself, and partly from the severe bleeding and drugging which such persons have usually undergone. And there can be no doubt that surgical operations would be performed with much greater safety, if the patient were first to prepare his system by a few weeks of hydropathic treatment.

We may next consider (although this is rather matter of curiosity than of practical importance) what are the particular effects of the several parts whereof the great *whole* of the hydropathic treatment consists. The effects of the mere sweating processes are, of course, sufficiently understood. Of the mode of action of the wet sheet packing (which is *not* a sweating process) I have offered, in the body of this work, an explanation. I have also mentioned what appear to me to be the particular effects of each form of cold bath, according to its duration—mentioning their galvanic, or electro-motive action, as one. I have since found the same opinion promulgated by Dr. Copland. "When," says he, "the stream of water is considerable, and falls from some height upon the head, the effect on the nervous system is often very remarkable, and approaches more nearly than any other phenomenon with which I am acquainted, to electro-motive or galvanic agency."

Whether the opinions I have here given as to the modus operandi of the wet sheet packing, and other particular hydropathic operations, be true or false, nothing but time, the truth-teller, can satisfactorily expound. In the meanwhile I offer them as probabilities merely.

But that the skin does possess and exercise the power of extruding from the system, through its pores, poisonous matters which have found their way into the blood, is capable of proof by actual demonstration. Take, for instance, a patient who is known to be suffering under the poison of lead. Place him in a wooden tub, containing thirty gallons of water. That the skin is full of the

poison of lead can now be proved by the addition of four ounces of the sulphuret of potassium. The skin will immediately assume a dark brown or blackish appearance, owing to the conversion of the oxide, or carbonate of lead (or in whatever other form the lead may have been deposited on the skin) into the brown or black *sulphuret* of lead, through the chemical action of the sulphuret of potassium. If now this blackish substance be scrubbed clean off the skin, by soap and water and a strong flesh brush; and the patient be again immersed and again scrubbed, and so on, until immersion no longer darkens his skin; and if, after the lapse of a few days, he be again placed in a similar bath; his skin will again become blackish brown, demonstrating that *more lead* has been thrown out of the blood upon the skin. In persons who have taken large doses of any preparation of lead, too, the gums and mucous membranes within the mouth assume a bluish leaden hue —this color being produced by the combination of the lead, which is coming through the mucous membrane, with the sulphur always contained in the mucous fluids of the mouth. What is this but a legible inscription, written by nature herself on the mucous membranes of the mouth, telling us that she is endeavoring to get rid of the poison by throwing it out upon the surface.

There can be no doubt, I think, that medical men have committed a great error in so totally neglecting the *several* functions of the skin, as the means of expelling deleterious matters out of the body. I say *several* functions—for they are *many*. Not only do solid and fluid matters escape through the skin, but it also throws out gaseous matters, which, being retained in the system, are equally poisonous as either solids or fluids. While they have attached an absurd and exaggerated importance to the secretions from the bowels; amounting only, even in health, to some four or five *ounces* daily; they have awarded no importance at all to the secreted matters of the skin, which, in health, will often amount daily to two or three *pounds*. Constipation of the bowels seems to absorb up the whole of their attention; so that they have none left for constipation of the skin. "Do your bowels act properly?" is a question unfailingly and earnestly put by every medical man to every patient. "Does your skin act properly?" is a question which few ever dream of asking. Yet the little tubes, called the pores of the skin, if laid end to end, would make one tube twenty-eight miles in length.*

I had once an epileptic young lady under treatment, parts of

whose skin, particularly about the feet and ankles, became covered, from time to time, with a fine powder like emery dust.

But there is still another mode in which I think it is quite certain that the hydropathic treatment acts, and that is allopathically. It is now the opinion of the best authorities that *all* [illegible] whatever, which act beneficially, do so by an allopathic operation—that is, by antagonism or counter-irritation. See Dr. Pereira's Mat. Med. vol. i. third edition, page 123; Art. Allopathia. Even blood-letting is acknowledged to act on this principle; and this opinion is supported by Dr. Pereira, Dr. Clutterbuck, Dr. Pring, and others. And I think it is quite certain; for how else could the loss of not more than a single ounce of blood from a pile give such signal relief as it is well known to do in severe head symptoms? I know moreover, at this moment, a patient who was cured of an old chronic ulcer of three years' standing, by an accidental profuse bleeding from a ruptured artery? And I had once a patient who was perfectly cured of complete amaurosis (blindness) in like manner, by the accidental rupture of the temporal artery from which he bled nearly to death. And thus it is with the drug treatment *generally*. One must push one's patient into the very jaws of *death*, in order to afford him a very uncertain chance for his *life*.

How else, too, can we explain the operation of issues, from which there is so trifling an amount of discharge?

This allopathic principle of antagonism or counter-irritation, of the truth of which I have not the smallest doubt, and on which the whole fabric of the drug practice depends, also sufficiently accounts for the apparent absurdity of applying one remedy to a great variety of diseases.

Now let us look at the action of cold water. When a patient rises from a sitz bath, the lower third of his body is as red as a boiled lobster. By other baths the same effect is produced all over the surface of the entire body. What [illegible] but the identical effect which would be produced by a [illegible] mustard plaster? There is no difference, except that the mustard gives pain, and the water gives none. By some of the compound baths, the skin may be made almost to burn.

The only difference, therefore, in effect, or in beneficial modus operandi, between the drug treatment and the hydropathic treatment, so far as the principle of antagonism is concerned, is this; that, in the former, the irritation is applied to the stomach and bowels; in the latter, to the external skin. But the hydro-

pathic treatment has this overwhelming advantage. If any part of the water be absorbed into the blood, it can do no harm—eighty per cent. of the blood, in health, being nothing but water. Whereas the drugs, which are used to produce the same counter-irritation in the stomach, which we hydropathists produce on the external skin by simple water, are infallibly taken up into the blood, which they poison.

I think it is quite clear, therefore, that *one* of the effects of hydropathy is precisely similar to that *sole* one on which the whole drug treatment relies; while there is this vital difference: that the same effect, viz., counter-irritation, which allopathic practitioners produce by the introduction into the system, of drugs, which in their nature are, in the highest degree, poisonous, we produce by an agent which is, in its nature, totally and perfectly innocent.

So also with regard to the crisis: I do most assuredly believe that nature, when driven as it were into a corner, may be compelled to throw off morbid matters by what we call a crisis. But, even when there is nothing of this kind to throw off, still, on the allopathic principle of counter-irritation, a crisis is *always* of advantage (when it can be safely borne); and, in many cases of confirmed disease, *absolutely essential to the cure.* It is probable that this doctrine of antagonism, counter-irritation, derivation, or revulsion, (all words meaning the same thing) may be a novel notion to the general reader. It is even possible that some may suspect me of having invented it. Most people, indeed, are aware that blisters, issues, &c., act by counter-irritation. But even these persons may not be aware, that not only the best philosophical writers, both English and Continental, in the various departments of medicine, but also most of the *practical* authorities, at home and abroad, are attributing whatever beneficial effects are produced by (not quite) all drugs whatever, to this same principle of counter-irritation—that even emetics, purgatives, mercurials and bleeding, act on this principle. In stating a doctrine, therefore, which, though well known to the learned, is probably new to the general reader, it becomes me to substantiate the statement by authority; and I cannot quote a higher or better one than Dr. Pereira. It is, too, the most modern; for the second volume of the third edition of his laborious work is not yet out of the press. Having first shown how the doctrine of antagonism or counter-irritation has forced itself upon medical at-

tention by unmistakeable phenomena—how it has arisen, not out of the brain of the theorist, but out of the actual observation of facts—he proceeds thus: "And we shall find that the greater part of our most valuable and certain remedies operate on the principle of antagonism or counter-irritation; that is, they produce a secondary disease, (viz., the counter-irritation) which is related to the primary one. * * * * * * Our list of agents producing this effect is a most extensive one. It comprehends emetics, purgatives, diffusible stimulants, mercury, blisters, cauteries, issues, setons, moxa, blood-letting, including arteriotomy, leeches, cupping, and venesection, irritating lavements, frictions, sinapisms (mustard plasters), rubefacients, the hot and *cold baths*, and even mental impressions." For more authorities, and for much learned reasoning on this subject, see Elements of Materia Medica, and Therapeutics, by Jonathan Pereira, M. D., F. R. S. and L. S., Fellow of the Royal College of Physicians in London, and Vice-President of the Royal Medical and Chirurgical Society. —Vol. i. third edition, pp. 124 and 125.

Talk of mustard plasters! of blisters a few inches square! of a paltry seton or issue! or the loss of a few ounces of blood! What are such paltry, partial, imperfect, and insignificant counter-irritants as these when compared with the crisis produced by the hydropathic treatment? with a crop of boils, over the whole body, as big as a pigeon's or hen's egg? or a universal eruption of pustules, like that of small pox? or of a universal rash, like that of measles? If there be any efficacy at all in the principle of antagonism or counter-irritation, upon which, it is admitted, nearly the whole utility of drug medication depends, then are the drug-practitioners beaten all to pieces, on *their own ground*, by the hydropathists; first, because we can produce, *with safety*, an infinitely higher degree of counter-irritation, and spread over a much larger surface, than they can: and secondly, because the means which we employ to effect it are wholly innocent, while those employed by drug-practitioners are, in their very essence and nature, deadly poisons. Besides this, our innocent means are merely applied to the external skin, while their deadly poisons are, by their own admission, introduced directly, through the stomach, into the very blood and marrow of the system.

We have another great advantage over them—we can stop our treatment, and so stop its effects, at any moment we please, or the instant that we perceive it is doing harm. Alas! not so the drug

treatment. The moment the patient has swallowed the pill prescribed by the physician, neither the patient nor the physician can control the effects of that pill. It has been introduced into the stomach; it has passed, of necessity, into the blood; and there it is, and will work out its effects, whether those effects be for life or death. The administration of a dose of calomel, or prussic acid, or strychnine, is, like matrimony, an *irrevocable* step. It is for good or for evil; but for WHICH—no human being can tell. In another part of this work will be found the case of a poor lady in the Borough of Southwark, who was killed by a single dose of calomel. Her own medical man, who was aware of the peculiarity of her constitution, had gone out of town. Another practitioner, in the meanwhile, was called in. He gave her only three grains of calomel, which killed her.

An Irish earl, too, was very nearly killed by having a belladonna plaster applied over a slight unobserved scratch. The poison of the belladonna, through the scratch, was absorbed into the blood, and his life very nearly paid the forfeit of this, apparently slight, accident.

I have collected a number of similar cases of late occurrence, which I had intended to publish; but I have not room.

It is difficult to convey to the general reader a clear conception of what is meant by antagonism, or counter-irritation. But I will try to do so by my favorite and customary method of illustration. Fancy a large army, at first well disciplined and obedient, but gradually, from long idleness or mismanagement, become lax in their habits, and disposed to riot and disorder. This state of things represents *general disease*. Now suppose that one man, more calculating and ambitious than the rest, taking advantage of this state of general disorder, lays a plan for an actual mutiny. He himself becomes the focus of conspiracy. He calls around him a small knot of congenial spirits. They consult together—lay plans—send out emissaries among the regiments, still further to disorganize them. This little knot of mutineers represent *local* disease; and, moreover, very clearly illustrates how local disease, although itself produced by *general* disorder, has the effect of augmenting that very general disorder to which it owes its own birth.

But now, before the conspiracy is ripe, suppose that war is declared. The army is called into the field to meet and fight the enemy. The conspiracy is at an end. The attention of the mu-

uneers is diverted into quite another channel. Both the local and general disorder are cured; and perfect discipline is restored.

The declaration of war perfectly illustrates the effect of counter-irritation in bodily disease. It diverts morbid excitement, morbid irritation, morbid actions, from the point at which they were going on, to some other. And while the *attention*, as it were, of the system is diverted to the new point of attack—viz., the part to which counter-irritation is applied—the morbid actions which were going on elsewhere, cease. The fire goes out for want of fuel—for want of being *stirred*, and attended to. The disease dies out.

It seems a general law of the living system that nature, in most instances, is incapable of sustaining two different sets of morbid actions, in different parts of the body, at one time. The *stronger* excitement occupies all the attention of the system; and, in the meantime, the lesser excitement or disease subsides. Thus the perpetual excitement and stimulation kept up constantly on the skin by the reiteration of rapidly succeeding stimulating baths, and other processes, withdraws the irritation from whatever internal organ may happen to be afflicted; and so great a portion of the natural forces of the system is concentrated upon the skin, that there is not force enough left to carry on the morbid actions which constitute the disease within; and so it subsides, and dies out.

Nothing can be more absurd and untrue than that supposition, still entertained by many, that there is something in the water treatment which is calculated to repel disease, and drive it inward. The *exact contrary* to this is the fact. All its tendencies, all its powers, are exerted in just the contrary direction, viz., to bring *out* disease upon the surface, and to keep it there, if it be there ready.

No doubt cases may have occurred, although I never saw one, in which rheumatism and other diseases, which have a natural tendency to shift about from place to place, have retreated inwards while under the water treatment. This will happen under any and all kinds of treatment whatever, and without any treatment at all. But this happens very rarely indeed in the hydropathic practice; whereas Dr. Watson declares that, under the drug treatment, in one *half* of the patients treated for the rheumatism, the disease *attacks the heart*. And being then physician to one of the metropolital hospitals, his experience was very large.

In the very earliest of my works on Hydropathy (Theory and Principles) I mentioned this principle of antagonism as one of the probable modes in which the treatment operates beneficially in the cure of disease, and I think it is quite beyond all reasonable question.

Such are, as I confidently believe, the effects, general and particular, of the hydropathic treatment, when sensibly and rationally practised. But when daring ignorance misapplies it; when reckless self-confidence abuses it; when unreflective enthusiasm *revels* in it; when medical heroes make it a field for the display of their heroism; or when folly uses it as a bauble to play withal; what wonder that such an engine, so driven, should now and then run off the rail, and hurl the passengers into the ditch.

Still, under any circumstances, and in the hands of the same sort of practitioners in both treatments, it is safer than that by drugs.

When the very rare accident of death occurring under the water treatment has happened, a coroner's inquest has sometimes been called. Whenever this has been a mere stratagem in order to bring discredit upon the treatment, it is simply silly and contemptible, and has never failed to defeat its own object. When it has been prompted by better motives, it is extremely unjust and partial, as was well explained, in very strong and indignant language, by the Recorder of London, in the case of Dr. Lovell. So long as it is notorious, and openly avowed by medical men, that their drugs do, not seldom, but very frequently, destroy the life they were given to save, with what shadow of justice can a coroner's inquest be called in the case of a suspected death by the water treatment, unless an inquest be also called in the case of suspected death by drugs? And yet these latter are occurring every day in the year, and the suspicions acknowledged to be well founded by those who administered them! In the case of a suspected death from the water treatment, (the practitioner being a medical man) the line of defence should be this. Let it be admitted at once (if there be good reason for believing it true) that death *had* been the unfortunate result in that particular case, from some rare peculiarity of constitution, or other uncontrollable cause. Then let six of the most eminent metropolitan drug practitioners be subpœnaed and sworn. Let them then be asked, how often they have seen death produced by drugs? If my memory fail me not, Dr. Chambers would say that he had seen *eight cases* of death re-

sulting from iodine; and Dr. Pereira, *three cases* resulting from strychnine. Here, then are *seven* cases of death produced by *only two* drugs within the limited experience of *only two* medical practitioners. What may we infer to be the *whole number* of deaths caused by the *whole number* of drugs within the whole united experience of the whole number of drug practitioners throughout England, Ireland, Scotland, and Wales—about three thousand? In the face of such evidence, with what possible show of justice could a medical man be punished, although it were proved that he *had* lost a patient by the means which in his conscience he believed to afford him the best *chance* of recovery, unless it could also be shown that he lost *more* by *his* means than other men lose by the means of drugs?

The great majority of patients who resort to the water treatment are laboring under old, chronic, and deep-seated maladies, which have resisted, for years, every species of remedy which medical ingenuity could devise. In such cases it is not to be wondered at, that its operation is sometimes slow and tedious, and that sometimes it fails altogether. It is often, as a patient of mine once remarked, a "thing of ups and downs." One week the patient feels better, and fancies he is going to get well in a hand-gallop. The next week he feels worse, and fancies the treatment does not agree with him. It requires some firmness of purpose, and some strength in the hydropathic faith, to enable the patient to persevere to a successful issue. Sometimes, it seems to do no good at all for weeks, and then suddenly the patient takes a turn and gets well rapidly. See the case under the head of anœmic asthenia, or general debility, in which the poor skeleton of a patient did not improve one iota for two months, her weight being seven stone nine pounds, and her utmost exertions only able to carry her one mile; but who, at the end of this time, began to improve, and never ceased doing so, until she had gained twenty-six pounds in weight, and could and did walk nine miles in one day, and four miles within one hour.

I earnestly entreat the attention of the reader to certain observations under the heads of Stomach Symptoms, Indigestion, and Nervousness. Under these heads (and elsewhere) I have labored with all the little power wherewith it has pleased heaven to endow me, to expose that fatal error which perceives nothing in certain obscure head symptoms, beyond stomach derangement and a torpid liver; and I do trust and hope that I may contribute somewhat

to its abolition. The result of this error is that all that precious time is lost when the approaching brain-disease is yet remote and curable; and the mistake is not discovered until the giant Apoplexy has already uplifted his hammer in act to strike. I have collected the history of many cases of apoplexy, epilepsy, paralysis, and the severer forms of brain disease, in which the symptoms could be most clearly traced backwards, step by step, to their commencement—to that early period of the affection when they were carelessly but confidently set down as merely symptomatic of stomachic derangement and bilious disorder—to that period when they had been readily curable, had proper remedies been addressed to the head instead of improper ones to the stomach—to that period when the distant mutterings of the gathering tempest were mistaken for the passing wind, and when no alarm was excited until the thunderbolt descended. And what happens then? Why then it is said that the noise of the passing wind has TURNED to thunder—that the indigestion, or the bilious, or the gastric fever, or whatever other name may happen to have been given to the symptoms, has TURNED to apoplexy, or to paralysis, as the case may be. Surely this question is at least an important one, and for that reason alone deserves attentive consideration. And let all those concerned in it remember, that paralysis is a disease which is only curable now and then; and that one blow of the apoplectic hammer seldom needs a second.

It is really one of the oddest things in the world to me that persons who, in all ordinary concerns, are capable enough of reasoning straight-forward, from cause to effect, should reason so crookedly in this particular matter. That patients themselves should do so is easily understood. For their painful sensations being in the stomach, it is only natural that they should infer that the disease must be there too. But with medical men, who cannot but know that the symptoms of disease are often seated in one organ, while the disease itself resides in another, frequently far remote, the case is otherwise. Let us take the case of a man, of forty or fifty years of age, who finds himself the subject of certain *obscure* head symptoms, and certain *well-marked* stomach symptoms. If I were a patient in this condition, the following is the manner in which I should reason. I should say to myself: Mr. A. declares that my head symptoms are produced by disease in my stomach. Dr. J. asserts that my stomach symptoms are produced by disorder in my [illegible]. But both these gentle-

men agree that brain disease *can* produce stomach symptoms, and that stomach disease *can* produce head symptoms. But, in my particular case, Dr. J. maintains that the disease is in my head; and Dr. A. that it is in my stomach. How am I to determine as to which of these conflicting opinions is right? Let me examine my past life. How have I lived? Have I been guilty of great stomach intemperance? No. Have I been a gluttonous eater? No. Have I lived chiefly on highly-seasoned ragouts and peppered devils? No. Have I been an habitual drunkard? No. Have I been guilty of any one notable kind of stomach intemperance? No. Very well then—I cannot perceive why my stomach, of all the organs of my body, should be pitched upon as the particular organ most likely to be the seat of disease in my particular case.

"But now, again: How have I used my brain and nervous system? I have got a good business, and twenty thousand pounds in the funds. How did I get it? By brain labor. I have got a high reputation as a barrister at law. How did I get it? By brain labor. I took high honors at Cambridge. How did I earn them? By brain labor in the field of mathematics. I have raised myself from the condition of a working mechanic to easy and competent circumstances. How did I achieve this? By the brain labor of incessant attention to business. Have I wearied my brain by much thought? Yes. Have I taxed my brain by close and long-continued attention to accounts? Yes. Have I stuck close to business? Yes, from morning till night, for the last twenty years. Have I had anxieties of mind? Yes. Have I incurred weighty responsibilities which weighed heavily on my mind? Yes. Have I *bought* more largely than my actual capital in hand would easily enable me to pay for? In one word, have I speculated? Yes. Has my mind been often bandied backwards and forwards between hope and fear? Yes. Did I ever enter into a trade to the easy and safe conduct of which my then capital was not equal? Yes. And did this give me no anxious thoughts and sleepless nights? Yes. Have I never labored, by the sweat of my brain, to raise myself *out* of that condition 'whereunto it had pleased God to call me?' Yes. I was poor, whereas I am now rich. And the web of my wealth has been woven out of the entrails of my brain. Again:

"Have I been a man of pleasure? Yes. Have I indulged in any of those sensual pleasures which are known to act directly on

the nervous system, and to exhaust it? Yes. Have I kept my brain under the continual excitement of a round of intellectual (that is, brain) enjoyments? Yes. Have I, night after night, for months together, been awake when I ought to have been sleeping? Yes. Have I been ambitious? Yes. Have I striven for public eminence and notoriety? Yes. Have I been the subject of fashionable jealousies, petty emulations, secret heart-burnings, political dissentions, studious habits, scientific pursuits indefatigably prosecuted, family discords, revengeful feelings which could not be gratified, disappointed, and hope deferred? Yes. Yes. Yes. Very well then—as all these are moral causes; and as moral causes can only act directly upon the brain; and through the brain upon the stomach, and other organs of the body; I can very clearly perceive why Dr. J. pitches upon the brain as the most likely organ to be the seat of injury in my particular case; since that group of morbid causes to which I have been for years constantly exposed, is, from its very nature, only capable of affecting the *brain alone*. If my stomach had been the organ abused, then I might have believed it to be the organ diseased.

In a work like this, it seems to me to be the duty of the writer to give the general reader every kind of information which bears upon the subject, or in any way affects the interests of his health. I cannot therefore help pressing upon his notice the great importance of a careful examination before commencing either this or any other treatment. The whole history of medicine abounds with instances of the most curious blunders arising out of carelessness in this particular; some of them extremely ludicrous; others painfully melancholy, and by no means of a jesting nature. Within the last year I have met with several examples of this kind. A gentleman from Lancashire came to me to be cured of what was merely called general weakness. I found a large tumor in his belly. Now this was a case, whose nature could never have been detected either by gravely peeping into his eye, or by touching his wrist with the tip of the finger.

A lady came to me, who had been treated for nervousness, indigestion, hysteria, &c. I found a tumor situated near the mouth of the uterus. My son, Dr. Walter J., was asked to see a poor man who had long suffered under a series of anomalous symptoms, whose origin seemed inexplicable. He had been carefully examined too; his lungs had been examined; his heart had been examined; still he had not been examined carefully *enough*. It occurred

to my son to examine the inside of the bowel, and there he found a large chronic abscess, which broke afterwards, and discharged more than a pint of matter. This man died of exhaustion. Had the abscess been discovered sooner, it might have been punctured and the man's life saved. Several such or similar cases have occurred to me within the last year; but these few are sufficient to illustrate the importance, in all doubtful and obscure disorders, of careful examination. It is not talent particularly that is required in such cases, but care and patience; and the practical *habit* of examining. I have known a woman tapped for the enlargement of pregnancy. I have known aneurisms laid open in mistake for abscesses. I have known a woman's leg amputated for an unimportant hysterical affection of the knee-joint, in mistake for white swelling.

In the practical division of this work I have endeavored to point out, and to put the public on their guard against, excess of treatment—that is, treatment disproportioned to the capabilities of the constitution, and the requirements and nature of the disease. I only mention the subject now because I have received this morning, (February 15th, 1849) a letter from a young patient of mine, who left me because I would not give him treatment *enough*. To use his own expression, I did not "*knock him about half enough.*" So he went where he got "knocked about" sufficiently. An extract or two from his melancholy letter will show what have been the results of the "knocking about" which he so much desired, and which, at last, he obtained. The words put in italics are those which are underscored in the letter. When he left me, he was a fine, tall, strong young man, with nothing the matter with him, beyond a somewhat weakened condition of the brain, arising from close and continued mathematical study at Cambridge. He writes to me thus: "I beg to thank you for the prospectus: I regard myself as partially a martyr to hydropathy. I derived great benefit from *your* treatment, and this induced me to try * * * * * * and, after *nine months* of most patient and *scrupulous* adoption of hydropathy, I left the place *very* much worse than I was when I first came to you. To give you an idea of what I *was*" (when he left that place) "I will, in a word or two, tell you what I am after more than six months of slow improvement" (that is, *since* he left it). "I cannot sit upright for half an hour *steadily*, without great discomfort. I have *heat, fulness, and pain* throughout the whole length of my spine at intervals. My eyes are *still* somewhat blood-

shot after sleeping or reading; my bladder is irritable; I have occasional tightness and *hot flashings* across the forehead; and, added to all these, the *former* fulness and weight in the cerebellum" (back part of the brain). "I think, candidly, that *you* partially mistook my case, but nevertheless I left you, I believe, fast progressing towards health. The fons mali" (the seat of the disease) "was the stomach, and brain *slightly*—then the spinal cord —then the brain. This, however, is merely *my* opinion. At * * * * * I was *almost* literally walked and *soaked* into my grave, or into organic disease, if that is not already the case."

The most curious part of this letter is the pertinacity with which the writer still clings to the notion that the seat of his malady is in his *stomach*. There seems to be some witchcraft in this word *stomach*. He has never in the whole course of his life indulged in stomach intemperance; but has always lived plainly and most temperately as it regards eating and drinking. But, for fully *one half of his entire life*, he *has* indulged in brain-intemperance—he has been an industrious student. While with me I treated him, too, for brain disorder; and he acknowledges that under that treatment he was "*fast progressing towards health.*" After he left me he was treated otherwise, and the result was (according to his own account) that he narrowly escaped with his life, and is now a mere wreck of his former self. Besides all this, it will be observed that in his letter, all the symptoms he enumerates, except one, are actually seated *in* the head, or spine—"heat, fulness, and pain throughout the whole length of my spine; eyes somewhat blood-shot after sleeping or reading; tightness and hot flashings across my forehead; fulness and weight in the cerebellum" (back part of the brain). Throughout the whole of his letter there is not one word about his stomach. And yet, by some strange fatality—some extraordinary crookedness of reasoning—the circumstantial evidence which he himself details—and which is strong enough, in a court of law, to condemn a criminal to death—seems insufficient to disabuse his mind of the deep-rooted absurdity that the head and front of the offence is, or was, all in his stomach. One would think his brains had escaped out of his skull, and were now lodged in his stomach.

And this leads me to introduce and reiterate here a caution which I have already given in the body of the book: against the lavish and continued application of cold water to the *spine*. The spinal cord is a tender and delicate organ, and infinitely more easily

and injuriously chilled than the brain; while the office which it serves in the vital economy is of equal importance. I have seen already much mischief done by chilling the spinal cord too much.

It will be observed that I have seldom advised the use of the douche in this book. The reason is, because it can seldom be obtained at the patient's own house; and, secondly, because it is an instrument of too much power to be employed otherwise than under the eye of a practitioner acquainted with its use.

Before I conclude, I must beg the reader to look carefully through the *Index*, which has been also made (to save room) to answer the purpose of a *Table of Contents*. If he read it through, he will find many subjects on which, I doubt not, he will desire, and require information. He must also read carefully, and frequently refer to the *General Directions*.

In reading over the list of symptoms which are here given, as characterizing each disease, the reader is not to suppose that each patient will experience, in his own individual case, the *whole group* constituting that list. Such a case was probably never heard of in the history of medicine. It will generally be sufficient to stamp the character of the disease, if two, three, or four of the best marked symptoms be present.

There is one thing which I cannot help mentioning here. While there are so many wild and extravagant and silly reports in circulation, as to the nature of the water treatment, it has often struck me as very odd, that persons who are half inclined to try it, but who are deterred by the conflicting rumors and opinions which they hear concerning it, do not adopt the very obvious and straightforward course of going to an establishment for a few days in order solely to *look at it;* and also to see and converse with those who are actually undergoing it. For my own part, I shall be glad at all times to see such persons, whenever there happens to be room in my house for their accommodation.

I wish also to take this opportunity of recommending to the perusal of the reader a little book, price 1s. stitched, and 1s 6d. in cloth, published by J. Gadsby, Newall's Buildings, Manchester, and by R. Groombridge, 5, Paternoster Row, London. It is a very concise abridgment of a curious, old, thick octavo volume, published by two celebrated physicians, Sir John Floyer, and Dr. Edward Baynard, in the year 1722. It is called the "History of Cold Bathing, both ancient and modern, showing the present hydropathic treatment, though to a limited extent, was suc-

cessfully adopted in the seventeenth and eighteenth centuries, proving its efficiency, and containing a variety of cases and cures. It is an extremely curious and interesting book.

I have said, in the body of this work, that there is no proof whatever that mercury possesses any power of promoting, in any especial manner, the function of absorption—that is to say, any power of quickening or preternaturally increasing the action of the absorbing instruments—the veins and absorbent glands. That solidified effusions of fibrin, as in iritis, and affusions of fluids into shut cavities, as in the pleura after pleuritis, do, now and then, become absorbed under the use of mercury, is true. But this is not done by communicating to the absorbents any preternatural activity of function. Mercury, iodine, and other drugs of that class are well known to have the pernicious effect of liquefying the blood—of thinning it—of reducing it more nearly to the consistence and nature of mere water. One of the most important and most vitally essential constituents of the blood is fibrin. This, when healthy, is a sticky, glutinous, tenacious kind of fluid. Mercury destroys these essential qualities of the fibrin; it greatly diminishes its glutinous tenacity; thins it; brings it down nearly to the nature of mere water: and renders it unable to fulfil its office in the animal economy. Let us take a case of iritis, in which fibrin has been effused upon the serous membrane covering the iris, and has become semi-solid. In this semi-solid state, the absorbing vessels cannot remove it. But when the system has been quite saturated with mercury—and, observe, *not till then*—the point of saturation being proved by the gums becoming sore; the effused fibrin, if it have not become too completely solid, will sometimes begin to disappear. But this does not happen from any increased energy communicated to the absorbing function, but because the mercury has produced its villainous effect of liquefying and spoiling the fibrin of the blood, and has liquefied that small portion which had been deposited on the iris, in common with every other particle of fibrin contained in the body, and has so enabled the absorbing vessels to take it up. Thus all the fibrin in the blood has been spoiled in order to get rid of a minute portion from the eye.

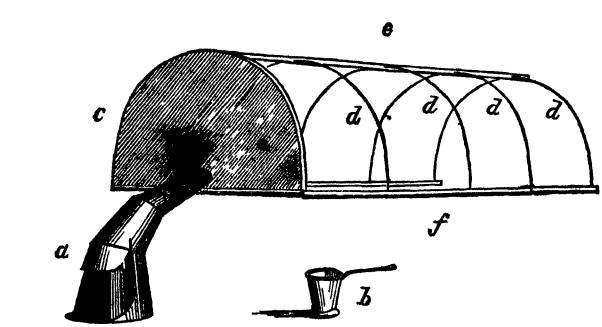
Now, let us take a case of fluid effused into a shut cavity. It is perfectly well ascertained and admitted that both mercury and iodine have a remarkable influence in augmenting all the secretions—not merely from the bowels, but *all* the secretions—es-

pecially those from the mucous follicles. This universal augmentation in the amount of the secretions creates a *want* in the system; and then, in obedience to a well-known law of the animal economy, the veins and other absorbents will suck up whatever they can seize upon, in order to supply this want, or deficiency in the amount of the retained fluids.

Now, although mercury liquefies semi-solid fibrin, so, indirectly, promotes its absorption; there is no reason to suppose that it can liquefy other solid substances, as the matter of an enlarged gland, or tumor. And although it promotes the absorption of effused fluids occasionally, by creating a *want* within the body, it must be remembered that such want can be easily created by less mischievous means.

For more on the subject of mercury, lead, and other medicinal poisons, see Pereira's Elements of Materia Medica and Therapeutics, vol. i. third edition. Elements! Fancy two huge octavo volumes, of nearly one thousand pages each, containing only the *Elements* of only *one branch* of the healing science—that is, according to the drug practice!

The drawing and description of the perspirator or sweating cradle, and also those of the head bath, were accidentally omitted in their proper place. But they may be just as conveniently introduced here.



A is a tin or copper, bent, funnel-shaped chimney, with a door, which is seen standing open. The small end of this chimney is open. The large end below has a tin bottom, with a hole in it to receive the little upright tin saucepan *b*. *c* is the wooden bottom or end of the cradle, with a hole in it to receive the small end of the chimney, into which it fits accurately, but easily. *d d d d* are

COMPOUND BATHS.

In the practical division of this book, I have made some allusion to these, and have mentioned one or two. But they are, most of them, instruments of great power—too great power to be intrusted, as domestic remedies, to the hands of persons unacquainted with their effects, and unaccustomed to their use, without professional advice. The amount of stimulation which may be imparted to the skin, by means of these compound baths, is almost without limit; and the *degree and kind* of impression made upon the system, superficial and evanescent, or deep and lasting; exciting, depressing, or electro-motive or galvanic; may be varied ad libitum, and almost infinitely. By some of them the skin may be almost blistered, were that thought necessary. The effects may be confined to the head, to the extremities; or it may be made to sink deeper, as it were, into the system, so as to tell upon the internal organs and their functions.

For these reasons I have thought it best to arrange them by themselves; and, for convenience of reference, I have numbered them. They are principally used to meet the circumstances of particular cases and constitutions; where the object is to produce a crisis; and chiefly in the summer months, when, but for these baths, the treatment would lose much of its efficacy.

No. 1. Shallow bath, immediately succeeded by plunge, immediately succeeded by shallow bath. Each of the shallow baths to last about one minute.

This compound bath was the first bath of any kind which I took myself, under Priessnitz's direction and in his presence.

2. Wet friction—wash-down.
3. Wet friction—shallow bath—wet friction.
4. Wet friction—pail douche—wet friction.
5. Wet friction—pail douche.
6. Wet sheet packing, 30 min.; wash down: wet sheet packing, 40 min.: shallow bath.
7. Foot bath up to ankle bone, 7 min.—head douche, 1 pail.
8. Ditto, ditto, ditto, ditto, 2 pails.
9. Ditto, ditto, ditto, ditto, 3 pails.
10. Ditto, ditto, ditto, ditto, 4 pails.
11. Ditto, ditto, ditto, ditto, 5 pails.
12. Ditto, ditto, ditto, ditto, 6 pails.
13. Wet friction: pail douche—wet friction: pail douche.
14. Wet friction: dry friction—wet friction: dry friction—wet friction: dry friction.

15. Wet fric.: shallow bath—wet fric.: shal. bath—
16. Plunge: dry fric.—plunge: dry fric.
17. Plunge: dry fric.—plunge: dry fric.—plunge: dry fric.
18. Head douche—sitz, 10 min.—head douche.
19. Head douche—sitz, 10 min.—head douche—sitz, 10 min.
20. Head douche—sitz, 10 min.—head douche—sitz, 10 min.—wash-down.
21. Head douche—sitz, 10 min.—shal. bath—head douche.
22. Shal. bath—dripping sheet—shal. bath.
23. Sitz, 30 min.—plunge.
24. Head douche—sitz, 30 min.—plunge.
25. Sitz, 10 min.—wet friction.
26. Head douche—sitz, 10 min.—dripping sheet.
27. Head douche and shallow bath.
28. Two sitz baths, in succession, 15 min. each.
29. Three ditto, ditto, ditto.
30. Four ditto, ditto, 10 min. each.
31. Plunge—douche—plunge.
32. Plunge and douche.
33. Douche and plunge.
34. Two sitz baths, 10 min. each: plunge.
35. Ditto, ditto, shallow bath.
36. Ditto, ditto, douche.
37. Ditto, ditto, wash-down.
38. Ditto, ditto, head douche.
39. Shallow bath and pail douche.
40. Pail douche—shallow bath—pail douche.
41. Dripping sheet—shallow bath—drip. sheet.
42. Dripping sheet and plunge.
43. Head douche and sitz.
44. Dripping sheet—head douche—pail douche.
45. Shallow bath—dripping sheet—shallow bath.
46. Three dripping sheets, in succession
47. Pail douche—dripping sheet—pail douche.
48. The wet sheet packing to the extent of perspiration.

This is a bath compounded of the wet sheet packing and sweating blanket.

49. Two sitz baths, 10 min. each—pail douche
50. Sitz, 10 min.—dripping sheet—wash-down—shallow bath.
51. Sitz, 10 min. and plunge.
52. Sitz, 10 min. and shallow bath
53 Sitz and wash-down.
54. Sitz, 10 min.—dripping sheet—wash-down—shallow bath—pail douche.
55. Sitz, 10 min.—head douche—dripping sheet—shallow bath—pail douche.
56 Dripping sheet—wash-down—shallow bath.
57 Dripping sheet—wash-down—shallow bath—pail douche.
58. Pail douche—shallow bath—pail douche—shallow bath—pail douche—shallow bath—pail douche.
59 Foot and hand bath, for 15 min.
60 Plunge—shallow bath—plunge.
61. Douche—dry friction—douche—dry friction.

n—douche—dry friction—douche dry friction.

63. [redacted]—head douche—pail douche.
64. Foot bath—wet friction—head douche.
65. Sitz, 10 min.—head douche.
66. Sitz, 10 min.—dripping sheet—head douche.
67. Sitz, 15 min. and foot bath, 15 min., both at one time.
68. Dripping sheet—wet friction.
69. [redacted]tion, with rough towel till the body is red and hot—wet friction—dry friction—pail douche.
70. Wet friction—dry friction—wet friction—dry friction.
71. The feet in hot water—the head covered with a cold wet skull cap, for twenty minutes or forty minutes, the wet cap being renewed every 5 min. and the hair wetted.
72. Hot sitz bath, temperature 97° Fah. for 20 minutes—h water skull cap, renewed every 5 min.
73. Hot head douche, temperature 97° Fah. leave the hair
74. Wash-down with hot water, yellow soap, and flannel.

N.B.—The several simple baths which, together, constitute *one* compound bath, always succeed each other *instantly*. The shallow bath lasts for one minute; foot bath, seven minutes; the douche, one minute; the wash-down is of one towel; the pail douche, of one pail; the head douche, of one pail; the plunge, of one dip; the wet and dry frictions are continued till the skin is hot; the dripping sheet, till the skin is hot. The several sitz baths succeeding each other may be taken by merely rising from the bath, having the water emptied out, and fresh water supplied. The final drying of the body is always performed under a dry sheet with which the body is covered as with a cloak.

In taking the compound bath, No 58, a pail full of water is first emptied into the bathing tub. In this, the patient sits down, and has another pail-full of water dashed over his hands crossed upon his chest; this constitutes the pail douche. He then rubs himself well, and is rubbed by an attendant, *for about a minute*, as in an ordinary shallow bath. He has then another pail-full poured over him, which constitutes the second pail douche. He then rubs himself well for another minute, which constitutes the second shallow bath; and so on to the end.

Before I conclude these remarks, I wish to say a word or two concerning an effection, with regard to which, as in the case of Indigestion, Constipation, Nervousness, and Stomach Symptoms, I am compelled to entertain views different from those generally adopted and promulgated—I mean Lumbago. This most painful malady is usually described by medical writers as merely one of the

forms of ordinary rheumatism—only has, however, several well marked points of distinction. The absence of fever distinguishes it from acute, as the *intensity* of the pain does from chronic rheumatism. The suddenness with which it makes its attack is another broad line of demarcation. A man is stooping, perhaps, to lift a pin from the floor. On attempting to rise, however, he finds that a lock has been suddenly placed upon the hinges of his back. The effort to straighten himself gives him excruciating pain, and he can only regain the erect position by very slow and painful degrees. Being once erect, however, the pain, in a great measure, ceases; and does not return until the next time he rises from his chair after having been seated for some hours. Now rheumatism rarely, if ever, makes its first aggression in this very sudden and intense manner, and (as often happens) with this apparent total absence of all external causes. There is something too in the *character* of the pain very different from that of rheumatism. It more nearly resembles the pain of cramp, to which indeed I believe lumbago to be, in its nature, very nearly allied. Happily, however, the pathology of lumbago is of no great practical importance. A wet compress of old linen sheet, three times doubled, 9 inches long, and 7 broad, covered with a similar dry compress of the same size and thickness, the whole being secured by a flannel bandage 7 inches broad, and long enough to go twice round the body, and worn night and day, being two or three times renewed between the morning and night, and the last thing on going to bed, will frequently be found of itself sufficient to remove lumbago. If it do not yield to this, the vapor bath or sweating cradle, carried to the point of full sweating, followed by the plunge or douche, or by the wash-down or pail douche, once a day for a few days, will almost always succeed, especially if a great deal of friction be used on the painful part. A pail douche, or shallow bath, immediately before getting into bed, will frequently produce, during sleep, a most profuse perspiration, and relieve the pain like magic. In two or three cases, I have seen lumbago removed by sitz baths twice a day for twenty minutes each.

Lumbago is one of those affections which is sometimes produced by an unwise application of too much cold to the spine. And as I have frequently known both cramp and neuralgia set up by the same cause, this would seem, so far as it goes, to confirm the idea that its nature is rather nervous than rheumatic.

DOMESTIC HYDROPATHY.

GENERAL DIRECTIONS AND OBSERVATIONS.

Every bath should be taken while the body is warm, and the circulation somewhat accelerated.

Every bath should, therefore, be immediately preceded by a short walk of about fifteen or twenty minutes, for the purpose of warming the body; excepting the early morning bath, when the body is already warmed by the heat of the bed.

When the patient comes in from his walk, therefore, he should never have to wait for his bath.

An order for a bath always includes sufficient exercise before it to warm the body, and as much after it as the patient can bear without fatigue. Where exercise can be taken at all, this rule has no exception.

No bath should ever be taken when the patient is greatly fatigued by exercise.

A walk of twenty minutes, or half an hour or more, according to the patient's strength, should always immediately follow each bath. But he should never *fag* himself with exercise.

Being in a perspiration is no objection to taking any bath, except the sitz, the foot, and hand baths. When taking these baths the patient should be warm, but he should not perspire.

TIMES FOR BATHING.

When a bath is ordered three times a day, it always means one on rising, one at eleven or twelve o'clock, and one at five or six in the afternoon. When a bath is ordered twice a day, the first is always taken on rising, and the second at eleven o'clock, or five or six in the afternoon, at the patient's option. Throughout this

work, when two or more baths are ordered consecutively, thus: Pail douche—sha[illegible] b[illegible]—sitz; the first is to be taken on rising, the second at eleven or twelve o'clock, and the third at five or six. When the shallow bath, upstanding sheet, wash down, wet friction, or half-bath is ordered, and nothing said about time, about two or three hours will always be intended. When the pail douche is ordered, and the number of pails not mentioned, *four* will be always intended, two before and two behind. An hour and half, or two hours, should elapse after eating a full meal before any bath should be taken; and it is better to let three hours elapse after dinner.

MANNER OF TAKING

Every bathing operation should be taken rapidly, and the patient should rub himself—not [illegible]—but vigorously, and with a hurried bustling motion, so as [illegible] exercise of rubbing shall be sufficient to quicken his heart's action and his breathing; and thus ensure a strong and glowing reaction.

The moment it is over he should dress himself as quickly as possible and get out into the air, never stopping to shave, nor loitering in his room for any purpose.

As a general rule, I do not like any large body of water to be put on the head so as to communicate any considerable shock, unless it be expressly ordered, with some specific object, and unless the patient have been accustomed to it.

But the head may be well washed with a wet towel at every bathing operation, unless it be counter-ordered on some special account.

All bathing operations should be suspended on Sundays, the patient merely well washing his chest, stomach, and abdomen on rising.*

MANNER OF DRYING THE BODY AFTER A BATH.

After every bathing operation, whether it be a shallow bath, a wash down, or a mere wet friction with towels, the patient should

* The suspension of all bathing on one day in each week is necessary in order to prevent it from becoming habitual, and increases its influence. It is on this account, and not from any other motive, that these weekly suspensions are recommended.

always be dried in a dry sheet, and *not* by means of towels. He should have a dry sheet thrown immediately over him like a cloak, and *in* this and *with* this he should dry himself. It excludes the air, prevents evaporation from the surface, and is a protection against the chill which exposure is apt to produce. This dry sheet, however is not necessary after the sitz bath. It should be long enough to extend from the ground upwards over the back, and over the head, and as far down over the forehead as the bridge of the nose.

TEMPERATURE OF BATHS.

The tepid bath may range between 60° and 70° of Fahrenheit. In this work the word "tepid" indicates a temperature at 65° Fah. In winter it is always best for patients treating themselves, to begin with tepid water. With some persons it may be necessary to begin with water at 70°, lowering the temperature gradually according to the effect upon their sensations and powers of endurance.

In summer time, cold water may be used at once, excepting in cases of unusual delicacy; and these cases are not such as can be safely treated otherwise than under medical superintendence.

As a general rule, there is a more comfortable reaction after cold than after tepid baths.

SLEEP.

The quantity of sleep which each individual requires is exceedingly various. The celebrated Wesley needed no more than four hours out of the twenty-four; and I know several persons for whom five hours are abundantly sufficient. It may be safely stated, as a general rule, that the quantity necessary for the great majority of invalid persons varies from six to eight hours. It is of some importance for individuals to ascertain the amount of sleep which each requires; for, undoubtedly, all the sleep which is taken over and above what nature requires is injurious; all that sleep which is obtained either by full feeding, or sleeping under too warm clothing, or on too soft beds, is decidedly unwholesome, as well as that obtained by lounging in easy chairs after dinner, near the fire. As a general rule, sleeping after dinner is bad; nevertheless, there are certain conditions of the body, and certain constitu-

tions, in which a short sleep after dinner is prolific of much comfort, refreshment, and renewed vigor. Most certainly we should never court sleep during the day; but whenever Nature's voice is loud in demanding it, it ought to be obeyed. Even then, however, the body should not be placed under too luxurious circumstances of rest, nor near the fire, nor in the recumbent position; for such allurements to sleep are apt to make it too profound and too long.

For excitable and nervous persons a little sleep after dinner is often useful. They will frequently sleep at night all the better for it.

A little observation, and a little attention, will soon enable the patient to ascertain how much sleep best agrees with his own parcular constitution.

The bed curtains should never be closed, nor the window curtains; nor should the air be excluded from the room with too much nicety of care; and a mattress is far better than a feather bed.

BED CLOTHING.

The bed clothes should be just sufficient to enable the patient to sleep. It is better to wake with a sensation which induces an inclination to draw the clothes more closely around the shoulders, than with an oppressive sense of heat which induces a disposition to throw the clothes back. We should sleep, as we should eat, because it is necessary; and not for the sake of the luxurious animal gratification which it yields. All necessary animal acts are, by the provident wisdom of nature, rendered sufficiently enjoyable of themselves. To make them more so is to expose ourselves to the almost resistless temptation of indulging to excess, and to the certain penalty which she never fails to exact, sooner or later, from all those who, in any way, infringe her laws, or step aside, either to the right hand or the left, from that straight path in which she has determined we should walk if we would be well.

That short morning doze into which one often suffers oneself to fall (after the full complement of the night's sleep is over), merely because it is not quite time to rise when one wakes, perhaps about five or six o'clock, is always injurious.

REST.

It is a good plan for all invalids to rest after meals, or at all to *loiter* only—and if possible in the open air—for half an

hour after breakfast and supper, and an hour or hour and half after dinner. It is an exceedingly bad plan to sit near the fire after eating. Neither should patients sit down to eat immediately after very active exercise. Fifteen or twenty minutes should be suffered to elapse between any sharp exertion and a meal, in order to give time for excitement to subside. With very weakly persons half an hour's horizontal repose will be necessary.

FLANNEL AND CLOTHING.

It is an ordonnance of nature that man shall be warmed by heat generated from *within*, and not by heat accumulated or supplied from *without*. The processes by which animal heat is generated are also productive of other necessary internal results which are absolutely essential to health. Whatever prevents the free extrication of heat from the surface of the body has an equal tendency to check its internal generation, and to hinder, therefore, those other results which I have just said are absolutely essential to health. It, moreover, diminishes the appetite, weakens digestion, interferes greatly with the functions of the skin, and thus undermines the very foundations of the house of life. Now it is clear that excessive clothing, heated rooms, &c., whether by day or during sleep, *do* prevent the free extrication of heat from the surface of the body, and therefore *do* check the generation of internal heat, and are, therefore, in every way, inimical to health and prolific of disease. Still all this only applies to excessive clothing, and to excessive external heat. The question as to what constitutes excessive clothing still remains unanswered.

It is one of the great misfortunes under which medical men labor, that they can scarcely ever give a plain answer to a plain question; although to bring this against them as an allegation of reproach is unjust in the highest degree. Invalids are forever asking: "Is so and so good?" or, "Is so and so bad?" If they would say: "Is so and so good for ME?" or, "Is so and so bad for ME?" the questions could be answered readily enough, and laconically enough—No, or Yes. But, expressed generally, they are incapable of a succinct answer, simply because there are many things which are proper for one invalid which are improper for others; good for one, bad for another. Medical men, moreover, are perpetually obliged to recommend to their patients what, in itself, may not be good, speaking generally. His patient being

placed between two evils, from *both* of which there is no escape, it becomes that patient's interest to submit voluntarily to the lesser of the two, provided that, by so doing, he may escape the greater. In these cases, the medical man balances in his mind which evil of the two is the greater, and, having ascertained this, advises his patient to submit to the *lesser*. Thus it is common enough to hear a physician carefully cautioning one patient against the very thing which he recommends to another. He recommends one man to take active exercise, as leaping, running, hunting, cricket, &c.; while he cautions another man, having heart disease, against all sorts of violent exercise. He gives one man, having constipated bowels, full permission, and even recommends him, to eat plentifully of all sorts of garden vegetables, as rhubarb, &c. But he strictly interdicts rhubarb to another man, even though he be afflicted by the same disease, constipation. Why? Because he has ascertained, by a microscopical examination of his urine, that this latter patient has a tendency to stone in the kidneys or bladder.

With these observations I return to the article of flannel and other clothing. A man should never feel oppressed with heat. But neither should he feel starved with cold. I fear I can lay down no more definite rule than this, viz., that we should accustom ourselves to as little clothing as is consistent with an ordinary feeling of comfort; that we should clothe ourselves according to the season; that, when out of doors, we should rather seek to warm ourselves by active exercise than by an accumulation of coverings; that those who wear flannel should only do so during the winter, and then only during the day; and that those who require to wear flannel are, generally speaking, those who suffer from disease of the lungs and heart, and those who are too weak or too lame to take much exercise.

There is much less objection to wearing flannel drawers than flannel shirts.

The feet and legs should always be kept warm—the head and throat cool.

Our English custom of doubling every sheet and blanket and counterpane over the chest is an extremely bad practice.

Cotton shirts are better than those made of linen. Those who do not wear flannel should always have an ordinary coat (not an overcoat) in wear, which is lined with flannel, back and sleeves, to meet the vicissitudes of our fickle climate. On a cold day this coat may be worn out of doors, and on an extremely cold day, an

overcoat may be added. On coming in-doors, a coat *not* lined with flannel may be put on. But it is utterly impossible to lay down any rule which shall fit every case.

The waistcoat too, which is worn out of doors, may be lined with flannel.

EXERCISE.

This is the most important element in the hydropathic treatment, but requires great caution in its use. Persons in health can scarcely take too much; but there are many diseases in which exercise, taken in excess, is extremely injurious and unsafe: as, for instance, heart disease, lung disease, some forms of spinal disease, &c. &c.

Exercise should always be taken before each meal, and the greatest amount generally between breakfast and dinner. A merely lounging walk, more for the sake of air than exercise, may also be taken in the evening about eight o'clock, that the patient may go cool to bed. When the nature of the disease does not prevent it, exercise should be sharp and active, so as to excite perspiration and quickened breathing. This is very important. In its beneficial influence on the health, the perspiration produced by exercise is extremely and altogether different from that produced by artificial means, and infinitely better in every way and in all respects. In my work, entitled, "Theory and Principles of Hydropathy," I have shown the *reason* of this by diagram.

DIET.

The best hours for eating are about eight o'clock for breakfast, half past one or two for dinner, and seven for supper. For persons in strong health, I believe that bread, lean meat, (once a day) and potatoes, constitute the perfection of human food.

I do not attach so much importance to meat, however, as some do. So far as mere nutriment is concerned, there is much less difference between bread and meat than is commonly supposed. I do not at all believe that meat is essential to health and strength in the temperate latitudes; except perhaps in very severe winter weather. With many invalids, meat is too stimulating. In others, it seems to oppress the vital powers, and produces drowsiness and lassitude, with a dry skin. It is too *highly concentrated*. And most certainly I do not agree with those who believe lean meat

to be more easily digestible than bread and other farinaceous articles.

One of the principal arguments advanced to prove that man is a carnivorous animal, is the fact that he is furnished with tusks, commonly called the eye-teeth or dog-teeth. "These tusks," say the advocates of meat, "were clearly given for the purpose of tearing flesh." But as the *horse* happens to be furnished with tusks also, this argument does not seem particularly weighty.

The history of the earth and its inhabitants, however, clearly proves that as man is capable of inhabiting all latitudes, he is also capable of supporting himself on the kind of food which each latitude most readily and abundantly yields.

If the Esquimaux refused to eat fish, they would starve.

There are many other viands which are, in themselves, not unwholesome. But, though not unwholesome, they are certainly unnecessary. They are only taken for the sake of variety, or because one is particularly fond of them: and, in either case, are only so many inducements and temptations to eat too much. Fish, puddings, &c., come under this head of unnecessaries; and are only bad in their character of seductions to excess. All this, however, only applies to persons in health; for, among invalids, we sometimes meet with cases in which it is desirable that the appetite should be provoked by every possible means. We have others for whom a pudding diet exclusively is proper; others, again, for whom an exclusive diet of lean meat is required.

Pastry of all kinds is bad in every sense of the word.

Condiments, excepting salt, are always forbidden in hydropathic establishments. There is, perhaps, a little unnecessary exclusiveness, an extreme and somewhat trifling punctiliousness, in this matter of condiments. If so, it is at all events an error on the right side.

For breakfast and supper there is nothing better than bread and butter. But the butter should be as small as possible in quantity.

When the bread at any meal is ordered by weight, that weight is irrespective of the butter, the quantity of which should always be too small to be of any significance.

POPULAR ERROR.

There is one popular error of great magnitude which I am very anxious to expose. It is commonly thought that the most nutri-

cious food is the *best* food. This is a very natural error, and arises from the popular superstition that there is but *one* object in eating, viz., that of nourishing the body. But there are *two* objects, both essential to life, and of these two objects that of nourishing the body is of the *less* immediate importance. We eat for the double purpose of importing into the system two sets of elements —the elements of nutrition and the elements of respiration; and a man will live longer without the elements of nutrition than without the elements of respiration; though he cannot live very long without either. A certain *bulk* of food and of *dross* is, moreover, essential to healthy digestion.

Dr. Beaumont, who had the singular good fortune to have a patient who, though otherwise quite healthy, had a hole in his stomach, (made by a musket ball, and which never healed) sufficiently large to enable any one to see distinctly *into his stomach* while digestion was going on, and whom he took into his house and paid for the privilege of being allowed to make this case the subject of numberless experiments on digestion—Dr. Beaumont declares that bulk in food is nearly as necessary as the nutrient principle itself. Food which is *too nutritious* is perhaps, to the full, as inimical to health as that which is *not nutritious enough.* Dr. Prout, one of the most eminent physicians of the present day, has some very judicious observations on this subject. "Of the numerous shapes assumed by lignin," says he, "the best adapted for excremental purposes, is, undoubtedly, the external covering of the seeds of the cerealia, and particularly of wheat (bran). Bread, therefore, made with *undressed flour,* or even with an extra quantity of bran, is the best form in which farinaceous and excremental matters can be usually taken; not only in diabetes, but in most other varieties of dyspepsia, accompanied by obstinate constipation. This is a remedy, the efficacy of which has been long known and admitted; yet strange to say, the generality of mankind choose to consult their taste rather than their reason; and, by officiously separating what nature has beneficially combined, entail upon themselves much discomfort and misery."

"Debility, sluggishness, constipation, obstructions, and morbid irritability of the alimentary canal, have been among the principal roots of both chronic and acute disease in civic life, in all parts of the world, and in all periods of time; and concentrated forms of food, compound preparations, irritating stimuli, and excess in quantity, have been among the principal causes of these difficulties."

If a horse be fed on grain alone, he will soon die. If the husk of the grain have been removed before it is given to him, he will die sooner still. But if, as soon as he begins to droop, chopped straw, or even thin shavings of deal wood be given to him, he will recover his health and live. These experiments seem to me perfectly conclusive against the use of food in which the nutritive elements are too highly concentrated. Brown bread, therefore, and brown bread puddings are the best.

The only kinds of general diet which I think it necessary to distinguish here are dry diet, consisting solely of white bread and lean mutton or beef. Plain diet, consisting of bread, mutton or beef, and potatoes. Farinaceous diet, consisting of nothing but farinaceous pudding. Full mixed diet, consisting of bread, potatoes, the ordinary garden vegetables, lean mutton or beef, succeeded by farinaceous puddings. These forms of diet relate to dinner only, bread and butter being always taken at breakfast and supper. I use the word supper to indicate the third meal.

The best kind of puddings are every form of bread pudding and rice pudding. Next to those come tapioca, sago, arrow root, &c. &c.

GLUTEN PUDDING.

The following is an exceedingly useful article of diet in diabetes, diarrhœa, dysentery, or any relaxed state of the bowels. Take a pound of fine flour, tie it up very *loosely indeed* in a cheese cloth, hold it under cold water, and squeeze it, and press it, and knead it about, until all the starch of the flour has been washed out. The water must be frequently changed, and when the starch has all been washed away, it will no longer whiten the water; and nothing but pure gluten will remain. Mix this gluten with new milk, two eggs, yolk and white together, a little salt, and boil for two hours and a half. It may be eaten with powdered loaf sugar.

Gluten bread may be made of flour prepared in the same way.

BROWN BREAD PUDDING.

whose bowels are habitually constipated; take
ices of brown bread, and scald it with new milk, five or
cut into pieces, three ounces of fine beef suet, finely
not chopped), three ounces of brown sugar, and a little but-
tter and boil for two hours.

The following are also very wholesome puddings for ordinary occasions.

RICE SHAPES.

Boil two ounces of ground rice in one pint of new milk, with two ounces of loaf sugar, for twenty minutes; and flavor with a laurel leaf. Pour this into two small shapes, having previously wetted them with milk. To be eaten cold next day. The pudding when placed in the dish may be surrounded with some kind of preserve.

FRUIT PUDDING; APPLES, DAMSONS, GREENGAGES, &c.

Cut a slice of white bread into long squares hardly half an inch thick, thus:

Cut also another piece of bread, about half an inch thick, into a round shape. Lay this round piece at the bottom of a basin, and then stand up, upon it, all round the sides of the basin, the oblong squares, about three-quarters of an inch apart. Now pour in, hot, any kind of stewed fruit till the basin is full.

The long squares must be long enough to reach to the top of the basin, or nearly so.

Now cut another round piece of bread about half an inch thick, and place this over the fruit. Upon this, place a plate with a weight upon it. The next day turn it out of the basin into a dish, and let it be eaten cold, of course with sugar.

Boil half a table spoonful of ground rice in half a pint of new milk with two ounces of loaf sugar; and flavor with a laurel leaf. When this is cold, pour it over the pudding as it stands in the dish just before it goes to table.

As to quantity in diet, no universal rule can be laid down. Two healthy men of the same size and of the same constitution, who take different amounts of exercise, will require different amounts of food.

But the rule of *simplicity* of diet, both to dishes and to complexity of kind, is als

Every species of alcoholic drink must be carefully avoided. The patient's only drink should be water, with the exception of a little warm black tea for breakfast and supper, especially in winter. Cold water at these two meals, with delicate persons, and those whose circulation is languid, and whose vital heat is but slowly developed, will frequently so much lower the temperature of the stomach as to leave a painful sensation of weight in the region of that organ for many hours afterwards. It is absolutely necessary that such persons should take some warm fluid at breakfast and supper, in the winter season. But the tea should be black tea, and taken quite weak, and not hot, but warm. Cocoa is a nasty greasy mess, which swims, like oil, on the surface of the contents of the stomach.

Milk is *not* a wholesome diet for adult invalids.

At Græfenberg, smoking and snuff-taking are freely and constantly practised, but it is far better that these habits should be at once discontinued, for they are undoubtedly injurious to all persons in a greater or less degree, and with some constitutions they are so to a very important extent.

DRINKING WATER.

I am decidedly opposed to the indiscriminate drinking of large quantities of cold water. One cannot understand in what manner these large imbibitions are to operate so as to be useful in the animal economy. We know precisely what becomes of the water soon after entering the stomach; we can trace exactly what course all this water must take—what channels it must traverse—between its entrance and its exit. We are perfectly well acquainted with certain physiological effects produced by it after it has been received into the system.

It dilutes the blood; it lowers the temperature, and therefore diminishes the vital power of the stomach; it puts certain systems of capillary blood-vessels on the stretch, to the great danger of bursting; and it over-taxes the kidneys. I have seen two cases of bloody urine which were fairly attributable to the excessive drinking of water.

The unfortunate gentleman at Nottingham, who died from excess

of treatment, administered by himself, was found to have the fine, thin, transparent, mucous membrane of the stomach *semi-dissolved into a gelatinous pulp* (which was easily scraped off) by the quantities of water he had drunk. He had been covered with boils, and had a most ravenous appetite.

I believe he had drunk seven or eight pints daily.

These are the accidents and experiments by which we ought to profit.

It must be remembered, that, in drinking cold water, the full shock of the cold is sustained by the *stomach alone.* It is from that organ alone that nearly all the heat is abstracted by the cold water. While the water remains in the stomach, it is continually abstracting vital heat from it. The water warms itself by heat abstracted from the stomach. When it leaves that organ and enters the system, it has become *warm* water; and the heat which it has absorbed from the stomach into itself, it carries away into the blood-vessels, leaving the stomach chilled, and with a lower temperature than any other part of the body. This lowering of its temperature, repeated frequently, has a decidedly weakening effect upon the stomach. The capillary blood-vessels, deprived of their vital heat, become relaxed; they open and admit a larger current of blood; congestion thus takes place; irritation is set up, like that in a blood-shotten eye; and a morbid craving for food even between meals is produced.

If the water imbibed indeed lowered the temperature of the whole body equally, the case would be different, and the practice less hurtful.

Thus, then, it seems there are certain well understood and very obvious injuries which the large imbibition of water cannot fail to inflict, while the supposed benefits to accrue from it are altogether mystical, problematical, unintelligible. This, however, only applies to excessive drinking—drinking for mere drinking sake—as one formerly swallowed physic. If persons are thirsty—if their mouths and stomachs are heated and feverish—let them drink as much water as is sufficient to allay these uneasy feelings. If the tongue be foul in the morning, and the mouth parched, half a tumbler of pure spring water will be found very refreshing and provocative of an appetite for breakfast. The quantity of water which each person should drink during the day must always depend on his own feelings. He may always drink when the doing so is agreeable to his sensations; when it is repulsive, never.

A large quantity of fluid should not be taken during dinner. It should not exceed half a tumbler-ful; and the less the better, provided a proper quantity of food can be got down without it. A natural thirst will occur some three or four hours after dinner, and then a hearty draught of cold water will be delicious and useful.

All the intelligible good effects of water drinking will be as certainly obtained from drinking some six or seven tumblers a day (including meals) as by drinking more; while all the evils of *excessive* drinking will be avoided.

Whenever the appetite is deficient, I recommend the patient to drink a tumbler or two of fresh cold water before breakfast, and two before dinner, and to take cold water for breakfast and supper instead of tea, if it do not disagree with the stomach.

But when nothing is said about water drinking, no more is to be taken than is necessary to allay thirst, and weak black tea is then to be taken at breakfast and supper.

MODE OF TAKING THE SWEATING BLANKET, OR BLANKET PACKING.

Everything having been removed from the mattrass, a pillow is placed upon it for the patient's head. Upon this mattrass, and extending over the pillow, two blankets are spread. The patient lies down on his back, perfectly unclothed, upon these blankets, with his head comfortably placed on the pillow. An attendant now approaches, say on the patient's left, and first puckering the blanket from the back of the head down to the back of the neck, reaches across his chest, seizes the right upper corners of the blankets, brings them tightly across, under the chin, to his own side (the left), and tucks them well and evenly under the left shoulder where it joins the root of the neck, and under the point of the same shoulder. He now reaches across the body again and brings over all the rest of the right sides of the blankets to the left side of the patient, and then proceeds to tuck them well and evenly under his left side, beginning where he left off, at the point of the left shoulder, and proceeding quite down to the heels. The patient is now entirely enveloped in one half of the blankets, and the attendant finishes the operation by passing over to the right side of the patient, and then proceeding to tuck the left sides of the blanket under the right side, precisely in the same manner as we have just seen him tuck the right sides of the blanket under the left side of the

The attendant, standing on the right side of the patient's legs, finally insinuates his left hand under the backs of the ancles, lifts them up, and then with his right hand, turns back the loose ends of the blankets under the heels. The operation of packing is now complete; and, if it have been neatly executed, there will not be a wrinkle to be seen in any part of the blankets; and the whole will present the appearance of an Egyptian mummy. Four or five other blankets, doubled, are now laid over all, extending from the chin to below the feet, and these superincumbent coverings are pressed down closely against the sides, and a napkin is placed under the chin to prevent the tickling effects of their woolly fibres. Over these a small feather bed, or eider down quilt, may be placed if found necessary. I use myself small eider down beds for this purpose.

Before the process of packing is begun, the patient's arms may be extended along his sides or crossed over his stomach.

If the patient be very nervous, one arm may be left out of the two first enveloping blankets, and suffered to rest on their outward surface, covered only by the superincumbent blankets. In this case great care must be taken that the shoulder, thus left uncovered by the enveloping blankets, be well and thoroughly covered by the superincumbent ones. The great point is to seal hermetically the upper end of the trunk, over the shoulders and round the throat and neck, so that the hot air within cannot escape, nor the cold air without find any entrance.

If the head get hot and uncomfortable, a wet towel may be applied to it; and to expedite perspiration, where there is any difficulty in procuring it, a pint of hot weak black tea may be imbibed through a glass syphon: or some two or three tumblers of cold water will sometimes produce the same effect.

A little exertion made with the arms and legs will always expedite the process considerably.

The window should be set open as soon as the patient is packed.

When necessary, a proper glass urinal may be enclosed with the patient.

The average time which elapses before perspiration breaks out on the forehead is from two to three hours.

The patient perspires as long as he is ordered, reckoning from the time that perspiration appears upon the forehead or face.

The blanket packing is followed instantly, in every case, by some kind of bath.

The blanket packing requires more care and discrimination in its use than almost any other process. Its natural and general effects are to weaken, to fill the head, and to hinder the due decarbonization of the blood. The *reason* of this is shown by diagram in my "Theory and Principles of Hydropathy." It should never be used, therefore, unless some important and specific object is sought to be obtained by it.

THE SWEATING CRADLE OR PERSPIRATOR.

This is a very convenient mode of producing perspiration in a very rapid manner. It is a cradle of wicker work, which is placed over the patient (in bed and quite undressed). A spirit lamp is attached to the foot of the cradle, by which hot air is thrown upon the patient's body. The cradle is of course covered by the bedclothes in such a way that the hot air cannot escape. The patient's head alone is exposed; and it may and should be well sponged with cold water if it become painful or oppressed with heat. The bed clothes should be tucked close round the neck, and well tucked in at the foot of the bed, including the foot valance.

For full description of the sweating cradle, see Preliminary Observations.

THE WET SHEET PACKING.

Proceed in all respects, from beginning to end, as in the blanket packing, with this sole exception: that, before the patient lies down, a sheet, which has been dipped in cold water and then wrung out as *dry as possible by two people's strength, or thrown, twisted, over a pole, and so wrung out,* is laid upon the two enveloping blankets, and the patient then lies down upon this sheet, in which he is enveloped in the same manner, and by the same successive manipulations, as have been described with regard to the blankets—and it should be performed as rapidly as possible. The sheet cannot be wrung too dry. As soon as he is enveloped in the sheet, the blanket packing then proceeds just the same as though he were going to take the sweating blanket.

The patient remains in the wet sheet packing for twenty minutes or an hour, or for any intermediate time according to the effects

desired to be produced, and which are entirely different. The sheet should be long enough to extend from the crown of the head to the ancles. It is never necessary to include the feet unless the disease be in the feet. It should be wide enough to overlap in front of the body, about eight or twelve inches, according to the size of the patient.

The dry sheet which is thrown over the patient after every bathing operation (except the sitz) should be a little larger than the packing sheet, so as that there may be plenty of it hanging loose to use as towels.

CAUTIONS.

The wet sheet, if the patient remain in it long enough, will, like the blanket, excite perspiration; for at the end of about an hour, the sheet will become dry, and then this process loses its own proper character, and assumes that of the sweating blanket. The same cautions, therefore, apply to the wet sheet packing, if long continued at one time, which I have mentioned in reference to the blanket packing. But the wet sheet is at all times a lowering process, as well as a soothing and anodyne one, and great care and discrimination are requisite in its use. I believe, however, that it may be laid down as a good guide, that the wet sheet packing is always safe, and generally beneficial, whenever the skin is hotter, and the pulse quicker, than natural—that is, when these two conditions exist together

The wet sheet is always followed immediately by some kind of cold or tepid bath.

It will frequently happen that the patient will not get warm at all in his wet sheet for the first two or three times; but if he persevere, he will generally afterwards get quite comfortably warm in ten or fifteen minutes.

The wet sheet has certainly the power of depurating the blood. Of this we have the unquestionable evidence of ocular demonstration.

Nor is there anything in this which is mysterious or unintelligible. It is perfectly intelligible, and perfectly in accordance with the known laws of nature.

MODE OF ACTION.

The poisons, which may be held in solution in the water of the blood, escape through the skin, when in contact with water, by the

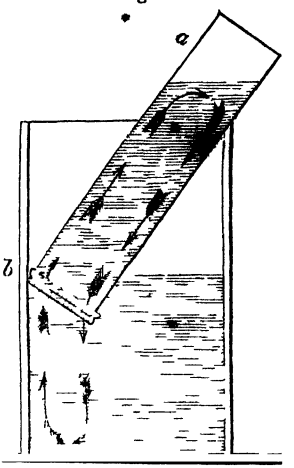
well ascertained laws of endosmosis and exosmosis, discovered by Dutrochet, and more elaborately examined and established by Liebig under the less outlandish name of Alien or Heterogeneous Attraction.

It is not necessary to enter here into any elaborate discussion of these laws. It will be sufficient to explain their general principles and mode of operation. Those who are more curious on the subject may consult Liebig's "Researches on the Motion of the Juices in the Animal Body." The facts or laws, broadly stated, are simply these: whenever any animal membrane, whether living and still attached to the living body, or dead and separated from the body—whenever any animal membrane has its two surfaces in contact with two dissimilar fluids—the one surface in contact with one of the fluids, and the other surface in contact with the other fluid—an interchange of the two fluids takes place. A part of the fluid which is on the outer side of the membrane passes through it and mixes with the fluid on the inner side; and a part of the fluid on the inner side passes through the membrane and mixes with the fluid on the outer side. This requires illustration. Let some pure water be put into a basin; and let some water containing any soluble substance, as sea-salt, any of the soluble salts of mercury, arsenic or iodine, be put into a glass tube, one of whose ends is tied accurately over with a piece of bladder. Now plunge that end of the tube which is tied over with bladder, into the water, and let it remain there. The necessary conditions are now established. We have a piece of animal membrane, (the bladder) one of whose surfaces is in contact with pure water in the basin, while its other surface is in contact with a dissimilar fluid, viz. water, containing, say, bichloride of mercury, i. e. mercury and water. Now, what happens is this. A part of the mercury and water descends from the tube, through the animal membrane, into the water in the basin; while a part of the water in the basin ascends through the membrane, into the tube to supply the place of that which has descended out of it. And this interchange of fluids goes on until the water in the basin contains as much mercury as the water in the tube. When this equal distribution of the mercury has taken place the interchange ceases; for the fluids are now no longer dissimilar. They have become similar. If now the water in the basin be thrown away, and the basin again filled with pure water, the interchange recommences, and again continues until again the two fluids have become similar—that is, until the

water in the basin contains as much mercury as the water in the tube. Thus, by continually emptying the basin and resupplying it with pure water, all the mercury may be withdrawn out of the tube—or a portion only left which is too minute for the human imagination to conceive.

The experiment may be tried thus: Take a glass tube, (*a*, fig. 1,) the diameter of whose calibre is four-tenths of an inch. Close one of its ends accurately with bladder, and fill the tube with brine. Now take a much larger tube (*b*)—a common tumbler will do—and fill it three parts full with pure water. Then immerse the bladder-end of the small tube just under the surface of the water of the larger tube or tumbler, giving it an inclination of about 45°. In a short time a current of liquid will be seen rising from the bottom of the water in the tumbler, upwards along its side, in the direction indicated by the arrows, through the bladder, and up along one side of the small tube to the surface of the brine; then it descends along the other side of the small tube, in the direction of the arrows on that side, down through the brine, and through the bladder, down to the bottom of the water. The downward current is a current of brine descending into the water in the tumbler. The upward current is a current of pure water ascending into the tube to supply the place of the lost brine; and this current will continue until the two fluids have become similar—that is, until the fluid in the basin has become as salt as that contained in the tube.

Fig. 1.



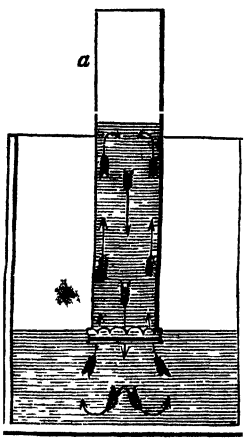
If now the tumbler be emptied, and refilled with pure water, the current will be re-established; and in this way the brine in the tube may be completely purified of its salt.

The currents will be seen with beautiful distinctness if some very fine particles of indigo be suspended in both fluids—viz., that in the tumbler and that in the tube.

If the tube (*a*, fig. 2,) containing the brine, have a calibre whose diameter is four-fifths of an inch, and if it be supported

vertically, so that its bladder-end be immersed just below the surface of the water in the tumbler, (*b*) two currents will be seen to ascend, in the direction of the arrows, through the bladder, one on either side of the tube to near the suface of the brine. They now turn, and descend together in one double current through the middle of the brine in the tube, down through the bladder into the water, where they diverge, turn again, and again ascend. The double current descending through the middle of the tube is a current of brine coming down into the water in the tumbler. The two separate outer currents ascending from near the bottom of the water in the tumbler are two currents of water going up, through the bladder, into the tube, to supply the place of the brine which has descended into the water.*

Fig. 2.



Now when pure water is held in contact with the external surface of the skin of the body, by means of the wet sheet or any other means, precisely the same conditions are established with regard to the fluids within the body—that is, on the inside of the skin—and the water which is in contact with its outer surface, as are established, in Fig. 2, between the fluid (brine) contained in the tube—that is, on the inside of the bladder—and the water in the tumbler which is in contact with the bladder's outer surface. About 80 per cent. of the blood is water, and it is this water which holds in solution whatever soluble substances, whether poisonous or otherwise, happen to be present in the blood; and it is this water, holding in solution fibrine, albumen, and the various salts proper to the blood, which alone circulates in those myriads of millions of millions of capillary vessels which are too small to admit the red particles. When any poisonous matters are present in the blood, it is in this water of the blood that they are held in solution, as the salt is held in solution in the water of the brine.

Now, when by means of the wet sheet, pure water is held in

* For more information on this curious subject, see Liebig's "Researches on the Motion of the Juices in the Animal Body," published by Messrs. Taylor and Walton, London.

contact with the outer surface of the skin, and supposing that the water of the blood, which is on the inside of it, is poisoned, say with bichloride of mercury, what happens is this: an interchange takes place between the fluid on its outside (pure water) and the fluid on its inside, viz., the water of the blood holding bichloride of mercury in solution. The mercury-and-water passes through the skin into the water of the wet sheet, while the pure water of the wet sheet passes through the skin into the blood to supply the place of the mercury-and-water. As in figures 1 and 2, a double current is established—a current of pure water into the body, and a current of mercury-and-water out of the body; and in this way, by frequently renewing the external contact of pure water with the skin, the blood is purified of whatever poisonous or otherwise morbid matters it may happen to contain.

If a glass tube be partially filled with a saturated solution of salt (brine), one end of the tube having been first carefully tied over with bladder, and if the tube be suspended in the air; in a short time that side of the bladder which is exposed to the air becomes covered with salt. The brine passes through the bladder from the inner to the outer surface. When it reaches the outer surface the water evaporates, leaving the salt adhering to the bladder.

When a person has taken the nitrate of silver for a considerable length of time, it is well known that the skin becomes colored permanently blue from the lodgment of oxyde of silver in the tissue of the skin—the nitrate being converted into a simple oxyde.

It would seem that something similar happens here with regard to the salt of silver (nitrate of silver), and the skin, as happens with regard to the salt of the brine and the bladder, in the experiment just described above. The water of the blood, holding the nitrate of silver in solution, passes through the under layers of the skin until it reaches the rete mucosum, which lies immediately under the scarf-skin—not travelling along the perspiratory spiracles, but permeating the tissues. Having reached this locality, the water of the blood evaporates, while the silver, unable to penetrate the dry and horny cuticle, is left fixed in the rete mucosum.

It is febrifuge, anodyne, antispasmodic, and depurative. It allays excitement, soothes the nerves, and lowers the pulse.

When the wet sheet is used, as in fevers, inflammations, &c., for the purpose of extracting as much heat as possible, and as rapidly as possible, the patient is merely enveloped in one or two blankets

outside the sheet, and thus left without any more coverings, being put into a fresh wet sheet as often as he becomes hot. *Two* sheets should be used for this purpose—the one being spread over a chair to cool, while the patient is lying in the other. The principle on which the sheet is used on these occasions is precisely the same as that on which cold wet cloths, cold lotions, &c., are applied to an inflamed part. In these cases the whole body is inflamed, so to speak, and therefore the application is universal instead of partial.

THE HALF WET SHEET

Is precisely the same as the whole wet sheet [redacted] bed, except that it only extends from the arm-pits to [redacted] down the thighs.

This half wet sheet is extremely useful and convenient.

The arms, of course, are not included in the half-sheet, but lie on its outer surface.

THE SHALLOW BATH.

This is a tin bath about five and half feet long at top, and four and half at bottom; two and half feet wide at top, and one and half at bottom; and one and half feet deep. Into this water is poured until it rises about four inches above the bottom. The patient sits down in this water, and immediately begins to rub himself all over in front with as much energy and rapidity as he can exert. He rubs his limbs, his chest, his stomach, bowels, and face; and every now and then throws a double handful of water over his head, which he also rubs in its turn. In the meantime, an attendant is actively employed in rubbing the back and ribs from behind. The operation may last from two to ten minutes, according to the judgment of the practitioner who prescribes it, the nature of the disease, constitution, &c. It is important that the patient should use all the exertion of which he is capable the whole time while he is in this bath. It excites the circulation and effectually prevents all chilling, congestions, &c. On coming out of this bath a large dry sheet is immediately thrown over the patient as he stands up, like a cloak. With this he dries himself as quickly as possible, and then dresses for his walk. It is by far the most generally useful of all the bathing operations, and the favorite bath of Priessnitz. It is tonic, stimulant, and alterative when not protracted too long.

My old master, Sir Astley Cooper, used to say: "Give me a bottle of opium in one hand, and calomel in the other, and send me into the country, and with these two drugs alone I will beat the country practitioners hollow." If Sir Astley were alive now, I would undertake to beat his calomel and opium with no other remedies than the shallow bath, sitz-bath, and wet sheet. Indeed, in nineteen cases out of twenty, these, or some modification of these, are all that are necessary. The shallow bath seems to partake of the nature of all the others, from the sitz up to the douche; and, by varying the time of being in it, and the quantity of water, may be made to almost any extent, now diminishing and now augmenting the power *ad libitum*.

Place me with most unfavorable circumstances, viz. in the heart of a large town, let me have my fair average of all sorts of cases, new and old, acute and chronic, slight and severe, and give me the shallow bath, the sitz, and the wet sheet, and no other bath whatever, and let me have an opportunity of frequently seeing my patients—I would undertake to cure or relieve more cases than are now cured or relieved by the ordinary drug treatment in the proportion of two to one.

When a shallow bath cannot be procured, a wash-down must be substituted, but this substitution is not an efficient one.

THE HALF BATH.

This bath is also tonic, stimulant, and alterative. The shallow bath takes the name of the half bath, when it is made to contain a foot in depth of water instead of four inches. In this the patient rubs himself and finally dries himself precisely as in the case of the shallow bath.

THE PAIL DOUCHE.

The patient seats himself in an empty shallow bath and crosses his hands over his chest. As many pails of water as are ordered are then dashed over him suddenly, one after the other, and one before and one behind—not poured, but thrown with some force, by first a backward and then forward motion of the pail; half the number of pails being thus emptied on the back of his folded hands, and half between the shoulders behind. In its effects this

bath closely resembles the pl[illegible]. It is stimulant, tonic, ative, and powerfully *electric*.

THE CATARACT BATH.



A and B are two tin cylinders, con[illegible]ng six or eight gallons each. These are fixed at the top of the frame-work of an ordinary shower bath, the common cistern and perforated plate being removed. By pulling a string, th[illegible]inders are tilted so as to disc[illegible] their water as is seen in the plate. The inner side of each cylinder should have a lip to give a more forward direction to the cataract of water. Stimulant, tonic, alterative, and powerfully electric.

THE SITZ BATH.

This is an ordinary hip bath, containing as much wa[illegible]s will rise nearly to the navel when the patient sits down in it. From three to four inches of water will generally be found sufficient for this pose. In this the patient sits from ten minutes to an hour, or [illegible]n an hour and half in particular cases. When taken for only fifteen minutes, these baths are tonic, but not stimulant. When taken for twenty or thirty minutes they are derivative, and when taken for thirty-five or sixty minutes and more, they become lowering and sedative. The sitz is non-electric.

Indeed it may as well be here mentioned at once, that all cold baths, if too protracted, are lowering, sedative, and dangerous. And the nature of the danger is the production of internal local congestions.

A derivative application is one which derives blood or heat *from* other parts *to* the part to which the remedy is applied.

THE PLUNGE BATH.

This is so well known as to need no description. Its effects are tonic, stimulant, alterative, and *electric*.

WET FRICTION OR TOWEL FRICTION.

Rubbing the body all over with towels dipped in cold water, and then wrung out as dry as possible. This operation may last about two or three minutes; the patient is then enveloped in a dry sheet and dried. Tonic and alterative. A most valuable bath for delicate persons. It is slightly electric.

THE WASH-DOWN.

The patient stands up in an empty sitz bath, beside which stands a pail of cold water with two coarse towels soaking in it. The bath attendant, taking his place behind the patient, lifts one of the towels, all loaded with water, and lays it quietly on the patient's head. The patient immediately seizes it, removes it from his head, and rubs himself rapidly with it—his face, his throat, shoulders, arms, chest, stomach, bowels, thighs, and legs. Having gone rapidly over the whole body once, he drops his towel into the pail again, which the bath-man presses down to the bottom of the water, then lifts out, and places on his head again. As before, the patient seizes it, and goes all over the same ground once more; and then drops it into the water again, when the bath-man again lifts it, and again places it on the head to be a third time removed by the patient, and applied as before, rapidly, actively, and energetically all over his body in front. The bath-man is industriously occupied all the time behind in the same manner, from the back of the neck to the back of the legs, wetting his own towel as often as he wets that used by the patient, viz. three times. This is called a wash-down of three towels. The patient is then dried in a dry sheet. Tonic, alterative, and stimulant; slightly electric.

When a wash-down is ordered, without mentioning the number of towels, one of three towels is always meant.

THE UPSTANDING SHEET.

The patient stands up on the floor. A sheet of convenient size is then dipped in cold water, and as much of the loose water is then wrung out of it as is sufficient to keep it from dripping at the bottom. This is thrown over the patient (head and all) from behind, like a cloak; and it should be long enough to reach down to the ankles, and wide enough to enable the patient to seize those

loose parts of the sheet which will hang in front and use them as towels. With these loose portions of the sheet the patient rubs himself actively and rapidly from his face to his feet. In the meanwhile the attendant rubs him well behind—the back of the neck, points of the shoulders, ribs, spine, back of the lower limbs, &c. But the attendant does not rub the skin with the sheet, but he rubs the sheet itself as it clings to the body with his hand—his hand passing rapidly over the sheet without moving it, as one may rub one's leg over a tight stocking.

This operation may last two or three minutes, when a dry sheet is thrown over him, in which he is again rubbed till dry. Tonic, alterative, and stimulant.

FOOT BATH.

The feet are placed in cold water for five or ten minutes up to the ankle bones, the patient rubbing one foot against the other all the time. They are then thoroughly rubbed dry with coarse towels. Derivative—used also to warm habitually cold feet before going to bed. For this latter purpose woollen stockings should be drawn over them on getting into bed.

SHALLOW FOOT BATH.

In this bath the water is so shallow that it does not rise more than an inch up the sides of the feet and barely covers the toes. When the feet have been in the water for two or three minutes they are lifted out one at a time, and the servant rubs the soles thoroughly well with his hand. Then they are placed in again, for two or three minutes more—then rubbed again till they are quite warm; then once again they are put into the water for a few minutes, and finally well rubbed and dried with a rough towel.

This is an excellent method of warming cold feet before going to bed.

HAND BATH.

Immersing the hands and feet at one time in cold water exercises a remarkably cooling influence over the whole body. It will sometimes cool a hot head, sometimes allay toothache, and relieve a generally flushed and heated condition of the whole body. The

immersion may last for ten or fifteen minutes. Derivative and cooling.

THE WET BANDAGE OR COMPRESS.

The wet bandage or compress is made of sheeting or table linen, and should be doubled. It should extend upward and downward from the pit of the stomach to the hips, or even lower. It should not meet over the spine by about four inches. This should be covered by a dry bandage of the same materials, and long enough to go round the body three times. It should be secured by tapes. This bandage may be either worn during the day only, the night only, or all day and night too. It is always taken off before every operation, without any exception; wrung out of fresh water again; and reapplied after the operation is over.

HEAD BATH.

The patient lies down on his back, and places the back of his head in a shallow dish containing an inch or two of water. This bath may last for ten or fifteen minutes, occasionally moving the head from side to side. When the object is to cool the head, I am in the habit of making my patients wear a wet cap for a given time. This is a skull-cap sitting close to the head, covering the ears, and coming pretty well over the forehead. This is dipped in water, lightly wrung out, and then placed close on the head for an hour or so. If it get hot, it must be taken off and dipped again in cold water, or it may be kept on, and a sponge dipped frequently in cold water may be applied to the top of it. It should be double, and made of old coarse linen rag.

HEAD DOUCHE.

In certain cases, I resort to what I call the "head douche," or cataract head bath. In taking this bath, the patient kneels down and stoops his head forward and downward quite into an empty bath or tub. An assistant then pours one, two, or more pails of water upon the back of the skull, so that it runs forward over the head into the bath. Two pails form an ordinary head douche.

THE DOUCHE.

This is by far the most powerful of all the hydropathic materia

medica. Observe, I do not say the most efficacious or useful, but simply the most powerful; that is to say, its effects upon the living system, whether for good or for evil, are vastly greater than those of any other bath. There is the same sort of difference between the douche and most of the other baths as there is between twenty grains of calomel and one grain. It by no means follows that the twenty grain dose is more generally beneficial merely because it is stronger than the one grain dose. The curative value of a remedy is by no means necessarily in proportion to its strength —that is, its power of influencing the vital actions. If so, the strongest drugs, (in the ordinary medical practice) as strychnine, prussic acid, arsenic, mercury, &c., would necessarily be the most valuable remedies, which is contrary to the known fact.

If I were compelled henceforth to abolish the use of some one of the more important hydropathic baths, the douche should be the one which I would choose to surrender. It requires a very considerable amount of what is called stamina—considerable inherent vital force or power—to enable a patient to bear the douche with advantage or even with impunity, especially in winter. Undoubtedly there are diseases in which the douche may be used with the greatest possible benefit and success. But these are comparatively few; and these same diseases occurring in constitutions sufficiently strong to bear the douche safely are fewer still. To lose the douche, I readily admit, would be a great loss; but to lose the shallow bath a much greater still. For, as I have before observed, the number of cases for which the shallow bath is proper and sufficient, is, out of all proportion, greater than the number for which the douche is proper. I have douches of spring water at my establishment, of twenty feet fall each. The water being spring water, is, of course not so cold in winter as that whose surface is constantly exposed to the frosty atmosphere of the winter season. Yet I find myself obliged to use these with the greatest caution, and discrimination of cases and constitutions, and am frequently compelled to discontinue them after a short trial. I repeat, that the hydropathic system is already in danger of falling into unmerited discredit from excessive treatment—that same mortal sin which covers the present system of drug treatment with so much disrepute. Neither is the fault of excessive treatment always wholly due to the practitioner. The hydropathic patients themselves are not without some blame. It is a common supposition that we have great difficulty in getting our

patients to take treatment enough. This is not so; on the contrary, my difficulty is in keeping them within rational limits. As soon as they become sensible of decided improvement, they become enthusiastic—they think they can never have enough—that the more they get, the faster they will get well. The douche, too, is generally looked upon as the "lion" of every hydropathic establishment; there is a sort of pride felt in having courage enough to take it, and strength enough to bear it—forgetting that discretion is the better part of valor. And then again, the rushing terrors of the douche—how it looks—and how it feels—and what a noise it makes—all these are so many pleasant marvels to recount at home, and to excite the wondering curiosity of friends and relations. Accordingly everybody is anxious to "try the douche," without stopping to consider whether it be proper or necessary; and most persons who return home, although perfectly cured, without having been once packed in a wet sheet, are apt to consider themselves as very unfairly used, and entertain something like a feeling of having been defrauded of some portion of their "just rights." In fact, the water treatment has not yet lost its character of a marvel and a curiosity. And those who undergo it, but who are not permitted to take every possible process, whether right or wrong, for their complaints, have something like the feeling of a person who, having paid his money to see a particular show, is sent away before he has quite seen the whole of it.

This state of mind will gradually subside into a more rational sobriety.

I have seen several cases of very severe mischief accruing from the excessive use, not merely of the douche, but also of the wet sheet and sweating process. A very melancholy instance of this, indeed, occurred to me in the spring of this very year. A gentleman with organic disease of his liver left me in January, because I would not give him *enough treatment*. He went where he got more—where he took the sweating process until diarrhœa ensued. In a few weeks he was reduced to a wreck, and I was sent for into Oxfordshire to see him, only a few hours before his death. He died of cancer of the liver.

Now this is a disease which no human means could cure. But the difference between strong treatment and very mild treatment in these cases is just this: the one, by building up and supporting the general health and strength, offers the greatest possible amount of resistance to the progress of the disease—holds it in check—and

as it were, in a dormant state—and thus may often prolong life, even in cases of incurable disease, for many years. Whereas the other, by *breaking down* the general powers of the system, offers the greatest possible facilities and encouragement to the further and more rapid *advancement* of the disorder; removes the last remaining bulwarks and defences against the onward march of the enemy; excites, irritates, and aggravates a disorder which was before comparatively quiescent; and thus shortens the road to death by the very means used to extend it.

About four years ago a young barrister, then under my care, who thought he should get on much faster if he had more treatment, suggested to me the propriety of giving him the douche. This I refused to do, and so he packed up his things in dudgeon and posted off. Twelve months afterwards, a friend of mine met him in Frankfort, a most wretched wreck of his former self—obliged to have a servant perpetually with him, to take care of him, and assist him on the most ordinary occasions. He said to my friend: "I owe my present condition to excess of treatment, which at first I was myself only too willing to take, and expressly to obtain which I left Dr. Johnson's establishment."

A gentleman of high rank in the army, past sixty years of age, and partially paralytic, was doing exceedingly well under a very mild treatment. He could not let well alone, but went away and took more treatment, in the shape of wet sheets, &c. He quickly broke down under this, however, and was suddenly removed by his family in great alarm; and this day's post has brought me a letter asking permission to take possession of his old room again.

I have a gentleman in my house at this moment whom I could by no means restrain from taking too much treatment, especially of the wet sheet and douche. I remonstrated with him repeatedly and good humoredly—then I reasoned with him—then I got angry and scolded him—but all to no purpose. I told him, which was perfectly true, that I had seen the excessive use of the douche produce palsy, and that this would probably be his case. But the more I talked to him the more obstinate he seemed, until at last he became all at once affected with a dull pain in the loins, and conscious of a gradual loss of power in his lower limbs. At the eleventh hour he took the hint and desisted. Had he not, he would unquestionably have become palsied in his lower extremities.

It is needless to multiply instances, which I could easily do.

These are quite sufficient to show the evils which may arise from not being sufficiently careful to apportion the treatment to the patient's strength, and to act as a caution to patients not to be too greedy of treatment—to practitioners not to be too ready to listen to their patients' demands—and to both, not to forget that enough is not only as good, but infinitely better, than a feast.

These facts are very important. These, and such as these, are so many guides and landmarks, as far as they go, for the government of future practice. It is the duty of every one, who has the opportunity, to note and publish observations of this nature. They are among the first contributions to the storehouse of hydropathic practical knowledge.

I cannot refrain from introducing here some sensible observations made, in a letter to me, by a patient of mine—a physician—not however a hydropathic physician.—"It is our craft who are the greatest, I may say the only, enemies that hydropathy has to contend with. I cannot impress too strongly upon your mind the great importance of *caution* in the treatment of patients. I think, if the progress of hydropathy is to be arrested, it will be by cases of *over* treatment, which every medical practitioner will greedily seize upon, and make the most of them he can. I hope you will speak of *over* treatment in your new work as its vital importance demands. Depend upon my word that you cannot say too much upon this head. For the *reputation* of hydropathy, show the *dangers* of hydropathy, when injudiciously applied to the delicate; as well as the certain benefit they will derive from it when due caution is exercised. I have proofs," &c. &c.

DIRECTIONS FOR TAKING THE DOUCHE.

The patient should first place himself close beside the column of water as it falls, and fix his eye upon it. Then he should extend his right arm under it, making it run up and down his arm for a moment or two. The douche should then cross over the back of the neck and run up and down the left arm. Then resting his hand against the side of the douche house, he should bend himself quite backwards, and let the column of water fall upon and run about his chest, stomach, and bowels. Then stooping forwards, he should let it run about his back, up and down, and from side to side. He should then let it play up and down the legs and thighs, the soles of the feet, &c. &c. All this is accomplished by con-

steadily writhing the body about in all directions. It is a good plan to go through a systematic set of writhing movements in regular order, one after the other, always beginning and ending with the same.

In taking the douche there are two cautions to be observed: first, not to take it on the head; secondly, not to suffer it to rest on any part of the body, especially of the spine. Let it run over the spine, but not stop, stand, or rest upon it. It is dangerous to abstract too much heat *suddenly* from the spine, by the continued and partial application of water to the back. No longer since than last winter, a gentleman came to consult me for some violent neuralgic pains, which appeared to have been brought on entirely by the partial, continued, and frequently repeated application of water to the back. And besides these practical facts and observations, there are anatomical and physiological reasons why great care should be always exercised in the abstraction of heat from the two great centres and sources of sensation, thought, and motion—in a word, the greatest possible caution should be used that the power of the treatment should never exceed the power of the constitution, and this applies in an especial manner to the head and spine. In giving the wet sheet packing to persons who are very weakly, I am sometimes in the habit of placing a strip of dry flannel along the wet sheet for the spine to rest on.

Dr. Watson, late lecturer on the principles and practice of physic at King's College, London, after mentioning a slender stream of cold water to the head as an admirable remedy in certain inflammatory affections within the head, proceeds thus: "Dr. Abercrombie tells us that he threw a strong man, submitted to the operation of this cold douche, almost in a very few minutes into a state approaching asphyxia (pulselessness), who, immediately before, had been in the highest state of maniacal excitement, with morbid increase of strength, defeating every attempt of four or five men to restrain him."

Indiscriminate sweatings and douchings for almost unlimited periods of time may be tolerable perhaps by the phlegmatic Germans. But a country like England—a "nation of shop-keepers"—where the dæmon of money-making, like a savage slave-driver, is forever hurrying up and down our streets, bursting into every man's dwelling, and holding every man's nose forever to the grindstone—a country like England, where, with multitudes, the brain sweats forever, and the brow never sweats at all—where pride is

continually begetting speculation, speculation begetting poverty, poverty begetting [illegible]iety, and anxiety continually begetting disease in England, where 'tens of thousands would gladly forego the pleasure of eating in order [illegible] miseries of digestion"—such a country [illegible] is not likely to furnish very numerous constitutions which could bear, either with advantage or safety, the daily hammering of so powerful an engine as the douche; or the daily loosening of the strings of life by so lowering a process as the wet sheet packing. Nevertheless, these have their unquestioned and unquestionable uses, and I am only anxious to build up a beacon against their indiscriminate and unnecessary application. The douche is powerfully exciting and stimulant. But when pushed too far, or applied to persons too weakly to bear it, it will produce palsy, neuralgia, hæmorrhage from the kidneys, apoplectic coma, and a state somewhat resembling delirium tremens. All these effects have occurred, and within my own knowledge.

VAPOR BATH.

This bath is, I believe, one of the oldest on record. It is so universally known by all classes of society that I need not dwell upon it. It is of use in certain skin diseases, and some other affections. But there are some strong objections against it, which makes its use unsafe in the hands of persons who are not acquainted with its physiological effects upon the animal system. Nature has instituted a fixed relation between the frequency of the respiration and the frequency of the pulse. [illegible] have, as before mentioned, explained by diagram in my [illegible] and Principles of Hydropathy" This relation cannot be destroyed without producing immediate ill consequences. The vapor bath quickens the pulse in a most remarkable manner, whilst it does not quicken the respiration at all. The relation between these functions is therefore destroyed, and the pure blood of the arteries becomes defiled by undecarbonized blood—undecarbonized, because the respiration, which is not quickened, does not bring oxygen enough into the lungs to decarbonize the increased quantity of blood which the vapor bath hurries through them. It is also apt to produce the sensation of a rush of blood to the head, giddiness, fainting, nausea, &c. An exceedingly convenient vapor bath is easily constructed. Procure a tin kettle holding two gallons, and a flexible tube, or one of metal, with steam-tight folding joints. Let one end of the tube be accurately fitted

to the spout of the kettle, so that it can be fixed or removed at pleasure. Procure also a light frame-work of wood, forming three sides of a three feet square. Let the outer sides of this frame-work be covered with glazed cotton or holland, tacked on with tin tacks, close down to the ground. The fourth side of the square must be separate, so as to form a sort of door, and must also be covered on the outside with glazed cotton. This fourth side must be made so as to fit accurately in, and so complete the entire square, when the bath is in use; and it may be held fixed by iron hooks and eyes so constructed as to draw and close the edges well together, so as to keep the steam from escaping. When the patient desires to use this bath, he places it within the length of his tube of the fire, on which the kettle of water is boiling for him. He then places a wooden bottomed chair within the frame-work. On the chair he places a large kitchen towel, several times folded, and on this he seats himself. The fourth side of the square, or door, is now to be fitted in secured, and a blanket is thrown over the top of the frame-work having a hole in the middle to allow the patient's head to come through. A towel is then folded round the patient's neck, to prevent the escape of steam through the hole in the blanket by the side of the throat. One end of the tube is now fitted to the spout of the kettle, and the other is introduced under the frame-work through a hole or notch in the wood, in such direction as not to scald the patient's legs. The whole is now complete and in operation. An attendant should be in the room while this bath is taken, and it should always be immediately succeeded by some cold or tepid bath, as the shallow or wash down, or pail douche. The time required to procure perspiration will vary from ten to twenty minutes. The perspiration should seldom be kept up more than ten minutes. If this bath affects the head unpleasantly, or produces sickness, or faintness, it should at once be discontinued. The head should have a folded wet towel placed upon it.

COMPOUND BATHS.

These compound baths offer the never-failing means of varying the treatment and raising its power almost *ad libitum*. They are produced by the union of two baths, or more, into one operation. The first I took at Græfenberg was a compound bath, while Priessnitz stood over me and directed the operation. I was first placed

in a shallow bath for one minute and well rubbed—out of this at once into the plunge—then out of the plunge back into the shallow bath for two minutes more, and then dried in a sheet. Sometimes the upstanding sheet and sometimes the shallow bath is given immediately on rising from the sitz.

An exceedingly useful compound bath is the shallow bath, on the completion of which, and before rising, the douche is superadded.

There are several other modes of compounding one bath with another, so as to vary the impression, and increase the effect.

RELATIVE STRENGTH OF DIFFERENT BATHS.

They may be arranged, I think, in the following order, beginning at the weakest and gradually ascending to the strongest. Wet friction, pail douche, upstanding sheet, wash-down, plunge, shallow bath, half bath, douche. But the relative power of these baths may be altered at will, by increasing or diminishing their duration. Thus a plunge bath taken for five minutes would be stronger than a shallow bath taken for only two minutes.

If, in the progress of any treatment, one particular bath seems to disagree, let the one which ranks either immediately above or below it be substituted. If any kind of important crisis appears, some hydropathic physician should be consulted immediately, either personally or by letter; and all treatment be suspended until his advice has been received. The crisis exhibits itself in various ways, sometimes as boils, sometimes diarrhœa, sometimes profuse perspirations, or a profuse flow of turbid urine. Sometimes it takes the form of a smart attack of fever, and sometimes it takes no definite form at all, but the patient suddenly feels ill, his tongue gets foul, his appetite falls off, he is weak and languid, and perhaps he gets odd and strange pains in various parts of his body. This continues for a few days and then passes away. But in the meantime some beneficial change has been brought about within, and which, while it was going on, gave rise to the temporary feelings of illness just described. These changes may be called internal crises.

Various opinions seem to prevail on the subject of the crisis. For my own part I am a sincere believer in the doctrine of the crisis. Indeed I cannot very well understand how it can be doubted. That the system, by virtue of its own inherent ener-

gies, does sometimes purge itself of morbid matters by a crisis—that is, by establishing some temporary outlet through which such morbid matters may and do escape—is perfectly certain. The Aleppo boil, small-pox, measles, and many other well-known diseases prove this to demonstration, and beyond the possibility of question. In all these cases, the crisis is clearly the means of cure. Without such or some similar crisis the patient must die. Without some especial outlet, established for the nonce, in order to get rid of the poison which the inoculator has introduced into the blood, that poison would be retained, and the patient must inevitably die.

Whether the water treatment has the power of urging nature to the establishment of such temporary outlets is another question, to which I can only reply that I believe it has.

COMPRESSES.

These are either cooling or heating.

A compress is merely a piece of wet rag two or three times double. This is laid over the part affected, and left uncovered to favor evaporation, or is merely secured by a dry bandage over it.

To convert the above into a heating compress—that is, warm fomentation or poultice—we have only to cover it with oiled silk, over which doubled flannel or a flannel bandage is to be applied.

HOT FOMENTATION.

A small blanket is folded in such a manner that its breadth when folded will reach from a little below the very bottom of the spine to the arms pits. This is laid across the bed and under the patient. A piece of flannel, three times doubled, is now wrung out of boiling water (enclosed in a towel to prevent its scalding the hands), and placed upon the blanket immediately under the patient's loins. Another piece is similarly applied to the body in front, stretching from quite the bottom of the bowels to a little above the pit of the stomach—two or three inches above it—but not quite so high as the blanket. The two ends of the folded blanket are now brought over the body, first one and then the other. The breadth of the two pieces of wet flannel should be such that when the folded ends of the blanket are brought over the body, the sides of the upper and under flannel will about

meet, so that the trunk is entirely surrounded with hot wet flannel.

The patient may lie thus for half an hour or two hours, or all night, according to circumstances.

This is an extremely efficacious and effectual mode of applying a hot fomentation.

In some cases the hot flannel need only be placed over the bowels, and none under the back.

GENERAL OBSERVATIONS.

All diseases may be divided into two great classes, viz., those which are curable and those which are incurable. Of those which are curable, the number which can be cured by the hydropathic method greatly exceeds, in my belief, the number which can be removed by any other known treatment. But can it do nothing for those which are incurable? Yes, it can do much; and is indeed the only treatment which can do anything, in these cases, without doing harm.

The next best thing to being cured of a disease altogether, is to arrest its further progress, and to put the patient into such a condition as shall enable him to bear it with the least amount of inconvenience, and for the longest period of time, before it destroys him. The hydropathic treatment possesses, in a remarkable degree, the power of accomplishing these objects. For, by restoring and rectifying all the secretions; by working the old and vitiated blood out of the patient, and filling him with new; by restoring and exalting the functions of the skin; by imparting vigor to the circulation; and, finally by superadding the digestion of an ostrich to the appetite of a wolf; it gives a high degree of tone, energy, and firmness to the general health, and thus builds up a bulwark against the further advance of disease, while it accumulates within the system the greatest possible amount of capability of endurance.

For this reason, also, six or eight weeks of the water treatment I believe to be the only effectual preventive measure against the cholera. There is in the living system a protective or conservative principle, called by medical men the vis medicatrix naturæ, whose office is to resist the operation of morbid influences; and this principle is strong or weak, accordingly as the general health is strong or weak; and of course the stronger it is, the better it is able to protect the system from the attacks of disease. And I have just

shown the remarkable effects of the water cure in exalting the general health.

The case of Mr. John Greaves, related under the head of dropsy, is a remarkable proof of the power which the hydropathic treatment possesses in neutralizing, as it were, the effects of chronic incurable disease. These diseases usually destroy life by undermining and wearing down the general health. They do not generally do so of themselves directly, but indirectly, by first weakening all the powers of life, and so inducing other diseases which result from this superinduced debility. Thus, had Mr. Greaves died, he would have died of dropsy, and not of heart disease, although it was the heart disease which caused the dropsy. By curing the dropsy, and by so exalting the general health that the disease of the heart can no longer make any impression upon it, Mr. Greaves enjoys as good health as, in the ordinary acceptation of the word, he could do if he had no disease at all. It does not even interfere with his comfort.

There is another thing which it is most important for patients to know, viz., that during the progress of almost all diseases, there is always one point of time up to which they are all curable; and that those which become incurable only do so because that precious moment has been suffered to pass unimproved. Procrastination is not only the thief of time—it is also the thief of life.

And it has been most truly said that there is no remedy "quin solo tempestivo usu tale fiat"—that is, there is no remedy but what owes its remedial virtue to its being administered in proper

THE HYDROPATHIC TREATMENT CONSIDERED AS A PREVENTIVE MEASURE.

Whichever way we turn—into whatever corner of Nature's terrestrial kingdom we direct our eyes—we plainly perceive that every form of matter, with one single exception, is perpetually undergoing decay—that the principle of destruction is silently, insensibly, but unceasingly engaged in reducing every form of matter back again to its elementary dust. In different instances, destruction proceeds with different degrees of rapidity—but it proceeds incessantly in all—with, as I before observed, one exception. In some cases it makes itself appreciable from day to day—in others, in little less than from century to century. If you place a dead

fish in the pantry, and examine it every hour for a week, you will not perceive any difference from hour to hour. But before the end of the week, you will become plainly aware that decay has been incessantly at work, although you saw it not, and has now made very considerable progress.

If you examine every week the stones where the new British Houses of Parliament are built, from week to week you will not perceive any change. But if this weekly examination could be continued for a century, before that period had elapsed it would be plainly evident that an invisible process of destruction had been constantly going on, and that a portion of the surface of these stones had decayed and crumbled into dust. Every form of matter on the surface of this globe, save one, is forever undergoing this equally invisible and inevitable process of decay. Every hour, every minute, every moment, it is proceeding; nor can the hardest granite, the compactest oak, the toughest iron, nor any conceivable form of dead matter, resist the gnawing tooth of this destructive principle.

But, as I have said, there is one exception to this otherwise universal law. There is one form of matter which can and does resist the operation of this principle, though only for a limited time. This form of matter is the living form. If a block of granite, or a pigot of iron, or a log of wood, were accurately weighed and measured every year, it would every year be found that it had lost a portion of its weight and magnitude. But if a young oak tree or yearling animal be weighed and measured every year, so far from having lost either weight or size, it will every year be found to have increased in both—for a certain number of years.

Thus, then, it is clear that there is a something or other in the living forms of matter which has the power of protecting or conserving them from the ordinary influences of destruction. It does not signify by what name we indicate this principle; but it is generally called the living principle, the conservative principle, the vis medicatrix naturæ, &c. &c. All these titles merely denote that principle by virtue of which the living forms of matter are enabled, for a time, to resist the inroads of the principle of destruction—not only of that slow and gradual destruction which all dead matter is perpetually undergoing, but also of that incidental destruction which is the result of incidental destructive causes, as poisons, contagious miasmata, wounds, &c.

But these forms of matter are only protected for a limited time.

At the end of some definite period, extremely various in its duration, the living principle, or principle of conservation, becomes extinct; and the dead mass is then instantly seized upon by the principle of destruction or decay, and rapidly destroyed.

That, then, which protects the living forms of matter from the destructive influences which are perpetually seizing upon and destroying every dead substance, is the living principle. And during the whole of the lives of all living things, there is a perpetual struggle constantly maintained between the principle of destruction and the principle of life—the one seeking to destroy, the other seeking to protect, the living machine. And death, whenever it happens—whether early or late—whether from old age or from disease—death never happens but in consequence of a deficiency of power in the vital principle to protect the organism from the principle of destruction.

But the living or conservative principle can only be maintained in effective vigor on certain conditions. The tree must be planted in a suitable soil and climate, and its roots supplied with a proper amount of moisture. So also of animals; they must be kept free from the operation of unwholesome influences; they must be supplied with proper food and drink; and all the other necessary conditions of healthy animal life must be observed. So long as this is the case, the living principle will generally protect the animal from all ordinary assaults of the principle of destruction, of whatever kind—to the end of the appointed time of that animal's life. But, if the necessary conditions of healthy animal life be not complied with, then the conservative principle will become weak, and will grow weaker and weaker, until it is no longer able to protect the animal, and the first incidental injurious cause (as, for instance, cold or contagion) to which it may be exposed, will thus be able to commence the process of destruction in some one or more of its parts. When this happens, the name we give it is—DISEASE.

Thus, if a person, in whom the living or conservative principle has been weakened, be exposed to the operation of the causes of influenza or cholera, the enfeebled living principle will be unable to protect him from these destructive causes, and the process of destruction will be set up in his system; in other words, in him influenza, or cholera will manifest itself.

The conservative principle is now roused to unwonted efforts; the struggle becomes more violent between it and the principle of

destruction; and this struggle terminates, at last, either in death or recovery, accordingly as this or that principle finally triumphs.

But if another man, in whom the living principle is in full vigor, be exposed to the same causes, this principle protects him from the operation of these causes; or are unable to set up in his system the process of destruction; their influences are repelled by the living influence. In other words, this man escapes disease.

Thus it is observed, that cholera, typhus fever, influenza, &c. &c., reap their harvest of victims chiefly among those in whom the living principle has been enfeebled by insufficient or unwholesome food, excessive labor, intemperate habits, luxurious living, exciting and exhausting pleasures, long-continued or excessive mental exertions, &c. &c.

And this brings me to the point which I have all along had in view, which is this: that all important preventive measures must resolve themselves into such measures as have the effect of restoring the living principle when enfeebled; and, in all cases, of exalting it to the highest pitch of which it is capable. There is something in this so plain and understandable—so agreeable with common sense—that it cannot be necessary to insist further upon it.

Next comes the question: does the hydropathic system possess this power?—this power of restoring, strengthening, and exalting the living principle? Undoubtedly it does; this is admitted on all hands; those who deny to it every other merit, acknowledge that it may justly lay claim to this. And, indeed, with those persons who have no organic disease—in whom there is nothing wrong, save some depreciation of the living principle—its effects are really wonderful. The appetites they get—the power of digestion they acquire—the rapidity with which they gain weight, not in fat, but in blood, and living tissue, and by the development of muscle—the physical strength and nervous firmness to which they attain—is perfectly marvellous.

A gentleman, whose case is the first which occurs to me at this moment, came to me weak, nervous, extremely thin, and turned fifty. After about three months, he left in perfect health and strength. He was every whit as thin as when he came to me; but he was nineteen and half pounds heavier. The reason of this is very simple. When he came to me, all his organs, all his living tissues, were loose, flabby, pale, and ill supplied with blood. They were like half-squeezed sponges. When he left me they were like full sponges. Hence the difference in his weight. When he came,

the living principle was starved for want of a sufficient quantity of good nutritious blood. So long as he remained in this condition, the door was constantly standing wide open for the admission of disease. It had nothing to do but to walk in. The living principle had not strength to shut the door in its face. When he left me, however, matters were changed. The principle of life had recovered its energies, and had closed the door against disease—shut it, locked it, bolted it—I trust forever. In such a state of health he might (under God's providence) have shaken hands with influenza, and taken cholera for his bedfellow. Mankind are not half aware how immensely important to their safety it is to have their tissues well filled with fine, florid blood—blood which is rich in the elements of nutrition, and quick with the principle of life.

The nineteen and half pounds gained by the gentleman to whom I have alluded, were nineteen and half pounds of blood: and made as it was out of the wholesomest possible kind of food; and acquired as it was while undergoing the strictest discipline as to exercise, bathing, &c.; and while drinking nothing but spring water, cool as the breath of evening, and bright as the light of her stars; it could not be otherwise than pure and rich in all the elements of health.

People can well enough understand the danger which surround those unhappy persons who are but half fed. Everybody knows and acknowledges that these poor creatures, in addition to all their other miseries, are more especially and peculiarly prone to disease —from the poverty and deficiency of their blood. But there are tens of thousands of people surrounded by all the luxuries of life, whose blood is just as poor and deficient as that of these unfortunates. These are they whose lives are, or have been, but one scene of excitement or mental exertion. These are they who lean upon their daily dose of wine as it were upon a crutch, and cannot stand without it. These are they who live upon food of the most concentrated kind. These are they who eat, but are not strengthened—who sleep, but are not refreshed. The vital principle is faint within them, and like a fire that has burnt low, is easily extinguished. To these I say; "Go, get ye to the water-cure, for the blue cholera is approaching!" And not only to these, but to all in whom the principle of life has been enfeebled, from whatever cause; whether from irregular and intemperate habits, or from an overworn nervous system, or from the ravages of long

protracted and incurable chronic ailment; to all these, I say: "Go, get ye to the water-cure! go, get your half-squeezed sponges filled full with the blood of life. Ye may then, with God's blessing, look the blue fiend full in the eye, and bid him defiance."

Prevention is at all times better than cure. In the case of diseases like cholera and consumption, this is still more emphatically true; for in these cases the alternative is not between prevention and cure, but between prevention and—death.

My readers may rest perfectly assured that, as a preventive measure, there is more efficacy in a month of the water treatment—not applied in the whole-hog fashion, but judiciously administered—than there is in all the antiseptics, disinfectants, &c., in the whole known world.

LOCAL AND GENERAL DISEASE.

The notions which are generally entertained concerning the nature of disease are extremely confused, meagre, and contracted. Diseases seem to be looked upon as so many separate, independent entities, which, some how or other, find their way into the human body, disturbing its repose, and filling it with all sorts of disagreeable sensations; just as rats will find their way into an old mansion, breaking the silence of its chambers with all kinds of unearthly noises, and breaking the rest of its inhabitants by the racket they make during the watches of the night. And medical men seem to be called in to decide upon the particular nature of each entity, and upon the particular kind of poison which, in each case, is most efficacious to destroy that particular entity. But this is to convert men and women into old houses, and medical men into rat-catchers.

And yet, as Dr. Andrew Combe has observed, medical men themselves, many of them, seem, by the style of their practice, to view disease in the same absurd light.

I must beg to detain the reader a little, while I attempt to give him views of disease which I believe to be somewhat nearer the truth—more philosophical, definite, and comprehensive—the views which are now entertained by the most distinguished teachers of medical knowledge.

Much error has arisen from the want of precision in the use of medical terms. And this is not a mere quibble about words. It is a matter of deep practical importance. For remedies are sup-

posed to be given in order to cure disease. But the term disease being perpetually applied to designate diseased conditions, which are, in fact, only the symptoms of some other diseased condition; it has thus come to pass that remedies are perpetually administered to cure mere symptoms, leaving the disease, which produced those symptoms, altogether overlooked and unmolested. No wonder such remedies should fail.

We speak of local disease and general disease. And the term "local disease" is proper enough, provided it be clearly understood, that although these local affections take the name of "disease," they are, in fact, (with the exception of malformations, organic defects, and external injuries) only the symptoms, signs, proofs, or effects of some previous disease; and this previous disease is *general* disease.

The term disease is given to inflammation. But, strictly speaking, inflammation itself is only a symptom of a foregone diseased condition. We can produce inflammation at will. Scratch the hand with the point of a fork, and the hand will become inflamed. In scratching the skin, you have separated parts; you have torn and divided blood-vessels; you have lacerated nerves; and the inflammation is only the effect of that injury. It is only the symptom or sign that such an injury has been inflicted. It is the separation of parts, the division of blood-vessels, the laceration of nerves, which constitutes the first departure from the state of health, in the part—the first cause, of which the subsequent inflammation is the effect or consequence—the symptom. If this cause be suffered to continue—if the laceration of the skin be allowed to go on—how absurd and futile are all attempts to cure the inflammation! Take a case of cancer. We call cancer a disease. But though itself a disease, it is nevertheless only a symptom or effect of a foregone disease, or diseased condition. Cancer cannot occur in a perfectly healthy system. It is well known that, as consumption can only arise in persons who have the scrofulous habit, so cancer can only arise in persons who have the cancerous habit of body; and those states of the blood which constitute these particular habits, whatever they be, are the foregone diseases, or diseased conditions, of which cancer in the one case, and consumption in the other, are only the effects or signs. If we would cure cancer, therefore, we must cure the habit of body which produces it. Medical men, for ages, have been prosecuting an idle search after a cure for cancer. They have been

pursuing a shadow; because, in looking about for a cure for cancer, they have been only searching after a cure for a symptom. Had they succeeded in discovering such a remedy, it would have profited nothing. As fast as they cured one cancer, another would have appeared in the same or a different place. Daily experience has proved, and still continues to prove, that even when a cancer has been extirpated, root and branch, by the knife of the surgeon, another is almost sure to be formed in some other part of the body. The cancer is to the system what the dirt-heap is to the Irish cabin. The dirt-heap grows bigger and bigger by continual additions of dirt thrown out at the door. Clear away the dirt-heap, and block up the door. What then? Why, a new dirt-heap will appear on the other side of the cabin, which will be formed and will grow by continual additions thrown out through a new door, or through the window. How, then, is this Irish dirt-heap to be *cured?* Why, by turning the pigs, and the cows, and the cocks and hens out of the cabin, to be sure, and so keeping the cabin clean within, in order that there may be *no dirt to be thrown out.* The Irish dirt-heap may be called a *local* disease, if you will; but it clearly depends upon the *general disease* of the cabin—that is, the general filthiness within.

The dirt-heap is only the *result* of the general internal *dirtiness.*

All local diseases, therefore, with the exception of accidental injuries, some virulent poisons, and malformations, are only the symptoms, that is, the morbid results, of general disease.

It will at once be obvious to the reader, therefore, that it is this general disease which should chiefly occupy the attention of medical men, and to which their remedies should be chiefly addressed.

Let us examine a case of inflammation of the mucous membrane of the stomach, from the habit of drinking alcoholic drinks. This inflammation does not come on at once; it does not occur at the commencement of the habit. At first the membrane and whole system are only excited, and this excitement subsides during the night, and the injury is repaired by the curative principle. But by time and by degrees, the general health suffers, the nervous energy is weakened, the secretions are suppressed, the blood is defiled, the organs become congested, and the curative principle is enfeebled. The drinking goes on, but the enfeebled curative principle is no longer able to repair the mischief which the daily drinking daily inflicts. There is now, therefore, as it were, an accumulating mischief. The excitement and subsequent nervous

exhaustion produced in the stomach on Monday is not repaired by Tuesday. And thus, the Tuesday's mischief is added to the Monday's mischief. And this goes on until permanent chronic inflammation is set up.

Here, then, it will be observed, that the local disorder was not established until the general health had begun to fail, and the vital energies had become impaired.

Now let us consider a little what are the conditions of the tenure on which man holds the lease of his earthly life. These are obvious enough. They are food, air, drink, sleep. These conditions must all be fulfilled, or he inevitably dies. The privation of any one of them is equivalent to the privation of life.

Now these conditions may all be fulfilled, but they may be fulfilled imperfectly. He may be supplied with food, but it may be bad food; or it may be excessive or deficient in quantity. He may have drink, but it may be unwholesome drink; air, but it may be impure. It is, I think, sufficiently clear, without further argument, that the life which results from the imperfect fulfilment of these conditions will not be precisely the same as that which results from their perfect fulfilment. It will be something different. We will not stop just now to inquire wherein the difference will consist. But there will clearly be a difference; and this difference, whatever it be—this state of the living machine which results from the imperfect fulfilment of the conditions of life, and which is different from that state which happens when those conditions are fulfilled perfectly—will not be a better, but a worse state.

If we designate (for the present) that state which results from their perfect fulfilment by the term health, then that different state which results from their imperfect fulfilment will be something which is different from health; in one word, it will be a diseased condition or disease. And since that difference will not be confined to one part or place, but will pervade the machine generally, it will not be local, but general disease.

But though food, air, drink, and sleep are all the conditions absolutely necessary to sustain *life*, experience has demonstrated that there are other conditions which are absolutely essential to the maintenance of *health:* these are, the *proper* exercise of all the voluntary functions—a *proper* manner of supporting the temperature at the surface of the body—and peace of mind: and that life shall not only be supported by food, drink, air, and sleep, but that the food shall be wholesome, sufficient, and not in excess—

the drink wholesome, sufficient, and not in excess—the sleep sufficient, and not in excess—and the air pure. Now it is obvious that these other conditions, which are the conditions of health, may or may not be fulfilled. And it is equally obvious that if they be not fulfilled, a state of body will result, which is different from that state in which they are fulfilled; and this different state will not be a better, but a worse state; in a word, it will be a diseased state—and that disease will be general, not local.

We will now [illegible]re wherein this important difference consists —this difference between perfect life and imperfect life—between general health and general disease.

The most ample and unquestionable experience has proved that, whenever any of the conditions of life and health are imperfectly or improperly fulfilled; that is, whenever we eat too much or too little—whenever we eat unwholesome food, drink unwholesome drinks, breathe impure air, take too little or excessive exercise, whether of the limbs or of the brain, too much or too little sleep, &c.; the mode in which these causes operate upon us to our detriment, is by the manner in which they operate upon certain of those vital actions which collectively constitute life. The vital actions to which I allude are secretion, absorption, circulation, respiration, nutrition, and the vital changes which are always going on in the blood.

I shall comprehend all these living actions under the term "nutritive actions," since they all minister to, and terminate in, the nutrition of the body.

Now, then, I say that any imperfect or improper fulfilment of any of the conditions of life and health directly produces, as the most ample experience proves, a corresponding imperfect or improper performance of some one or more of the nutritive actions. Thus, bad food will purge the bowels or constipate them. Impure air interferes both with the chemical and vital changes necessary to keep the blood in a healthy condition. Stimulating drinks give to the circulation an undue velocity. Excessive exercise of the brain exhausts its vitality, and so results in a too languid circulation through it, and thus produces congestion. It is not necessary to go through the whole list. These instances will suffice to illustrate the general principle, that any breach of the proper fulfilment of the conditions of life and health operates banefully upon us, by the baneful effect which it has upon one or more of the nutritive actions—showing that when these conditions are imperfectly ful-

filled, one or more of the nutritive actions are also imperfectly fulfilled or performed in consequence. To illustrate this more particularly, let us consider only one of these nutritive actions, viz., secretion, including in that term the function of excretion also.

This, like all the others, may be performed perfectly, imperfectly, or not performed at all. When, in common with all the others, it is performed perfectly, perfect life, i. e. health is the result. When it is not performed at all, death inevitably ensues.

But, it may be performed, but performed imperfectly. The secreting organs may continue to carry out of the blood matters which, being retained in it, would poison it, and make it unfit to nourish the tissues of the body—for the blood is the food on which all the tissues feed—but though they continue to carry these poisonous matters out of the blood, they may not carry them all out. Thus it is the office of the kidneys to carry out of the blood a certain poisonous matter called urea. In that disease called suppression of urine, in which the kidneys suddenly cease to perform their office, the urea is retained in the blood. And so poisonous is this substance, that in these cases of suppression, it will destroy the patient, sometimes in forty-eight hours. He dies poisoned by urea, which the kidneys have failed to carry out of the blood, and with which, after death, the blood is found to be loaded. But if, before death, the kidneys can be excited to action, the patient recovers. Now it may happen that the kidneys may still carry urea out of the blood, but they may not carry it all out. Some of it may remain. So again of those injurious matters which are appointed to be removed from the blood by the skin—when the secreting function of the skin is performed imperfectly—some of these will be retained in the blood. The bowels, and the liver, and the lungs, are all organs destined to purify the blood, by withdrawing from it certain matters which, being retained in it, adulterate while it—in a word, poison it. In process of time, these impurities accumulate in the blood to such an extent that this vital fluid is no longer fit—that is, perfectly fit—to fulfil its several offices. It does fulfil its offices after a fashion, but it does not do so perfectly. The tissues still feed upon the blood, and consume it as food; but the blood—that is, the food—of the tissues, being unwholesome, the tissues are of course ill nourished. Blood is still carried to the several organs, but instead of acting upon them as a healthy stimulus, it oppresses them, blunts their

sensibility, lowers their vital tone, depresses their energies—in a word, poisons them.

Now this defiled state of the blood, resulting from the imperfect performance of the action of secretion; and this ill-nourished, oppressed, and weakened state of the organs, resulting from the defiled state of the blood; constitutes the difference between perfect life and imperfect life—between general health and general disease. In its healthy state the blood is always a very compound fluid, containing consisting of many different materials. But these different materials, in a healthy state, bear a fixed relation, as to quantity, to each other. But in that state which I have been describing, this fixed and healthy relation, as to quantity, among the several materials, is lost. There is too much of one thing, and too little of another, while new and morbid materials are added. The original and healthy composition of the blood is thus destroyed; a new and unhealthy composition is substituted in its place; and the healthy chemical and vital changes going on in the blood are altered, and unhealthy changes are produced. It is this faulty performance of the act of secretion, and this state of the blood, and of the organs, wherein this general disease consists. For, as the same blood is carried to every organ in the body, every organ is equally oppressed and sickliied by it. The disease therefore is manifestly general, not local.

The symptoms to which this diseased or generally depraved state of the whole system gives rise in the first instance, are also general, not local. The patient feels that he is not well, but yet he cannot tell what is the matter with him. He can still take considerable exercise, but he cannot take it with the same degree of enjoyment as he used to do. He is still capable of attention to business, but it is a trouble to him rather than a pleasure. He has lost his joyousness of spirit. He does not take the same interest in passing events as formerly. He begins to look more frequently and timidly at the dark side of things, rather than at the bright side. His temper begins to suffer. It is less even, more irritable, more gloomy. Whereas, before this change came over him, he saw all things through a rose-tinted medium. The joyous blood danced through his veins, while the gay spirit of health rode laughing and singing on the crimson tide, making his very heart glad within him.

Now this poisoned state of the blood, and this oppressed state of the organs, all resulting from imperfect secretion, is an instance of general disease. This is what is signified by such terms as

"general derangement of the whole system," "depraved condition of the general health," &c. &c. But I care not by what phrase it is designated. I am not quibbling about words; I am only solicitous that the language we use should be intelligible, and should convey clear and definite ideas; and that it should be constantly remembered that, with the exception of accidental injuries, organic defects, &c., this is the condition which must precede all local disease, and that all local disease is but the proof, sign, symptom, or consequence of this condition.

Another form in which general disease may exist, is that of a feeble and languid circulation. From excessive mental or bodily labor, or other sources of excitement, the nervous energy has become exhausted. The general circulation has become languid and feeble. The vital tone, by which the minute, hair-like blood-vessels are enabled to preserve their proper calibre, is lost. These vessels are relaxed. Their coats yield to the pressure of the blood which they contain. Their calibre is enlarged, and of course the current of blood which passes through them is enlarged too. Vessels which, in the healthy state, contain only white blood, are now large enough to admit the red globules which are not proper to them, and which, therefore, irritate and offend the sensibility. An instance of this is seen when the white of the eye is what we call blood-shotten. The brain and other organs may be blood-shotten as well as the eye.

In this manner, all the organs of the body may become congested. They are oppressed and loaded with more blood than is proper to them. The blood almost stagnates in them; and of course their functions become disturbed; and general sensations of a painful nature are the result.

Another form of general disease is that called anæmia, in which there is a general deficiency of blood in the whole body—deficiency as it regards quantity. The internal organs are all like half-squeezed sponges. Here again, the several functions of these organs must be disturbed, and a general feeling of ill health be the necessary consequence.

I will now endeavor to make plain to the reader, in what manner local diseases are deduced from general disease.

We have already seen that, in the state of health, the blood purifies itself by discharging its impurities through certain organs appointed for that purpose. These are called secreting organs; that is, separating organs, because their office is to separate from

the blood such matters as, not being separated from it, will defile and poison it. But in that state which I have called the state of general disease, although these organs act, they act imperfectly and insufficiently. They are constipated, as it were. The bowels are constipated, the kidneys are constipated, the liver is constipated, the skin is constipated, and the salivary glands are constipated. The matters, (at least a part of them) which ought to be carried out of the blood, by these, are left in the blood. They accumulate. The blood becomes loaded with them. As they circulate through the capillary vessels, they are commingled together; certain chemical changes take place between them and among them. New compounds, altogether unnatural and foreign to the body, are produced.

"I need not remind you," says Dr. Watson, "of the various ways in which extraneous matters find entrance into the blood. Poisons, under their proper shape and name; medicines which, misapplied, become poisons; our natural food and drink which the folly of man converts into poison; the products or dregs of the secondary assimilative process; these are common sources of impurities, more or less hurtful, which mix and circulate with the vital fluid. Some of these extraneous matters escape harmlessly by one or more of the waste-pipes or emunctories of the body. Some are entangled in its solids; but not indiscriminately; for different substances have their special or their favorite resting places. All this is well known to persons conversant with toxicological researches."

The blood, loaded and poisoned by these vicious elements, and unable to discharge them through any of the several constipated organs of secretion and excretion, is at length compelled to purify itself by depositing them in the interspaces of the several tissues of the solid organs. Hence, in gout, the blood is loaded with an excess of uric acid. This unites with the soda, also contained in the blood, forming urate of soda. The blood purifies itself by lodging this urate of soda (commonly called chalk-stones) in the tissues of the joints, distorting them and rendering them useless. We call these affections "diseases of the joints." And they are so; but they are clearly only the results of a previously diseased state of the blood; and it is vain to attempt to cure the diseased joints until the disease of the blood has been removed.

So, when a man dies poisoned by arsenic, he does not die of any local disease. [illegible] is taken up into the blood, mingles

with its whole mass, and poisons it. The poisoned blood is carried to all the organs, which, in their turn, become poisoned too. After death, small spots of blood will be found to have escaped from the poisoned arteries, which have suffered the blood to escape through the pores of their coats. These specks of blood will be found in the brain, and most of the other organs, showing, that though the arsenic was introduced into the stomach, yet the patient does not die of stomach disease, but of general disease.

So again, in case of small-pox by inoculation. A minute portion of small-pox matter is introduced into the arm. Hence it is taken up into the blood. Here it increases in quantity, and when it has reached a certain amount, the blood purifies itself by depositing the poisonous matter upon the skin in the form of small-pox pustules. This is a true instance of what we call the crisis. To cure small-pox, therefore, we must cure the poisoned state of the blood, by abstracting from it (if we possess the means) all the poison, before the blood has begun to cure itself by casting out the poisonous matter upon the skin.

Here, again, the disease is general, consisting in the poisoned condition of the whole mass of blood. The local disease—that is, the pustules on the skin—is but the effect of the general disease of the blood.

Almost all, if not quite all, local diseases, are produced in the same or a similar manner, being only the effects of some kind of general disease. And most commonly, general disease depends upon, or rather consists in, some impure condition of the blood, and the defective or erroneous nutrition of some one or more of the organs, arising from this impure condition of that all-important fluid.

There can be nothing surprising, then, that the water treatment, which possesses such remarkable power in purifying the blood, should also possess such a remarkable power in curing so many kinds of diseases.

Internal adhesions, effusions, tumors, inflammations, &c. &c., are all arising, in the first instance, out of an impure or abnormal condition of the blood, as to quantity or quality, or both.

Sometimes a diseased state of the blood is hereditary, as in scrofula and cancer. But even here it is still capable of being greatly improved.

I trust the reader has now a definite notion of what is meant by general disease. I trust he clearly perceives that general dis-

ease must precede local disease, the latter being only the consequence of the former. He sees that general disease consists in some imperfect performance of one or more of the nutritive functions, and in a defiled state of the blood, or otherwise unhealthy condition of that fluid resulting from such imperfect function, and in an oppressed and ill-nourished and often painful and congested state of the organs. He understands that the blood, no longer able completely and daily to purify itself though the ordinary outlets of the body, becomes at last loaded with impurities, and eventually rids itself of them by depositing them in the nooks and corners of the solid tissues, thus producing local disease. He sees that the organs, which are well nourished and pleasurably stimulated by healthy blood, are ill-nourished, and painfully irritated by poisoned, or what may be called erroneous, blood; or they are oppressed and weakened and rendered torpid by it; or they may be half starved by a deficient quantity of it.

In this state of the blood too, what may be called a false nutrition takes place. What I mean is this—that this foul or impoverished or diseased blood, instead of laying down healthy tissue, lays down, that is, deposits unhealthy tissue. Instead, for instance, of laying down, in a gland, the matter whereof healthy gland is composed, it lays down the matter of cancer in its place. It seeks to repair the structure of a gland with the material of cancer instead of with the material of healthy gland. It seeks to repair the daily waste of the structure of the lungs with the material of scrofulous tubercle instead of the material of healthy lung. It is as though one should attempt to repair a piece of delicate and elaborate gold workmanship with lead instead of gold. Cancers and tubercles may be likened to the pieces of lead which would be thus introduced into the gold workmanship, and which could not fail to spoil it, not only as it regards appearance, but also as it regards the functions intended to be performed by that piece of gold machinery—supposing that those functions could by no possibility be performed by any other metal than gold.

Deficient secretion, he sees, loads the blood with impurities. Excessive secretion impoverishes it.

In like manner, an excess or deficiency of any one of the nutritive actions—whether it be absorption, secretion, excretion, circulation, or respiration—equally tends to alter the condition of the blood, and so to alter nutrition, and thus to produce local disease.

Among the causes which produce general disease—that is, the errors that are committed in the manner of fulfilling the several conditions or sustaining causes of life and health—above all others, perhaps, an excess of mental exertion is calculated to effect the greatest mischief; for this tends to exhaust the elasticity of the very mainspring of life. But even this operates by the injurious influence which it indirectly exercises over the condition of the blood, and so over the nutrition of the vital organs. It must be remembered, however, that when one permanent local disease has been established, it will, in its turn, produce additional disturbance in the general health. In its turn it will produce general disease—(but of a different kind from that by which it was itself produced)—by the irritation it sets up, or by the pressure which (if it be a tumor) it exerts on the surrounding parts. Thus a generally enfeebled state of the health, arising from a deficiency of blood in the whole system, is known to be highly favorable to the production of internal congestions and inflammations.

It is a great mistake, although a very popular and common one (out of the profession), to suppose that a system well filled with blood is, by so much the more, liable to inflammations. The fact is exactly the contrary. This popular error has probably arisen from observing that medical men always bleed in cases of inflammation; and it is very natural that people should suppose that blood is taken out of the body because there was too much in it. But this is by no means the case. The object of bleeding is not to diminish the whole quantity of blood—the quantity of blood may be already deficient—but it is to weaken the heart's action, in order that the blood may not be thrown upon the inflamed spot with so much velocity. It is to diminish the rapidity and force of the pulse that blood is abstracted. It is true that the whole quantity of blood is diminished. But this is not a result which he who bleeds is desirous to produce, but an acknowledged evil which he deplores while he inflicts it, because he cannot obtain his object without it. A man whose system is well filled with blood is infinitely less liable to inflammation than one in whom the blood is deficient. It is these latter cases which are particularly and especially prone to congestions and inflammations.

An excess of blood may produce hæmorrhage or apoplexy, but not inflammation. On the contrary, it protects a man from inflammation, and from most other diseases. When every part of the

body is full, one part cannot easily be made to contain more than another. When it is half empty, the blood sways backward and forward, and thus a too large wave may be thrown upon one organ, and there stagnate. One of the organs becomes in this manner congested; and from this congestion arises local inflammation in that organ. And now, as soon as this local inflammation has been set up by the general ill-condition of the blood as to quality or quantity, it produces, in its turn, a high degree of general excitement, symptomatic fever, as it is called.

So in consumption: that generally weak and depraved state of the system called the scrofulous habit, causes tubercles in the lungs. When these tubercles have reached a certain size and number, they interfere with the functions of respiration by blocking up the air cells. Nature now makes a desperate effort to get rid of the obstruction. Inflammation is set up for the purpose of loosening them and softening them, in order that they may, in the shape of matter, be ejected from the lungs by coughing. All this sets up a general disturbance in the whole system, and we have what is called hectic fever.

Again: an ill condition of the blood, and a false nutrition in consequence of it, produces a tumor. The tumor may press upon a large vein, thus obstructing the return of blood towards the heart. The veins, unable to convey the blood beyond the obstructed point, become of course gorged, and they soon relieve themselves of the engorgement by sweating out the watery parts of the blood through the sides of their coats into the surrounding areolar tissue. The result is general dropsy.

The three great stages, therefore, are, first, general disease; secondly, local disease; and thirdly, a new phase of general disease resulting from the local. But, in a practical point of view, it is the first stage which must claim our attention, if we would effect a cure; because this first state is the cause from whence the other two arise; and it will be in vain to endeavor to remove these latter two until we have removed the first disordered condition which produced them; and which will sustain them as long as it is allowed to continue. And it is because the drug-treatment chiefly concerns itself with these two latter states, overlooking the first state which is the cause of all—that it can seldom achieve more than the mere palliation of symptoms. For the two latter states are but symptoms of the first.

When chronic local disease has been once established, and has

become incurable, gradually undermines and weakens the general health and strength, as has been before mentioned. From this weakness other diseases, which may be called secondary, arise, (as dropsy for instance) and these other secondary diseases it is which, in most instances, destroy the patient. Now here, the local disease being incurable, the attention of the practitioner must engage itself with the secondary disease and its cause, and proceed as though the patient had no other disorder. The immediate cause of the secondary disease is general weakness; and if this weakness can be got rid of in spite of the local disease which produced it, which may often be done, then the secondary disease (by which life is endangered) is cured, and danger ceases. For the danger to life does not arise (in most instances) from the local disease; but from those secondary disorders which arise out of the weakness caused by the local disease. If this weakness can be removed, the secondary disorder is cured (or prevented), and local disease ceases to be a matter of danger, and becomes merely an inconvenience.

Thus in Mr. Greaves' case of dropsy, the water might have been removed by tapping, by acupuncturation, by powerful diuretics, and drastic purges. But cui bono? It would have returned again immediately, because the general weakness which was the cause of the dropsy would not only have remained in operation, but would have been increased by these means. But the effect of the hydropathic mode of treatment was to remove this weakness—to remove this cause of the dropsy—to infuse blood and vital power into the system at the same time, and by the same means, that the accumulated water was expelled.

The difference between the drug treatment and the water treatment is this: that the latter strengthens while it cures. The former weakens while it cures. So that even when both systems succeed in curing, the advantage is still greatly on the side of the water treatment. How often does the drug treatment, with its repeated bleedings and its mercurial salivations, produce diseases more deadly in their nature than that for whose cure they are employed—in pleurisy, for instance!

CATECHISM.

What is signified by the word "life?"

Life is the term by which we express the whole sum of all the

actions, internal and external, which can be performed by any living being. To answer the question literally would be to set down the names of all these several actions in succession (secretion, circulation, running, eating, &c. &c.), and then to say, "the word life is the short-hand sign which, for the sake of convenience and dispatch, we use to denote (collectively) all the actions which are severally expressed by their several names, secretion, respiration, circulation, running, singing, &c. &c."—just as, when there are several partners in one firm, we write down the name of the first partner, and then express collectively the names of all the other partners by the term company, thus: Longman and Company. As the word company, in this instance, stands for all the following names: Hurst, Orme, Rees, Green, and Brown (which are the names of the other partners in Longman's firm), so the word life stands for secretion, nutrition, drinking, sleeping, &c. &c.

The word life therefore does not always mean the same thing, because all living things cannot perform all the same actions. Thus a tree cannot run, or see, or hear, or dance. The life of a tree therefore is not the same as the life of a bird; and the life of a bird is not the same as the life of a man; for a man can speak, which the bird cannot; and the bird can fly, which the man cannot.

Of course there are other differences, but it is not necessary to enumerate them all.

But there are certain of those actions which can be and are performed by every living thing, and it is this fact alone which entitles them to be called living things, or possessors of life.

I shall now restrict my use of the term life to designate human life.

Human life is of three kinds. There is a mechanical life, a nutritive life, and an intellectual life, or life of the senses.

The mechanical life comprises all those actions which are performed by certain mechanical instruments of motion, as muscles, bones, tendons, &c.—as, for instance, walking, talking, winking the eyelids, breathing, eating, the pulsation of the heart, &c. &c.

The intellectual life, or life of the senses, comprises seeing, feeling, hearing, instinct, memory, [illegible]

The nutritive life comprises [illegible] actions which minister to nutrition, and nutrition itself. These are, circulation, the chemical action of oxygen on the blood, absorption, secretion, nutrition, &c.

Mechanical life, and intellectual life, both depend upon the nutri-

tive life. The nutritive life may be called the fundamental or foundation life, of which the other two kinds of life are the necessary results. It is the foundation on which the other two are based or built up. It is the nutritive life by which the mechanical instruments of motion are nourished, kept in a healthy state, and fit for use; and it is also the nutritive life which nourishes, keeps in health, and fit for use, the organs of sense, and of thought. If any error happen in the nutrition of the brain, inflammation, or a softening, or some other defect in the condition of the brain happens, and the patient becomes mad, or apoplectic, or an idiot, and the function of thought, memory, &c., is disturbed, or altogether lost. If the error of nutrition happen in the eye or ear, and it be the structure of the eye or ear which suffers, then the function of seeing or hearing is deranged or totally lost.

The healthy performance, therefore, of all those actions constituting mechanical and intellectual life, depends upon the healthy performance of all those other actions constituting nutritive life. It is of great moment to bear this in mind, because it conducts us directly to the true nature of disease.

What is meant by the term death?

This word expresses the fact that all the nutritive actions have ceased, and that the mechanical and intellectual actions, i. e. the functions of the muscles, and the functions of the brain, have necessarily ceased also.

There are but two ways in which death can happen. Whenever a man dies, he dies either because his arteries are circulating black blood, or, because they circulate no blood at all.

What is signified by the word health?

Health is the term by which we express the fact that all those actions constituting nutritive life are not only performed, but performed perfectly; and that the resulting phenomena, called mechanical and intellectual life, are, as a matter of course, also perfect.

Not only freedom from pain, but a certain joyousness, a pleasurable lightheartedness, is also a necessary effect of the perfect performance of all the nutritive actions.

In health, the simple act of breathing is a pleasurable sensation.

Why is the term health restricted to denote the perfect condition of nutritive life alone, all mention of the other two kinds of life being omitted?

Because the perfect condition of nutritive life necessarily implies

the perfect condition of the other two, since we have seen that the two latter depend upon the former.

We are not of course now concerned with external injuries.

What is meant by the term disease?

It is most commonly used in a twofold sense. We speak of general disease and of local disease.

What is *general disease?*

This phrase expresses the fact that there is some error in the nutritive life. That one or more of these actions constituting this life is going wrong; that there is some error in those vital or chemical actions which are perpetually going on in the blood and solid tissues; or some error in secretion, or in absorption, or in the circulation But as all these actions do but minister to the one great general and final act of nutrition, it is sufficient to say that "general disease" denotes a disturbed state of the great general laws which govern nutrition, or, shorter still, disturbed nutrition.

What is meant by the term *local disease?*

Every part of the body is constantly undergoing waste; and portions of it are daily and hourly lost, being thrown out of the system by the excreting organs. It is the office of the nutritive life to supply the place of these lost portions of the body with new portions made out of the blood, and exactly like those portions which have been lost and discarded. These new portions of body, then, are the products of the nutritive life made out of the blood. But when the nutritive life is weak or disturbed, the new products will not be exactly like the last portions of body whose place they are made to supply. But it will sometimes happen that altogether different products will result from disturbed nutrition—products wholly foreign to the nature and structure of the body in which they are formed. Familiar instances of these morbid products of disturbed nutrition are found in cancer, in that cheesy substance of which scrofulous tubercle is composed, &c. &c. These are merely the morbid products of morbid state of the nutritive actions. Instead of producing out of the blood new materials wherewith to repair the waste body, these actions, when disturbed, produce the several substances whereof tubercle and cancer are composed; and these materials, being wholly unable to assist in repairing the body, are deposited here or there, wherever they can most conveniently find lodgment, and continual additions are made to their bulk, until the system can no longer endure their presence. Nature then makes a violent effort

to get rid of the[illegible]nd if unable to succeed, generally (at least in the case of cancer and tubercle) dies in the struggle. To these new products we give the name of local disease.

Are there no other instances of local diseases?

Plenty. From some error in the circulation of the blood; from some error in its quality, or quantity, it may find its way through the minute capillary vessels with much difficulty. At last, in some one minute vessel, it stops altogether. This produces passive congestion, or inflammation. If inflammation, then one of the consequences often is that a glue is sweated out through the pores of the vessel, gluing the neighboring parts permanently together, and thus hindering their action. Local inflammations and adhesions are thus formed.

Adventitious membranes are also among the morbid products of morbid adventitious life. Thus, in croup, a new and adventitious membrane is produced, which is made to line the inside of the windpipe. This new and morbid membrane gets thicker and thicker, until at last it quite chokes up the windpipe, and suffocates the patient.

The ossification of arteries is another instance of morbid products, resulting from a morbid state of one or more of those actions which collectively constitute nutritive life, the waste of the artery being supplied by the matter of bone instead of the matter of artery.

All these are instances of local disease, and are sufficient, I trust, to illustrate the principle which I wish to enforce, viz., that local diseases are only the effects of general disease; and that in most instances, local disorders are morbid products—products of an unhealthy state of the nutritive life. Let it be perfectly and always remembered that, "healthy and nutritive life," includes and implies a healthy state of the blood.

Goitre, wens, excessive obesity, and other such diseases, are all instances of morbid p[illegible]ts, (morbid as to quantity if not always as to quality) resulting [illegible]id nutrition. So are hypertrophy of the heart, [illegible] other h[illegible]phies. Adventitious fleshy bands are amo[illegible] morbid [illegible] of morbid nutrition. A case occurred n[illegible]e, ([illegible]r cases are not infrequent) in which the st[illegible] were [illegible]o through the mouth, because one of these fle[illegible]en formed within the belly, and in such a manner as [illegible]own one portion of the bowels, so that their contents could not descend. In her efforts to relieve herself,

nature retroverted the action of the bowels, and expelled their contents through the mouth.

Now these bands are erroneous products resulting from an erroneous condition of the great general laws which govern nutrition.

From the manner in which I have described inflammation as commencing in a single minute capillary vessel, it would seem, at first sight, that inflammation is an instance of local disorder which is not preceded by general disorder. But this is not so; for inflammation rarely, if ever, occurs until the general harmony of the nutritive actions has been disturbed. The conditions most favorable to the production of inflammation and congestion, are those in which the whole volume of the blood's quantity is too small, and in which the nervous and vital tone is too feeble. If a person under these circumstances is exposed, ill clad, to the long continued action of severe cold, he will most probably contract inflammation.

For, the vital power of resistance being weak, and the circulation of the blood feeble, the action of the cold on the surface will be to drive the blood from the superficial parts upon those more deeply situated, thus producing deep-seated congestions, and inflammation as a consequence of these.

It will be observed, therefore, that a generally disturbed or any unnatural state of at least one of the nutritive actions (circulation) will most frequently, if not invariably, precede inflammation.

If a person in whom all the nutritive actions are healthy and strong be exposed to the action of intense cold, he will not contract inflammation. The first effect of the cold will be to induce an overwhelming and perfectly irresistible sense of sleep (as in the case of Dr. Solander while ascending Mont Blanc), and if he be not roused by the most persevering efforts of others, he will be compelled to yield to sleep, with the fullest knowledge that if he do so he will never wake again. He dies comatose or apoplectic.

What, then, is meant by the term local disease?

This term expresses the fact that some disturbance has occured amongst those general functions which minister to and constitute nutrition, and that this general disturbance has resulted in some local morbid product, as, for in or other local morbid condition, as, for instance, co

With the exception therefore of external injuries, malformations, and congenital organic defects, there is no such thing as local disease which does not arise from general disease.

What are the conditions or sustaining causes of life?

These are food, air, drink, sleep.

What are the conditions or sustaining causes of health?

Proper food, both as to quantity and quality; *pure* air; *proper* drink; a *proper* amount of sleep; a *proper* amount of exercise of the voluntary functions; a *proper* mode of supporting the temperature on the surface of the body; and peace of mind.

What then are the causes of disease?

Improper food either as to quantity or quality; *impure* air; *improper* drink; *improper* amount of sleep; *improper* amount of exercise of the voluntary functions, especially of the brain; *improper* and sometimes *insufficient* mode of supporting the temperature on the surface of the body; anxiety of mind; inheritance; and, perhaps I ought to add, inoculation.

What are the chief of the voluntary functions affecting the health for good or for ill, accordingly as they are properly or improperly performed?

The chief of these are the exercise, or exertion, of the voluntary muscles, commonly called bodily exercise or exertion; and exercise, or exertion, of the brain, or nervous taxation of any kind. An excessive amount of the former is a fruitful source of ailment amongst the poorer class; an excessive amount of the latter is, perhaps, amongst the middle and upper classes, the most prolific of all the causes of disease. In the middle classes the nervous system, the vital strength, is taxed to procure money. In the upper classes, it is equally taxed to procure pleasure.

How do all these morbid causes act, so as to produce general disease?

They all act by disturbing the regularity, power, and harmony of the nutritive actions, secretion, absorption, the vital changes proper to the blood, circulation, &c. And the evil influence reaches these actions (chiefly) through the nervous system. Thus, a strong moral impression made on the brain, as fear, for instance, will make both a man and a horse perspire with terror. The same cause will often act on the secretion of the bowels, and produce diarrhœa. All the nutritive actions are greatly under the influence of the nervous system; and it is the effect directly or indirectly, of most of the morbid causes I have enumerated, to lower the vital tone of the nervous system, and thus to deteriorate the nutritive actions. Excessive bodily exertion, excessive warmth at the surface, excessive mental exertion, strong drinks, excessive exertion of any of the voluntary functions, act on the nervous system so as

to lower its tone, indirectly. They excite first and exhaust afterwards. Bad or deficient food, impure air, too much or too little sleep, mental anxiety, [illegible] cold at the surface of the body, deficient bodily exercise, all these have the direct effect of lowering the tone of the nervous and vital energies.

Hence general disease first, and local disease as a secondary consequence.

What is meant by the term "curative power of nature," conservative principle, restorative power, vis medicatrix naturæ, and other terms of like import?

It is one of the grand distinctive marks of living things that they can repair their own injuries. If the leg of a table be broken, the table possesses no power in itself to repair the fracture. If the leg of a man be broken, there is, in his system, a power by which the fracture, without any artificial assistance of any kind, will be repaired. The broken leg will mend itself. Now, this reparation is not effected by any entirely new action. It is effected by a modification only of some of the ordinary nutritive actions. The function of secretion in the injured part becomes altered. A bony matter is secreted, that is, separated from the blood, and poured out all round the fracture, like thin mortar. This matter, like common bricklayer's mortar, becomes perfectly solid and hard, and surrounds the broken extremities of the bone like a collar, and holds them firmly together. All the surgeon can do by his art is, to place the two broken ends of the bone together, end to end, so as to preserve the length of the limb and to keep it straight; and to lay it in an easy position. This is all he can do. It is nature who does all the rest; and she mends the fracture in the way I have just described, viz. by modifying the function of secretion in the part, so that a soft mortar is poured out, which hardens round the broken ends of the bone like a collar, and holds them firmly together.

If a tumor be cured, it is because the function of absorption has been increased in its neighborhood, and has absorbed it into the blood, from which the elements of which it was composed are afterwards expelled with the excretions. All remedies used to cure, as it is called, a tumor, are used with the sole view of increasing the activity of the function of absorption in its neighborhood, and so causing it to be absorbed into the blood, in order that it may be finally expelled out of the body in company with the other im-

purities which are constantly passing out of the blood in the form of excretions.

All diseases are cured by a modified action of one or more of the nutritive functions; and the property which living things possess of so modifying the nutritive functions—of so properly accommodating them, and fitting them to the removal of disease—is what is meant by the term "curative principle of nature."

What are remedies?

The causes of disease being such as have been stated, and the nature of disease itself being such as has been described, the nature of remedies seems to follow as matter of course.

Every remedy, to be such, must possess the power—

First, of correcting the causes of disease.

Secondly, of correcting the state of the blood.

Thirdly, of correcting and exalting the nutritive actions.

Fourthly, of correcting and exalting the enfeebled curative principle of nature.

Now these are the things which the drug treatment professes to possess the power of doing—and some of which it undoubtedly can do. But let us consider the manner in which these things are attempted to be accomplished by the drug practice. Undoubtedly there are drugs which have the power, for instance, of exalting that one of the nutritive actions called secretion. Let us suppose that Mr. A. is afflicted with habitual constipation. The object here is to increase the intestinal secretion. How is this achieved by the drug practice? It is achieved by introducing first into the stomach, and, through it, into the blood, certain acrid and irritating substances called purgatives. The stomach which was healthy before, is now nauseated, its lining membrane inflamed, its nerves irritated, and its functions disturbed. Its peace and quiet, if I may so speak, is interrupted and broken. From the stomach the irritating substance passes by absorption directly into the blood. Mingled with the blood it is circulated through all the organs—through the heart, through the lungs, through the brain—which it irritates in their turn, till presently that remarkable power called the conservative principle, and which is ever on the watch to preserve the living machine from injury, takes the alarm, and a violent effort is made to free the blood from its poisonous presence; and its expulsion is finally effected through the bowels.

It must never be forgotten that the purging which follows the exhibition of purgative medicines is merely an effort of nature to

rid herself of the injurious presence of the drug which has been introduced into the system. The very fact of the purging is but a proof that an injury has been inflicted, that nature has taken the alarm, and has hastened to expel the offending matters as soon as possible.

Patients are apt to suppose that purgative medicines merely go into the stomach and then travel along the bowels, carrying their contents before them, until they are expelled. But if they would only take the trouble to make themselves very slightly acquainted merely with the A B C of physiology, they would know that all soluble substances whatever, when introduced into the stomach, are taken up by the absorbents and veins at once into the blood. If they ever pass from the bowels without first entering the blood, it is merely matter of accident, and is a very rare exception to an otherwise universal rule.

Well then—the object has been achieved—the secretion from the bowels has been increased—the constipation has been overcome. But at what an expense of injury and irritation to the whole machine has it been accomplished! First, the stomach has suffered—then the blood has been poisoned—next all the other organs have been irritated—and finally the powers of nature have been violently taxed to expel it! But the mischief by no means stops here. For in two days the bowels are just as constipated as ever. What is to be done now? Why, the same process has to be repeated. The stomach must be again irritated, the blood again poisoned, the brain, heart, lungs, kidneys, again irritated by the circulation of poisoned blood through them, and nature again taxed to expel the drug; and, as far as she can, to repair the mischief that has been done.

Thus nature and the doctor are forever at war, and the poor patient's inside is the perpetual field of contention.

But a tumor has to be absorbed, or an enlarged organ to be diminished. The process of absorption has to be, therefore, accelerated. How is this to be done? Oh! this is to be effected by dropping small pieces of mercury into the stomach; and this is to be continued until the system is under the influence of that drug—in other words, until the whole mass of blood has been so poisoned by it, that the gums become inflamed by the circulation of mercurialized blood through them. But does the patient suppose that it is the gums alone that are thus inflamed by the poisoned blood? Does he suppose that the other organs, as the brain, the heart, the

lungs, the kidneys, the eyes, &c., bear a "charmed life," and that they are proof against all injury from the circulation of poisoned blood through the delicate net-work of their tissues? What is to protect the heart, and the brain, and the lungs, and the liver, and the kidneys, and the bones, and the stomach, and the bowels, from the same sort of irritation as that which has inflamed the gums and loosened the teeth? But this is not quite all. I shall probably astonish the reader when I declare that there is no proof whatever that mercury possesses any such power as that which is attributed to it of promoting, in an especial manner, the function of absorption; and, moreover, there is no proof whatever that mercury possesses any such power as that which is attributed to it, of acting, in an especial manner, upon the liver. It has, somehow or other, obtained credit for possessing these virtues, I know. But then there are dozens of other drugs which, only a few years ago, possessed the universal confidence of medical men as possessing certain virtues, which it is now just as universally known that they never possessed at all; and they are exploded from the pharmacopeia accordingly. No one can have lived many years in the world without observing that there is a fashion in drugs. This one fact alone is sufficient to prove on what slight foundations particular virtues are attributed to particular drugs; and what mischief, what murder is inflicted on society before the baseless nature of the fabric, on which the reputation of these drugs was built, is discovered.

Again: a drug-physician can never give a reason for the administration of the drug which he prescribes. If he be asked for one, his answer is, that his experience has convinced him that it is useful in such cases. Nothing can be more convenient than this answer. It silences all further questioning, and admits of no argument. But then, if you walk straight from physician No. 1, to physician No. 2, he will, in nine cases out of ten, give you a drug whose nature and effects are as different from that prescribed by the first physician as any two things can well be. Yet, if you inquire of the second why he orders for your case the particular drug or drugs which he prescribes, he will give you the same answer as the first. He will tell you that his experience has satisfied him that the drug he has ordered for you, is useful in such cases. At this rate, remedies for diseases must be as plentiful as blackberries.

But what possible reliance can be placed upon this sort of expe-

rience? What possible reliance can be placed upon the experience of any one out of twenty men, when it is found that the experience of each of the twenty is contradicted by the experience of all the others? Every man prescribes according to his own experience. But the practice of different medical men in the same disease differs as widely as the poles. Their experience, therefore, must be equally different and contradictory. What value can be placed on such experience? The truth is, that what they call experience, is nothing more than mere accident. Some two or three patients, from some fortuitous combination of circumstances, or other unintelligible cause, have happened to get well of some particular disease while taking some particular drug. This, the physician calls his experience; and he continues all his life afterwards to prescribe that drug for that disease, although, perhaps, he never cures another patient with it. But he goes on hoping and hoping in every fresh case of the same disease, that the same drug will again succeed.

A friend of mine once consulted six London physicians in one day, and then brought all their prescriptions to me; and it was most amusing to read over and compare these prescriptions. There were not two which, in the slightest degree, resembled each other. I proposed to my friend that he should take them all six. But he adopted a wiser course, and took none of them. The truth is that, in the treatment of chronic diseases at least, the exhibition of drugs is pure speculation. There is nothing certain in the matter, but the certainty of doing mischief. The result of all this is that an entirely new set of diseases has sprung up among mankind, which have regularly taken their places amongst other ordinary human maladies, and are classed together as "drug-diseases;" and each is named after the name of the drug which produces it. And we hear medical men talking familiarly together, and as unconcernedly about mercurial tremor, mercurial eythema, arsenical disease, iodism, narcotism, &c. &c., as though these disorders were inflicted upon us by Providence instead of by their own mal-practices! It is by no means uncommon for one medical man to be called in to cure a disease which has been caused by the drugs of his medical brother.

All this arises from the fact, that the drug treatment proceeds upon no fixed principle; and is used without any rule, guide, or discretion. It is a "mystery" (as, indeed it once used to be called) rather than an art or a science. Medical men (generally—

for there are now many exceptions) take a too narrow and contracted view of disease. Instead of considering it that which it really is, viz. a disturbed or deranged state of the ordinary living actions, producing wrong results, they look upon it as a something altogether disconnected with the living system, and only inhabiting it, as a separate entity—as a rat may inhabit an old house; and they look upon drugs as possessing some sort of mysterious charm, by virtue of which these entities, or independent abstractions, are to be destroyed, "cast out" like devils, or neutralized; one entity by one sort of drug, another by another drug; or expelled out of the body, as you would shoot a pea out of a pea-gun, or hunt a rat out of an old barn. With such a view of disease as this, their whole list of remedies becomes only an assortment of nostrums, and their entire practice but pure empiricism, and the merest speculative druggery. Each physician has his favorite nostrums which he believes to be good against certain diseases. One of the causes which have conduced so much to the use of drugs as nostrums is, the fact that there are two or three drugs which possess the power (as nostrums) of arresting two or three in a remarkable manner. Thus quinine will most commonly the ague, and balsam of copaiba will generally cure another disease, though it will often fail. There are but two or three diseases which can be cured in this way; and there are but two or three drugs which can lay the slightest claim to be considered as anything like certain and direct cures for any disease. But medical men, seeing that they have one drug (quinine) on which they may rely pretty confidently in ague—one drug which may with some propriety be considered as a sovereign nostrum for ague—go on hoping and hoping that in time they may discover some drug which will cure some other disease with the same amount of certainty. In this vague hope they go on year after year, and century after century, administering (on speculation) all sorts of drugs of the most acrid and poisonous nature: forgetting or disregarding the immense mischief which these drugs, thus given on speculation, inflict upon the human constitution. If this experimental kind of practice did no harm—if the drugs administered were of a simple character—or if they had any fixed principle to guide them in these experiments on living human beings—it would be less reprehensible, because less mischievous. But the case is not so. The great irremediable mischief thus produced is proverbial, and is not attempted to be denied; the drugs used are of the

most virulent character which the three kingdoms of nature can produce, and they have nothing whatever to guide them. It is pure and unadulterated experiment.

There is nothing in the nature of drugs, and nothing in the nature of disease—there is no relation of any kind between them, which can fit the one to be cured by the other. This is the great rule, which is only the more confirmed by the two or three minute and insignificant exceptions which exist; and the two or three drugs which constitute these exceptions have taken more than a thousand years to discover, and were discovered by accident.

The late Dr. Andrew Combe, of Edinburgh, a name well and widely known, has some admirable observations on this same subject.

"By thus insisting," says Dr. Combe, "on the necessity of a more complete and faithful observation of the course of nature, and of acting more systematically according to her guidance, I am far from meaning that we are to sit with our hands across, and things to take their own way. So far from it, it is certain principle I inculcate would demand more watchfulness, give room for a wiser exercise of judgment, and a more con- al and, I believe, successful treatment.

Disease arises either from the habits of the individual, from acci- dental causes, or from peculiarities of constitution acted upon by hence, on being called to a patient, the first step in the *natural* investigation is, to examine the constitutional qualities, to make ourselves acquainted with the mode of life, feelings, &c., and to trace the manner in which the cause has acted or continues to act. All these influence very greatly both the nature of the disease and its probable course. They also bear directly upon the kind of treatment and its probable success. If, however, we are content to regard disease as an entity arising by chance and observing no laws, we shall have no inducement to trouble ourselves or the patient with any of these inquiries. Such is, in fact, the practical faith of the great majority of professional men. They discover the existence of an entity which in medical works has a certain name, and knowing that in the same books certain remedies are said to be good for that entity, they prescribe them accordingly, without giving themselves much concern about their mode of action, or fitness for the individual constitution, age, or stage of the disease, and without inquiring whether there is anything in the mode of life tending to reproduce the malady or not. In many

chronic ailments removable causes are thus often left in full operation, while the effect is partially mitigated, but not cured, by the use of active medicines, and in a short time the whole evil returns in its full force. Whereas, if, proceeding according to the order of nature, we can trace the disease to any error in the mode of life, to any external source of danger, or internal peculiarity of constitution, aggravated by either of these two conditions, we can convince the patient of the fact, and give him a rational and confiding interest in the changes which we may recommend; and thus, not only promote his recovery, but render him proof against all the seductions of quackery. According to the prevailing kind of intercourse between patient and physician, viz., unhesitating dictation on the one hand, and ignorant obedience on the other, blind faith is the pivot on which their mutual connection turns—a faith which is thus necessarily at the mercy of the chapter of accidents, and is often supplanted by reliance on the first bold and confident quack who comes in the way. People wonder that quackery abounds, and medical men ask for power from the Legislature to put it down. They themselves, however, are in no small degree its abettors, and they have the remedy already to a great extent, although not wholly, in their own hands. If they who are educated, and should know better, accustom their patients to the principles of quackery, by themselves treating them [illegible] they wonder that patients who are not professionally educated are trained and treated on purely empirical principles, should be as ready to listen to the assurances of the quack as to those of the regular practitioner, whose manner of proceeding is often so nearly allied in kind as to present no very obvious marks of distinction from that of the quack? In fact, medicine, as often practised by men of undoubted respectability, is made so much of a mystery, and is so nearly allied to, if not identified with, quackery, that it would puzzle many a rational looker-on to tell which is the one and which the other. And this being the case, it requires no ghost from another world to explain why the profession has decidedly sunk in public estimation, and does not exercise that wholesome influence on public opinion which it ought to do.

"If the mass acts empirically, it can, in the very nature of things, expect only the amount of respect due to empiricism. The public mind has advanced immensely within the last fifty years, in elevation of view as well as in extent of knowledge. Medicine, however, has advanced only in knowledge; and, on looking back to the

writers of eighty or a hundred years ago, I incline to think that it has actually lost in elevation and comprehensiveness, and even in the perception of its own nobleness of sphere. If this be so, we must look within for the sources of regeneration, and for the means of regaining a dignified and honorable place in society. The public mind has advanced, while, in scope and general principles, the professional mind has stood still. To regain respect and relative position, the latter must shoot ahead again, and, on doing so, will regain its influence also.

"Let us, however, return to the case of pleurisy as an illustration. It is in general a well-marked disease; its nature is supposed to be well known, and the indications of treatment as clearly understood as those of any malady to which the human frame is liable. It is, therefore, rather a favorable example of the state of professional knowledge and principles of treatment. And yet, what do we find? Are medical men agreed how it should be treated? They ought to be, as it is frequent enough in its occur-

to give ample opportunities for experience; but they are

In this country many place their chief reliance on free and

eated blood-letting and mercury. In France, the plan of bleed-

coup, in small quantities frequently repeated, is some-

In Italy, bleeding was given up by many, and

tartar emetic were resorted to. In Germany, the

entrusted to homœopathic doses of 'medicaments.'

The strange thing is, that pleurisy is cured by, or at least pleuritic patients recover under, each of these plans, while also many recover under the 'medicine expectante' plan of lying in bed, drinking ptisan, and waiting upon Providence. Even in this country, however, a change has come over the spirit of my brethren within my own brief day. When I first opened my professional eyes, the lancet was in great vigor, and a well-employed medical man almost lived in a stream of blood. '*Vigorous practice*' was the order of the day. In typhus as well as in inflammation, the lancet was the sheet anchor of many; and quantities of strong purgatives were administered, sufficient to put disease of every shape and hue to the rout. Take the same men of vigor now, at the distance of twenty-four years, and they will tell a different tale. It is no longer, 'Be bold and decided, and prompt in what you do;' but, 'Be watchful, and trust something to nature.' This diversity of opinion and practice seems to me to have arisen partly from different constitutional states, arising from changes of atmospheric

or other influences affecting the prevailing character of diseases, but much more from all parties disregarding nature's indications and efforts, and acting heterogeneously and without any rational principle. In this way, I believe, that under each plan of treatment individual cases recovered which would have terminated fatally under a different mode; but, also, that under all of them many died who might have been saved by a more rational and close adherence to sound physiological principles. To these we may be partially led, even by a reference to the symptoms usually present. The sense of cold and shivering, which commonly precede, would lead to the avoidance of exposure. The pain, increased by breathing, inculcates absolute rest and refraining from speaking. The oppressed respiration requires, of course, purity of air more than ever. The heat and thirst which soon arise demand cooling, simple drinks, and occasionally tepid sponging of the arms and face. The local stitch asks for mild emollients, such as bran poultices; and the impaired appetite requests the stomach to be let alone."

It must not be supposed that these opinions with regard to the great bulk of the profession are peculiar either to Dr. Andrew Combe or to myself. There are many thinking and conscientious men in the highest rank of the profession who have spoken loudly to the same purpose; and many others have loathed in disgust.

I take the following from a late writer, on the Medical Registration Bill—Mr. Gibbs.

"Let us now inquire," says Mr. Gibbs, "in what degree of estimation that profession, which it is proposed to endow with such extraordinary power and privileges, was held by some of the most distinguished of its own members. Dr. Paris says, 'The file of every apothecary would furnish a volume of instances where the ingredients of the prescription were fighting together in the dark.' Dr. J. Johnson says, 'I declare it to be my most conscientious opinion, that if there were not a single physician, or surgeon, or apothecary, or man-midwife, or chemist, or druggist, or drug in the world, there would be less mortality amongst mankind than there is now.' Dr. Billing says, 'I visited the different schools of medicine, and the students of each hinted, if they did not assert, that the other sects killed their patients.' Franks says, 'Thousands are slaughtered in the quiet sick room.' Reid says, 'More infantile subjects are perhaps diurnally destroyed by the mortar

and pestle, than in the ancient Bethlehem fell victims in one day to the Herodian massacre.' Speaking of [redacted] plague, Dr. Madden says, 'In all our cases we did as other p[redacted]oners did—we continued to bleed, and the patients continued to die.' [redacted] who does not remember Sir A. Cooper's famous declaration [redacted] the science of medicine was founded on conjecture, and improved by murder?'

"Dr. Brown said that he '*wasted* more than twenty years in learning, teaching, and diligently scrutinizing every part of medicine.' Knighton said, 'Medicine seems one of those ill-fated arts whose improvement bears no proportion to its antiquity.' Gregory pronounced that 'Medical doctrines are little better than stark staring absurdities.' Abernethy said, 'There has been a great increase of medical men of late years, but, upon my life, diseases have increased in proportion.' Baillie declared that he 'had no faith whatever in medicine.' And, not to multiply quotations too far, Dr. Dickson says, 'Locke, Smollet, Goldsmith, (all three physicians) held their art in contempt;' and, elsewhere, 'Sir J. Mackintosh was not the only man who left it (the profession of physic) in disgust; Crabbe, Davy, Lord Langdale, and hundreds [redacted] have done the same;' and again, 'The ancients endeav[redacted]vate physic to the dignity of a science, but failed. The [redacted] more success, have endeavored to reduce it to the [redacted]de.'"

There is another very curious and very serious anomaly with regard to the system of drugging—viz., that all medical teachers, at the very outset of their works, and in their in[redacted]ct[redacted]ry first lecture of the course, to the young men who have [redacted] their pupils, and who are destined to become the medical practitioners of the rising generation, never fail to lay it down as a great fundamental principle that drugs have in themselves no power to cure diseases—that diseases are always cured, if cured at all, by virtue of a power or vital force inherent in the living system itself, and called the "curative principle of nature," or "vis medicatrix naturæ"—that all that can be achieved by drugs is to clear away obstructions, and to place the body in the most favorable condition to enable nature to do her own work. Now the anomaly consists in their departing from this great and most true principle the moment they get into practice. They then immediately begin to adopt a system of eternal meddling and interfering with Nature's own curative operations. They thus perpetually obstruct and

hinder her sanitory processes, in vain and impossible attempts to do her work for her, instead of contenting themselves with watching and ascertaining her intentions, and then adapting their remedial measures to further these intentions, and to surround the patient with all those conditions of health which are most favorable to the successful execution of those purposes and objects which nature herself has in view. If man could cure diseases, he could make living beings—he could manufacture living matter. If a piece be cut out of the body, nature cures the wound by making a certain quantity of new flesh necessary to supply the place of that which has been lost, and so fills up the hole; or, in common language, cures the wound. To say that man, by virtue of any drug or water either, can cure a wound, is to say that he possesses the power of manufacturing new living flesh! The true question between drug-treatment and the hydropathic treatment is this: "which of them places the body in the most favorable condition to enable nature to recover her weakened energies, and so to enable her to do her work; and which offers the most probable means of assisting her efforts, without interfering with them, and without inflicting any additional mischief on the machine?"

They also constantly mistake the efforts of nature to ease for the disease itself, and do mischief by thwarting forts.

What are *predisposing* causes of disease?

I cannot do better than reply to this question by a quotation from [illegible]tures of Dr. Watson, delivered to his pupils at King's C[illegible]on.

[illegible]sons," says Dr. Watson, "are more liable to be affected by the operation of many of these ascertained causes, *exciting* causes [illegible]ers are; and the same persons are more liable to be influenced by the same cause at one time than another. And special circumstances, existing in particular cases, will be found to account for this variable operation of known exciting causes upon the bodily [illegible]. These special circumstances may properly be called predisposing causes. Thus, of twenty persons exposed to the same noxious influence—to the combined agency of wet and cold during shipwreck for example—one shall have catarrh, another rheumatism, a third pleurisy, a fourth ophthalmia, a fifth inflammation of the bowels, and fifteen shall escape without any illness at all. A man does that with impunity to-day, which shall put his life in jeopardy when he repeats it next week. It is not, there-

fore, the exciting cause alone that in all cases determines the disease. Something—nay much, or all—will frequently depend upon the condition of the body at the time when the exciting cause is applied; and this condition of the body, which we call predisposition, will depend upon circumstances, then or previously in operation; and these circumstances are, in our language, predisposing causes.

"Do not confound, as many seem to do, the predisposition, with the circumstances creating it. The predisposition is a certain state of the body—the predisposing cause is what produces that state. The cause of the predisposition is the predisposing cause of the disease. A predisposing cause may therefore be defined to be anything whatever which has had such a previous influence upon the body as to have rendered it unusually susceptible to the exciting cause of the particular disease.

"It is sometimes difficult, or impossible, to say of a given cause whether it ought to be ranked among the exciting or among the predisposing causes; whether it has prepared the system for being affected by some other agent, or whether it has itself produced the disease; but for the most part the distinction is real, and sufficiently well marked, and of great importance to be attended to. Disease may sometimes be averted, even in despite of strong predisposition to it, if we know, and can guard against, the causes by which it is capable of being excited. On the other hand, disease may often be warded of, notwithstanding the presence and application of its exciting cause, when its predisposing causes are ascertained, and can be prevented. In proportion as the body is weakened or exhausted, it yields more readily to the pernicious influence of contagion or of malaria; but by obviating all causes of debility, and fortifying the system, we walk with comparative security amid surrounding pestilence. The entire habits and modes of life, in all highly cultivated states of society, constitute, in the aggregate, one enormous predisposing cause of disease. Hence that frightful, daily and hourly destruction of human life by diseases totally unknown to man in his primitive condition—a destruction far greater than would be produced by perpetual war.

What is meant by the term *predisposition to disease?*

It signifies that weakened and generally depraved state of the system brought about by the protracted operation of predisposing causes. In the present state of society, the great majority of

mankind is born with more or less of predisposition to disease. These causes are such as I have enumerated, improper food, impure air, improper drink, *excessive mental taxation*, &c. &c. In hereditary disease, such as cancer, for instance, or consumption, the predisposing cause is inheritance—the fact, namely, of having proceeded from parents having the cancerous or consumptive constitution. The predisposition, in these cases, is that poor, or impure, or erroneous state of the blood, and that weakly and erroneous condition of the vital actions, which constitute the cancerous and the consumptive habit of body.

It is most important to distinguish between predisposition and predisposing causes.

What are *exciting* causes of disease?

They are those causes which have a tendency immediately to develop some particular form of diseased action out of the general predisposition—to aggravate general disease at once into what is called local disease. Thus, a man having a predisposition to apoplexy, which consists in a preternatural fulness of the vessels of the brain, will, if he strain violently, probably rupture one of these engorged vessels within the head, and so bring on at once an apoplectic stroke. Here the exciting cause, viz., the straining, has developed a local disease, viz., the bursting of the blood-vessel and the consequent apoplectic stroke, out of the previously existing predisposition, viz., the preternatural fulness of the cerebral vessels. Again, a person predisposed to disease, being brought within the influence of the exciting causes of fever, will get fever. Here a particular form of disease has been developed by an exciting cause out of a predisposition to disease generally. Had this person not been predisposed to disease, he would probably have escaped the fever. Again, a person having that peculiar predisposition called the consumptive habit of body, if exposed to the exciting causes of consumption, will get consumption. But, if he have not that predisposition, he will not get consumption. Or, if he have that predisposition (which consists chiefly in vital weakness), provided it has been, to some extent, corrected, by such measures as are capable of imparting additional strength to the vital principle, then, again, he will have a chance of escaping consumption in spite of the exciting causes.

Now here again it is necessary to caution the reader against being misled by medical language. For it will be perceived, that what is called a predisposition to disease is, in fact, disease itself.

It is that depraved state of the general health in which the living tone—the vital forces, are lowered; in which the secretions generally are sluggish and deficient; the blood in an unhealthy state; the nervous energy depressed; the circulation feeble and languid; the animal spirits variable; the capillary or hair-like blood-vessels congested; absorption inactive. It is a state of vital weakness; a state in which the resisting powers of nature are feeble; a state in which the curative principle or vis medicatrix naturæ is, as it were, paralyzed. The hoops of the cask are loosened, and there is danger that the first blow may be sufficient to knock it all to pieces.

By loosening the hoops of a cask you give it a predisposition to be knocked to pieces; and that predisposition consists in the loosened state, that is, the wrong state, of the hoops. By lowering the vital tone; by enfeebling and deharmonizing the nutritive functions, or foundation-life; by weakening the resisting, that is, the protective principle; you give to the body a predisposition to be knocked to pieces by the first blow of disease; and that predisposition consists in the lowered vital tone; the enfeebled nutritive functions; and the weakened protective principle; in a word, it consists in general disease, more or less advanced.

What are *preventive measures?*

I have already said that these must all resolve themselves into such measures as can protect the vital principle from debilitating causes, or even exalt it; or which can restore it when enfeebled; in other words, such measures as have the effect of removing from the body all predisposing causes of disease, and of surrounding it with all the causes of health. Or, if a predisposition have already been acquired; that is, if the state of general health has already been supplanted by the state of general disorder, then all preventive measures must resolve themselves into such as are capable of removing the state of general disorder, and of restoring the state of general health and vital vigor; and this can only be accomplished by rectifying all the nutritive actions, the secretions, the excretions, absorption, circulation, respiration, the vital and chemical changes proper to the blood and to the solids—in one large and comprehensive phrase, by rectifying all the great general laws which govern nutrition, and by exalting the energies of the nutritive actions, thus at once repairing the walls and strengthening the foundation of the fortress of life.

The attention of our legislature is, at this moment, directed towards the improvement of the health of towns. They may do

something; they may effect some minute portion of good; but it will be far too minute however to produce any appreciable diminution of the general mortality. The reason is obvious. It is because the great majority of the causes of disease lie beyond the reach of any legislature. They are inherent in the very constitution of society, as it at present exists in England. They may, to some small extent, purify the air of towns; they may, to some small extent, improve the quality of the water which is supplied to those towns. And this is something. It is a portion of good. A grain of sand is a portion of the world. A drop of water is a portion of the Atlantic ocean. But can they supply to the mechanic and to the laboring classes abundance of wholesome food without excess of labor? Can they support the middle classes in their position without excess of mental toil and never-ending anxiety? Can they supply to the rich and to the middle classes those luxuries or comforts, which are now considered necessaries of life, without the intervention of those destructive trades by which they are produced? Can they enable the poor operative to live and support his children without compelling those children, not half grown, to cripple themselves, and destroy their health and vigor by premature labor? Can they abolish the gin-shop? Can they prevent vice and crime, or any of the demoralizing effects inevitably consequent upon the congregation of multitudes of human beings together in one factory or one town? Can they prevent poverty and its attendant evils of all sorts? Can they invest pride, folly, and pleasure, with the attributes of unselfishness, wisdom, and thoughtful sobriety? If they could substitute, as it regards the habits, feelings, and wants of society, primitive simplicity in the room of artificial complexity, they might hope to do much towards substituting primitive health in the room of artificial disease. Until they can do this, they can do but little. But to do this would be to do more than any preconcerted human measures are capable of accomplishing.*

Pride, poverty, and pleasure, are the three prime weavers of the great web of modern disease; the three weird sisters whose nimble fingers never cease from spinning. It is pride, which makes men exhaust their living energies with the mental toil necessary to elevate them in the scale of society, or to maintain their present position: it is poverty, which too often entails vice, crime, filthy habits, debauchery, recklessness, squalid destitution and semi-starvation; or, at the best, excessive labor: and it is Pleasure,

who never withdraws her spur from the sides of Youth, Idleness, and Wealth, until they drop exhausted by the race; and she there leaves them, until Disease picks them up and carries them home.

What then have we learned from all that has foregone on the subject of life, health, and disease?

We have learned that the word LIFE does not denote any entity; but that it is the short-hand sign by which we denote collectively all the actions which can be performed by any living thing. In man there are three distinct sets of animal actions which go to make up the sum of life—the nutritive, the mechanical, and the life of the senses, which I have called, for distinction's sake, the intellectual life. We have observed that the mechanical functions, and those of the senses, depend upon the nutritive functions; since the former are performed by means of certain instruments, (as the muscles, the bones, the eye, the ear, the brain,) and since these instruments are nourished, supported, and maintained in a condition fit for use, by the nutritive actions. The mechanical life, therefore, and the life of the senses, result from the nutritive life. For when the brain and ear are both perfect, we cannot help hearing, and so of all the rest.

The actions constituting the nutritive life are circulation, respiration, absorption, secretion, and excretion, the chemical and vital changes proper to the blood, and the final result, viz., nutrition itself.

The mechanical and intellectual life are those by means of which man accomplishes his destiny here on earth—they are those by which all human actions are performed. The nutritive life within is the foundation on which the other two are supported. If the foundation fail, the superstructure fails also. If the foundation remain sound, the superstructure remains sound also, except it be injured by violence from without.

We have seen that the word HEALTH is the term by which we denote that all the actions constituting nutritive life are not only going on, but that they are going on right.

We have also seen that those nutritive actions can only then be perfectly performed when certain conditions, which I have called the conditions or sustaining causes of life and health, are well and duly fulfilled. These conditions are proper diet, proper air, proper and not undue exercise of all the voluntary functions of the body —in a word, a proper and not undue exercise of the mechanical

and intellectual life. For, since these are supported by the nutritive life, if they be unduly taxed, they, in their turn, tax unduly the nutritive life for their support—until the nutritive life becomes more or less exhausted, and incapable of supporting them in a condition fit for use.

We have seen that the term GENERAL DISEASE indicates not any kind of entity, but a state of things in which the nutritive actions have become feeble or disturbed; and in which, as a necessary consequence, the mechanical and intellectual functions have become feeble or disturbed also, and are, one or more of them, more or less painfully performed, and the blood impure.

We have remarked too that this enfeebled or disturbed state of the nutritive life, called general disease, is brought about by what are denominated the "predisposing causes of disease;" and these are the non-fulfilment or imperfect or improper fulfilment of one or more of what I have termed the conditions or sustaining causes of life and health—i. e., of the nutritive functions.

We have learned that a state of general disease—a more or less enfeebled state of the nutritive life—may, and often does, exist without the patient being conscious of it; and that then it takes the milder name of a predisposition to disease. This predisposition, or minor derangement of the general health, is seldom recognized until, the patient being exposed to the operation of some trifling exciting cause, which would not have affected him had he been perfectly healthy, that slight exciting cause aggravates his previous condition into some more definite form, as fever, inflammation, &c., as in the supposed case of shipwreck mentioned by Dr. Watson. A predisposition to apoplexy, however, and consumption, and other scrofulous affections, is, as I have before remarked, indicated by certain physical signs well known to medical men.

We have also seen that a state of general disease, after existing for months, and very often for many years, gives rise at last to certain morbid results, and that these morbid results are called local diseases. While disease remains general, it is always curable by any mode of treatment which possesses the power of rectifying and strengthening the nutritive actions, and of purifying and rectifying the condition of the blood, having first of all rectified all the predisposing causes, either by removing the causes from the patient or the patient from the causes.

We have learned, moreover, that there is in the living system what is called the curative principle—a power by virtue of which

that system is enabled to remedy its own injuries, repair its own errors, cure its own diseases—and that all diseases which are cured are cured by an exertion of this principle; and that this principle manifests itself by an increased or a diminished activity in one or more of the nutritive functions, or by a temporary alteration in one or more of the functions themselves, according to what may be required for the removal of the disease in each particular case.

We see, therefore, that if the nutritive functions be feeble, the manifestations of this principle must be feeble also; and disease removed with difficulty or not at all.

We moreover have learned that the efficacy of all remedies must depend upon their power of rectifying the causes of disease, the state of the blood, the nutritive functions, and of strengthening the curative principle.

Finally, we have learned that the only effectual preventive measures are those which have the power of removing all general disease, and of exalting the nutritive life to the highest possible standard.

THE HYDROPATHIC TREATMENT—HOW DOES IT ACT?

If I have succeeded in giving the reader a more rational and comprehensive notion of the true nature of disease—and the notion which I have endeavored to give him is that which is entertained by all the best modern authorities, however much it is at variance with the modern practice of drug medication—he cannot fail of perceiving, I think, that there is something in the hydropathic plan which is, in its very nature, singularly adapted for the cure of a large majority of all curable diseases. He cannot fail to observe how singularly the principles of its practice are in unison with the great general principles of nature, and the great general principles of disease. It does not deal with mere symptoms. It goes at once to the root of the matter. It deals with principles and causes. It does not tinker the human body and mend it with patches. It takes a great general and comprehensive view of disease and its causes. It does not consider it as a rat or a mouse to be poisoned by a pill, nor an evil spirit to be exorcised by a potion. It claims to be sensible, rational, and in harmony with the known laws which regulate and govern life, health, and disease.

It begins at the beginning. It begins by correcting all the known causes of disease; and by surrounding the patient with all the

known causes of health. These it intensifies and concentrates into one focus. In the centre, as it were, of this focus it places the patient. All the causes of health—all the known healthy influences are accumulated and brought to bear upon him at once.

Having thus corrected the causes of disease, it next proceeds to correct the nutritive actions. It raises or depresses the circulation and respiration at will. It exercises complete control over absorption. It restores all the secretions, especially those of the bowels and skin. It has power to excite the action of the skin to an amount which is almost unlimited; and by increasing this one secretion preternaturally, it has the power of diminishing the others in proportion, if that be necessary; since it is well known that in proportion as one secretion is in excess the others will be decreased. I have shown* that the pores of the skin, if joined end to end, would form a tube twenty-eight miles in length. Surely there can be no difficulty in believing that if this tube be obstructed, and the matters which it is intended to carry *out* of the blood be left in it, while the matters which it is intended to convey *into* the blood be kept out of it—surely, I say, there can be no difficulty in believing that a very unhealthy and wrong state of the blood must be the necessary result. And it must surely be apparent that any treatment which has the power of restoring or augmenting the functions of this stupendous secreting tube, must be capable of exercising a beneficial influence on the health, and, through its means alone, of curing many diseases. How plain and common-sense-like all this appears! How rational! how intelligible! How different from the practice of those who seek to cure diseases by the administration of little portions of certain drugs, concerning the manner of whose operation they have not, and do not even pretend to have, the slightest notion! and which reflection and common sense can only look upon in the light of charms. Well might some one (I forget, at this moment, who) exclaim: that a "drug practitioner is one who drops drugs, of which he knows little, into stomachs, of which he knows less."

It has been long known that the skin is an important auxiliary respiratory apparatus; carrying out of the body and taking into it exactly the same matters and things which are taken in and carried out by the lungs in the act of breathing.

The recent researches and experiments of Liebig have now shown that the skin is also an assistant circulating apparatus, ex-

* See preventive measures under the head of "Consumption."

ercising a very powerful influence on the internal motions of all the animal fluids, by virtue of the transpiration which is always going on from its external surface, thus producing a perpetual tendency to a vacuum on its internal surface, by which the fluids of the body are perpetually urged towards it, and through it.

It exercises, moreover, a powerful influence over the chemical and vital changes proper to the blood and to the solids—what Liebig calls the change of matter. These changes are directly influenced by the temperature at the surface of the body. It is by virtue of these changes that the internal temperature is kept up—that the system is supplied with animal heat. Most ample and conclusive experiments have long since demonstrated that the internal temperature never varies, except to a very insignificant extent. The temperature of the blood of the inhabitants of the North Pole is precisely the same as that of the blood of those who dwell at the equator. How does nature preserve this equable temperature? Thus: the moment there is danger that the temperature of the blood should rise above the healthy standard, she opens the pores of the skin, and so prevents the accumulation of heat by sending it out of the body with the perspiration. Experimenters on this subject have shut themselves up in ovens heated to nearly 200 degrees above the natural standard, and found it impossible, even thus, to raise the internal temperature beyond the natural standard, to any notable extent.

But how does she prevent the internal temperature from being lowered? Thus: the animal heat is produced by the chemical changes proper to the blood and to the solids. The animal heat is a necessary result of these changes. The elements of the body are decomposed and recomposed, and during their recomposition, heat, by a well known chemical law, is extricated. When, therefore, there is danger of the internal temperature sinking too low from the external application of cold, the activity with which these changes are carried on, and therefore the activity with which internal heat is generated, is instantly augmented; and thus, as fast as the heat is abstracted from the surface, it is again supplied by fresh heat generated within. Thus it happens that by cooling the body more or less frequently, and more or less intensely, according to circumstances, we exercise a complete control over the activity of the chemico-vital changes proper to the blood and to the solid body; since nature can only answer the demand for more heat by increasing the activity of the chemico-vital changes. And the

general health and strength and buoyancy of the body will always be in proportion to the vigor and activity with which these changes are carried on.

Furthermore, its remarkable power of purifying the blood will scarcely be denied. Its influence over the secretion of the skin alone is in itself a powerful means to this end. For it not only augments the natural secretion of this vast organ, but it forces it to throw out morbid matters which, under ordinary circumstances, do not form any part of its natural secretion. But it is not the cutaneous secretion alone which it controls. It restores and augments the whole of them; thus compelling the natural purifying organs to perform their proper task of purifying the blood. But it does more than this. For occasionally, if the blood contain matters which are unable to escape through any of the natural outlets, it establishes new and temporary outlets in order to give them passage out of the system.

It corrects also the curative power, or vis medicatrix naturæ. For this, as I have before shown, is but a modification of the nutritive functions; and when they are corrected, this will be corrected: and when they are feeble or disturbed, this also will be feeble or disturbed.

So again, nutrition is the final result of all the nutritive functions. It corrects, therefore, and exalts and perfects this final result by the beneficial influence which it exerts upon the actions which accomplish it.

It moreover increases the appetite for food, while it proportionally invigorates the power of digestion. Thus it fills the half-starved, ill-filled organs of the worn-out invalid with a plentiful supply of rich new blood, on which they feed, and out of which they are nourished and strengthened.

In a multitude of minor ways and particulars it hardens and invigorates the nervous system, strengthens the heart and augments the energy of the circulation, and gives firmness and support to the brain.

In acute and inflammatory diseases it cools the skin, diminishes and allays excitement, quenches thirst, and restores the secretions and excretions.

There is still another mode in which it exerts a beneficial influence in certain chronic nervous diseases.

It is a principle in nature that whenever two bodies, of different densities and different temperatures, are brought into contact, an

electric influence is established between them. This always happens therefore, whenever the living body is brought into contact with cold water. It is this electric influence which produces that singular sobbing effect upon the breathing which some persons experience when cold water is applied to the skin.

On reading over the above enumeration of the effects produced by the hydropathic treatment upon the vital actions of the living body, it will be found that this treatment embraces and exercises all those powers which I had previously set down as necessary to constitute any kind of treatment into a remedy for disease. It will, moreover, be found that these effects are precisely those which are claimed to be produced by those drugs and other medical appliances, the mode of whose beneficial action is at all understood, such as aperients, alteratives, sedatives, tonics, sudorifics, diuretics, &c.

What are the ADVANTAGES of the hydropathic treatment?

First, its superior efficacy, in all those cases to which it is applicable. Secondly, when judiciously practised, it never fails to leave the constitution and general health better and stronger than it found it, although it may fail to cure the particular disease for which it is administered. Whereas the drug treatment, even in judicious hands, when it does not cure the disease for which it is applied, will seldom fail to leave the constitution and general health weaker and worse than it found it. Thirdly, when a disease has been cured by the hydropathic method, the convalescence is extremely rapid and the strength quickly recovered; whereas, when a disease has been cured by drugs, the convalescence is almost always very slow and protracted, and frequently the strength is not fully restored for several months; sometimes it is never fully restored. Fourthly, the drug treatment, however skilfully applied, frequently leaves behind it certain ill effects —certain injuries—which can never afterwards be eradicated. The hydropathic treatment, practised with propriety, never does this.

SYMPTOMS AND TREATMENT

OF

PARTICULAR DISEASES.

APOPLEXY.

This term is employed to denote the sudden loss of all sense and voluntary motion. When a man falls suddenly down deprived of sense and motion, appearing to be either dead or in a deep sleep, but in whom pulsation and respiration still go on, and out of which condition he cannot be roused by any effort, he is said to have a fit of apoplexy, or an apoplectic stroke. It is a condition of the utmost possible peril; and I conceive that nothing would justify me in lightly laying down rules for its management, I should tempt my readers to risk the life of the patient by endeavoring to treat so fearful a malady without medical assistance. In such a case there is but one rational and warrantable course; and that is to send for the nearest practitioner with all possible speed; and, till he arrives, to do nothing, except carefully to free the throat from all pressure by removing the cravat and unbuttoning the shirt collar; to place the patient, if possible, in the sitting posture; and to apply a sponge, dipped repeatedly in cold water, constantly to the head.

This is one of those fatal diseases in which preventive measures are of such emphatic and paramount importance, the alternative generally being, not between prevention and cure, but between prevention and death.

Persons, however, do sometimes recover from an apoplectic stroke. Having so recovered, the great object is to prevent a second attack; and the same preventive measures must be used which I am about to recommend to those in whom the premonitory signs of approaching apoplexy are exhibited.

PREMONITORY SIGNS OF APPROACHING APOPLEXY.—APOPLECTIC FULNESS.

The peculiar shape and make which predispose to apoplexy are, a short, stout, and square build; a large head, a short thick neck; and these are generally accompanied by a red throat and full florid complexion.

If, in a person having this pattern of body, the breathing be observed to be loud, heavy, snorting, and somewhat laborious; if he snore whenever he falls asleep; if the lips be turgid and sometimes of a purplish hue; if his throat, inside and out, be very red; his tongue rather foul and milky; his appetite large; his face very red, full, and apparently swollen; his pulse strong and full, and not easily compressed under the finger; if, moreover, he be inclined to corpulency, and to much drowsiness; and, especially, if he come of apoplectic progenitors; but, above all, if he have reached or passed the meridian of life; that man is very likely to become the subject of an apoplectic seizure, under the operation of any slight exciting cause, as straining at stool, pulling on a tight boot, &c.

A person in this condition cannot be said to have any disease. He is merely too full. Neither can the circumstances and physical appearances which I have enumerated, be called symptoms of disease. They are merely symptoms of too great fulness; but this fulness is an apoplectic fulness; that is to say, it strongly predisposes him to become the subject of an apoplectic stroke.

The state is a state of great danger, but not of disease.

But, though these circumstances do not indicate the actual presence of disease, they do indicate the approach of disease—the approach of apoplexy; and, therefore, I enumerate them here as forming, when taken altogether, one of the premonitory signs of impending apoplexy.

For distinction's sake, I shall call this condition apoplectic fulness, and shall mention its treatment under that name, by and by.

The rest of the premonitory signs of impending apoplexy are significant of the actual commencement of disease; and may all be resolved into a disturbed state of one or more of the faculties of sensation, voluntary motion, and thought or mind.

They are vitiated tastes and smells, or the extinction of one or both these senses; ringing in the ears; headache; giddiness;

nausea and retching, without any other sign of stomach derangement; transient deafness; transient blindness for a few seconds or minutes; dulness of hearing; dimness of sight; double vision: uncomfortable sensations in the tongue, which sometimes feels as though too large for the mouth, and the patient speaks, mumbling his words, as though it really were too large; numbness, perhaps of one of the fingers, or of the whole arm; partial paralysis of an arm, or of one eyelid, so that the lid droops over the eye; the patient finds that he cannot sign his name as usual, or pick up a pin, or manage a refractory button, or snuff a candle, or tie a knot in a thread so cleverly as heretofore; transient confusion of thought; a more than ordinary dislike to feel anything in the slightest degree tight about the neck; the patient will be frequently observed insinuating his fingers behind his cravat, pulling it away from his throat; unsteadiness of gait, inability to put the tongue out straight, it will incline to one side; squinting, coming on suddenly and then disappearing; inability to direct both eyes to the same object at the same time; a fixed and motionless state of the pupil of the eye, its size being (permanently) unnaturally large, or unnaturally small, one pupil being larger than the other; faltering or inarticulate speech, "clipping the King's English," as it is called; defective memory, remembering some things well enough, but forgetting others; inability to apply the mind to continuous reading or writing, or to accounts; while reading, the lines will seem to run into the other, until all become intermingled and confused, or disappear altogether for an instant; sometimes the limbs will feel as though muffled in flannel; sometimes the patient will be uncertain whether, in walking, the feet touch the ground or not; readiness to shed tears, or being immoderately affected (as it were hysterically) by slight causes of emotion; sometimes the patient will be seized with a terror, lest he should lose his senses, or have a fit, or be stricken with sudden death. Occasional watchfulness is another symptom; the patient will, now and then, be affected with a total incapacity to sleep; he lies awake all night, his mind busily occupied by some train of thought from which he cannot escape; sometimes he will exhibit sudden startings and twitchings, during sleep; and sometimes, instead of seeing two objects where there is but one, he will only see half the object at which he is looking. Sometimes the symptom which is most oppressive to the patient's feelings is a painful sense of lassi-

tude and weariness, and which will occasionally be felt more on one side than the other.

I have mentioned defective memory. All persons find as they grow older, that they do not retain so tenaciously in their recollection, things which have recently occured as things which happened when they were young. But the loss of memory that threatens apoplexy is something more than this. It is sometimes partial, and extends to certain sets of things only. For example, some persons entirely forget certain words, while they recollect others perfectly. Common words are often thus forgotten, while unusual or remarkable words are remembered; or a wrong word is chosen. One word is used for another that sounds something like it. Thus, one of Dr. Watson's patients, meaning to accuse a certain individual of perjury, always called it purging. And many other words he changed after the same fashion.

But in truth, the modifications of a partial loss of memory that have been known to precede apoplexy are both odd and endless. Some people forget their own names, or the names of their children. Dr. Gregory, who had paid particular attention to the precursory symptoms, and who had a large practice for a great number of years to furnish them, used to mention a case of this kind. After some efforts, his patient could recall to his recollection what his Christian name was, but he could not think of his surname. About twelve months after his memory began to fail in this strange manner, he was found dead in his bed.

Another gentleman, for some time before his death, could never remember the name of the street in which he lived.

Connected with this failure of memory there is often an unnatural degree of drowsiness. Sometimes, without any permanent affection of the memory, there is a temporary confusion or suspension of thought; the patient suddenly loses the train of ideas in which his mind had been occupied, stops short in the middle of a sentence, and endeavors in vain to discover the broken thread of his discourse.

Among the mental conditions which pre-admonish us of approaching apoplexy, Dr. Watson has several times noticed a strange and vague dread, of which the person can give no reasonable explanation; a nervous terror; a sense of apprehension and insecurity not accounted for by the apparent state of his general powers and functions; he becomes suddenly agitated and greatly and nervously alarmed; a painful degree of indecision and irritability of

temper is evinced: with a dislike and fear of being left alone, especially at any considerable distance from the house.

These are the symptoms, the warnings, which pre-admonish us that a perilous storm is impending right over the house of life, which may burst with irresistible destruction at any moment; and loudly cautioning us to adopt instant measures for security.

The most formidable of this catalogue of symptoms are, partial paralysis of any part of the body; the dropping of an eyelid; occasional squinting; fixed pupil; inarticulate speech; defective memory in any remarkable degree; unnatural readiness to shed tears without any sufficient cause; sense of impending danger; numbness of a single finger or of one arm; bad smells in the nostrils.

Any one of these symptoms alone is sufficient to indicate danger, and constitutes a warning which should not be neglected. But if any one of these exists in conjunction with two or three others of those which I have enumerated; and more especially if they occur in a person of full habit of body, with large head, thick short neck, red face, square shoulders, and short stature; and above all, if such person have reached or passed the middle period of life; the danger becomes so much the more imminent and pressing.

Double vision is another symptom which, even when unaccompanied by any other, is sometimes sufficient proof that the blow is about to descend.

Dr. Gregory knew a sportsman who one day, when out shooting, disputed with his gamekeeper as to the number of dogs they had in the field. He inquired how he came to bring so many as eight dogs with him. The servant assured him there were but four; the gentleman became at once aware of his situation, mounted his horse, and rode home. He had not been long in the house before he was attacked with apoplexy, and died.

I will just mention a case here which forcibly illustrates how much the mind, the temper, and even the natural affections, are under the influence of physical health and physical disease. It may serve to teach us a lesson of charity.

Two children were remarkable for the affection which they bore towards each other. At length one of them seemed to have conceived a violent dislike to the other. Instead of behaving towards him with gentleness and kindness as usual, he treated him with the greatest moroseness. In process of time this child, whose feelings and affections had undergone this violent change, began

to manifest symptoms of disease of the brain. Eventually the skull was trephined, and then it was discovered that a spicula of bone was pressing upon the membranes of the brain and exciting great irritation. This was removed—the child recovered—and all his old affections for his brother at once returned.

It is proper to mention here, that although the symptoms I have enumerated as indicating apopletic tendency are numerous and amongst the most ordinary ones, yet, so diversified are the modes in which this condition of brain often manifests itself, that every uneasy feeling within and even without the head may be a sign of it. An habitually foul tongue is sometimes almost the only symptom which is obviously exhibited. But, on paying great attention to the sensations about the head, some others of the signs I have mentioned will generally be associated with it, but in so slight a degree as to be unnoticed until attention has been directed to them.

Any disturbed condition of any one or more of the three faculties, of sensation, thought, and voluntary motion, may be the precursor of apoplexy.

PREDISPOSING CAUSES.

Persons of both sexes, of all ages, and of every conceivable shape and make, are liable to apoplexy. But those whose ancestors have suffered the same disease; those who have passed the meridian of life; and those who have large heads, red faces, short thick necks, a short, stout, square build, and who are inclined to corpulence, may be considered as having a predisposition to that disease. Nevertheless is is abundantly common among both men and women who are thin, pale, tall, and young; and it sometimes occurs even in young children.

A strong predisposition to apoplexy is moreover engendered by certain other diseases; as kidney disease, disease of the blood-vessels of the brain, disease of the heart, &c., and by any disease or condition which may be capable of throwing any impediment in the way of the circulation, and may tend to accumulate blood in the head. The cessation of habitual discharges, if considerable in quantity, as the monthly periods, the bleeding from piles, &c., and intemperance of whatever kind, whether in eating or drinking, in mental labor, in incessant and long continued application to business, or in any sensual indulgence, have an undoubted ten-

dency to bring the brain into that condition which predisposes it to be affected by apoplexy.

EXCITING CAUSES.

It is obviously of the last importance that persons having a predisposition to apoplexy should be made aware of the exciting causes—that is, those causes which are likely to bring on an apoplectic stroke. I proceed to enumerate them. They are anything which can urge the heart to immoderate action, or impede the free passage of the blood through the heart; as violent exercise, of whatever kind; holding the breath, whether upon an inspiration or expiration; singing, playing on wind instruments, violent coughing, vomiting, sneezing, laughing, crying, shouting. Most persons must have observed the swollen state and redness of the face produced by these actions when violent or long continued. If the brain could be seen, the same phenomena would be observed there also. Straining at stool, or straining of any kind, is always perilous. A very good proof of this was recently afforded. A proprietor of livery stables was attacked by apoplexy while on his way to Ascot races. From this attack he recovered sufficiently to enable him to follow his business. But while dressing one morning, he tugged violently in attempts to pull on a damp boot, and in the midst of his efforts fell back insensible, and never recovered.

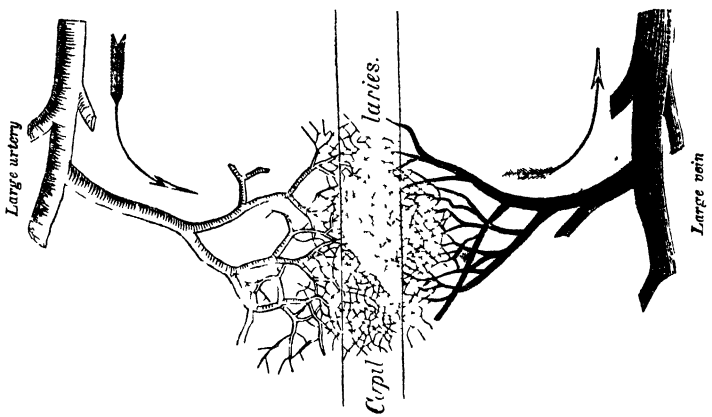
Lifting heavy weights, leaping, striking a hard blow, long and loud talking, as speaking in public, are all actions which those who are predisposed to apoplexy should most carefully avoid. Dr. Abercrombie relates two instances of fatal apoplexy brought on by a sustained exertion of the voice: one happened to a clergyman while delivering his sermon; the other to a literary man while speaking in public. Van Swieten mentions the case of a singer who was obliged to abandon her vocation by reason of gradually increasing giddiness whenever she had to hold a high note. Violent emotion is another exciting cause. Large fires, crowded rooms, the heat of the sun, warm baths, violent excitement of whatever kind; excessive eating, drinking and sleeping, and every other species of excessive sensual indulgence. Posture is also a matter of much importance. Long stooping is dangerous, as in gardening. There is one peculiar position mentioned by Dr. Fothergill as being very unsafe—viz., that position which is assumed when we turn the head to look backwards for any length of time

without turning the body. In this action the jugular vein becomes compressed, and the blood prevented from descending along it out of the head. Tight neck-cloths are dangerous, on the same principle. A Swedish officer, who was desirous that his men should look well in the face, caused them to wear tight stocks; and the consequence was that, in a short time, a great many men in that regiment died of apoplexy. Zitzilius mentions the case of a boy who had drawn his neck-cloth very tight, and was whipping a top, stooping and rising alternately. After a short time he fell down in an apopletic fit. In this case the exercise drove the blood to the brain with unusual violence, while the pressure by the neck-cloth on the jugular veins prevented its free return.

Another prolific predisposing cause, which I omitted to mention, is constipation of the bowels, and the incessant use of irritating drugs to which the patient has recourse in order to get his bowels relieved. The almost daily irritation thus set up in the stomach is instantly propagated to the brain—such and so intimate is the connection, by nerves, between the brain and stomach. The brain is thus kept in a state very similar to that which would be produced by frequently pricking it with fine needles; or by irritating it perpetually by the application of electric sparks.

The seat of apoplexy is in the capillary blood-vessels of the brain, that wonderful net-work of vessels which lies between the terminations of arteries, and the beginnings of veins. The annexed diagram exhibits an illustration of the capillaries.

DIAGRAM OF THE CAPILLARIES.



EXPLANATION OF THE DIAGRAM.

On the left is seen a portion of a rather large artery, bringing blood from the heart. It gives off a branch. This branch is soon split up into two smaller ones, and these again into others still smaller, until they terminate in a net-work of capillaries—that is, vessels like hairs—invisible except under the microscope. These capillaries, after twisting and turning, and coiling about, in all directions, are finally gathered together, several into one, so as to form small veins, as seen to the right of the right-hand fine perpendicular line. These small veins are united, two or more into one, so as to form larger veins; these again are united into one branch which empties itself into one larger still, and which forms the extreme boundary of the diagram on the right side, and which conveys the blood thus collected from the capillary system, back towards the heart. That confused net-work of minute vessels occupying the central portion of the diagram, and lying between the two fine perpendicular lines, constitutes the capillary system of blood-vessels, into which blood is brought by the arteries, and out of which it is conveyed by the veins. It is while traversing this system that the blood yields up its nutritious elements to the body, loses its vermilion hue, and acquires its black color and vicious qualities.

TREATMENT FOR APOPLECTIC FULNESS.

In these cases, the chief object is to reduce the volume of the blood, and diminish the general tension of the whole system. In attempting to achieve this, however, care must be taken not to superinduce any important amount of weakness.

The wet sheet should be taken every alternate morning for half an hour; and the sweating blanket every other alternate morning, until sweating is produced; and the patient should perspire for fifteen or twenty minutes, reckoning from the time the forehead becomes moist. The sheet and blanket should be followed by a shallow bath for three or five minutes.

At twelve in the day, or five in the afternoon, the shallow bath should be repeated for the same number of minutes.

If a douche can be procured, this may, after the first week or two, be substituted for the second shallow bath, and may be taken for two or three minutes.

Should the strength begin to fail under this treatment, the blanket may be discontinued, while the sheet is continued every other morning as usual, a shallow bath merely being taken on the other alternate mornings.

Should the strength still fail, the sheet may next be left off, and merely a shallow bath be taken twice a day; or a shallow bath in the morning and a douche at twelve.

Occasionally the shallow bath may be varied for the wash-down or pail douche.

DIET.

Diet, here, is of especial importance. It should be light and spare. About three ounces of brown bread and butter may be taken at breakfast and tea time, with half a tumbler of cold water instead of tea. About eight ounces of brown bread pudding should be taken for dinner, with half a tumbler of cold water.

It should be remembered that, the great object being to diminish the quantity of the fluids contained within the body, the less liquids that are taken into the stomach the better. Certainly not more than a pint a day should be taken.

The diet above recommended, however, as it regards solids, should not be continued for more than one week. It should then be improved by the addition of two ounces of lean meat and two ounces of bread, but substracting two ounces from the weight of pudding. This may go on for another week.

In the third week, the dinner may consist of three ounces of meat, three ounces of bread, and four ounces of pudding.

In the fourth week, four ounces of bread and butter may be taken at breakfast and at tea time, and four ounces of meat and six ounces of bread may constitute the dinner.

The quantity of food, however, must vary a little in different constitutions. Some will require rather more than this—some rather less; especially during the first month. Something will depend upon the previous habits of the patient, upon his appetite, upon the effects produced, and upon his own sensations.

In some cases it may be and is advisable that the patient should abstain altogether from animal food—making only a spare dinner of vegetables alone, and even of these not eating very abundantly.

I am able here to lay down one golden rule of universal application, which is this: that so long as the physical strength (which

is easily tested by walking) does not suffer, the patient cannot possibly eat too little. And many persons will be astonished to find how little is sufficient for this purpose.

He should weigh himself every day.

It is necessary to make the patient aware, that under this rigid diet the bowels will most commonly be constipated. It cannot well be otherwise; at all events during the first and second week. But this constipation is of no consequence, and will certainly cease as soon as the patient returns to a fuller and more mixed diet.

A dose of castor oil, however, or any other simple and vegetable aperient, taken once in four or five days, will do no harm, and will help to facilitate the reductive process.

EXERCISE.

At the outset—that is, for the first three of four days—exercise should be moderate. But as soon as the system has been lightened a little by three or four days of abstinence, it should be increased, and should always be taken to the extent of perspiration.

Perspiration obtained by exercise is always far better, more useful, less weakening, than that obtained by any artificial means

If there be any difficulty in exciting the skin to action by exercise, a great coat or two may be worn while taking it.

It is of the utmost consequence to be remembered that the regimen, diet, treatment, and exercise here recommended, are only applicable to apoplectic fulness merely—that condition which I have described as being one, not of actual disease, but merely of excessive fulness, and symptomatic of approaching disease.

TREATMENT

To be adopted by those in whom such premonitory symptoms are developed as indicate the *actual commencement* of apoplectic disease, irrespectively of mere apoplectic fulness by itself alone.

These symptoms constitute that long list beginning with "vitiated tastes and smells," enumerated immediately after my description of apoplectic fulness; and may, as I have there mentioned, be all resolved into some disturbance in one or more of the three faculties, of sensation, voluntary motion, and thought or mind

Whatever may be the make and mould of persons exhibiting

well-marked premonitory signs of the commencement of apoplectic disease—whatever their external appearance—they can seldom bear much lowering. They are generally weak at the core; and this must be kept constantly in mind during the treatment, the general character of which should be light and tonic. This applies with ten-fold force in the case of persons who treat themselves without the assistance of medical advice.

The treatment should begin with some light bath once a-day—as a pail douche every morning. When this has been taken for a week, and it has been found that the patient bears it very well, it may be repeated at twelve o'clock, or at five in the evening. In a week or two more, the wash-down may be substituted for the pail douche.

As the patient gets gradually accustomed to the impression of the cold, and becomes sensible of increasing strength, he may take the shallow bath for two minutes every morning, and the wash-down at twelve o'clock, or in the evening at five. Having continued this treatment for two or three weeks, and cautiously feeling his way, he may take the half-wet sheet for twenty minutes every other morning before his shallow bath.

The signs by which he will know that any one bath is too much for him are, an increase in the intensity of the particular apoplectic symptoms under which he labors, or the coming on of new ones.

In two of my cases I tried the douche. In the one instance it always produced inarticulate speech soon after coming out of it; in the other, unsteadiness of gait.

The coming on of a sense of weakness and lassitude, is also significant of excessive treatment. Should the patient be sleepless at night, or much excited at bed time, he may take a tepid sitz bath for twenty minutes immediately before getting into bed, keeping a wet folded towel constantly applied to the head while in the bath. Or he may wear the wet skull-cap for an hour previously to going to bed, dipping it anew into cold water about every fifteen minutes. While wearing the wet cap, he may have his feet immersed in hot water for the latter half of the time.

If the patient be of full habit of body, florid complexion, and inclined to corpulence, his diet must be spare, and he should avoid all fat and greasy articles, as fat meats, butter, cocoa, chocolate;

and should use sugar very sparingly. He should also drink as small a quantity of liquids during the day as possible.

His diet at first may consist of three ounces of brown toasted bread, with a single cup of weak black tea, three times a-day. If the weather be warm, cold water may be substituted for the tea. I say brown bread; and I do not say this unadvisedly, nor because of any action which the bran may exert upon the bowels. Wholly irrespective of this action, brown bread is at all times more wholesome than white.

The above diet may be continued so long as no impression be made upon the physical strength. But as soon as the patient becomes conscious of weakness; as soon as he feels that he cannot walk so far as usual without fatigue, it must be improved. He may now put an additional ounce upon his breakfast and third meal; and may add two ounces of lean mutton to his dinner. He will probably stand this very well for a fortnight, at the end of which he may add another ounce to his breakfast and third meal; and take at his dinner an additional ounce of meat, and a moderately sized potato in addition to his bread. Having taken this diet for a week, he must begin to question himself about his strength every day, the object of which questioning is to find out exactly whether he be now taking as much food as is necessary to support his physical strength; or whether he be taking more than is necessary for that purpose.

He must endeavor to find out the exact quantity which is enough without being, in the smallest degree, too much.

Having ascertained this important point, there he must stick.

In summer time he ought certainly not to wear flannel at all. In winter time he should not wear it in bed; and, unless he feel starved without it, he had better not wear it at all even in winter. He may, however, wear flannel drawers.

EXERCISE.

His exercise must be moderate and gradual, and regulated according to his existing strength. The patient should never greatly hurry his breathing or his circulation, as by straining up-hill, running, leaping, galloping on horseback, &c. Let him read carefully over, and impress well on his memory, the list I have given of the exciting causes of apoplexy, and be careful to avoid them all.

He must not, however, shun exercise altogether, and must be as much as possible in the open air.

As he finds himself capable of exercise with more and more facility and comfort, its amount may, and ought to be, increased.

But in those cases in which the patient is pale, lean, and weakly to begin with; or in which, though fat, he is inclined to be low, nervous, and desponding, and is evidently much enfeebled; the diet must be considerably modified; for a deficiency of blood as it regards the whole body is quite compatible with an excess of it as it regards the brain.

In such cases the amount of food should not be so much reduced, and there are some in which it may even be desirable to give the patient a full diet. For apoplexy does not always depend merely upon congestion of the cerebral vessels. There may be ossification of some of the cerebral arteries, and other conspiring causes to be taken into the account.

Where the patient is pale and thin, therefore, but has a tolerably full and strong pulse, with some considerable walking powers, he should begin by limiting his food to eighteen ounces a-day, three or four ounces of which should be meat. Taking this for the starting point, he may increase it or diminish it according to his own sensations, and his general feeling of strength or otherwise, until he finds out the exact quantity which is sufficient to support his strength perfectly, without being more than enough to fulfil that intention. He need not confine himself wholly to bread and meat, but may take plain diet. Nor is it necessary to abstain so rigidly from drinking, although he should take no more than is sufficient to allay thirst and wash down his food in comfort.

Care not to exceed in exercise is here more than ever of importance. No stimulants of any kind should be taken.

ASTHMA.

Asthma is a nervous spasmodic disease. And it is necessary to caution the reader against the vulgar error of calling every case of cough and difficulty of breathing by the name of asthma. Asthma is generally supposed not to be a dangerous disease; and therefore, patients, especially consumptive patients, are constantly and fallaciously consoling themselves with the hope that they are merely asthmatic.

The air-tubes of the lungs are encircled by minute bands of a muscular structure, which, like other muscular fibres, are liable to be affected by spasm. It is the spasmodic action of these muscular rings, greatly diminishing the normal calibre of the air-passages, which constitutes an attack of asthma. It is paroxysmal, like ague; but does not always, like the latter, occur at fixed periods. When a person has already been the victim of its attacks, he is frequently aware, from the state of his feelings, when one is about to lay hold of him. Thus he labors beforehand under some distressing derangement of his digestive viscera. Excessive and painful flatulence, with loss of appetite, warn him of its approach. At the same time he becomes irritable, drowsy and languid, and feels oppressed and weak. In this state of body and mind he goes to bed. Soon after midninght, probably in the catastrophe of some horrid illusion, or early in the morning, he starts up in great alarm. A load appears to hang upon his chest and prevent his breathing. The horizontal position is irksome, and he raises himself on his elbow. That will not suffice. He then sits upright in bed, draws his knees up, and does everything in his power to facilitate his respiration. Still, in spite of all this, it becomes worse and worse, more difficult, and more scant, till at last, gasping with his mouth wide open and wheezing frightfully, he springs out of bed, rushes to the window, and leans right out. In this situation, gasping and wheezing, and, in his endeavors to speak, giving utterance to a few almost unintelligible words, will he remain till the spasm is unlocked and he is relieved. The peculiar wheezing sound, so characteristic of this disorder and sometimes so loud as to be heard a long way off, is developed by the forcible passage of air through the unnaturally narrowed channels for respiration.

The symptoms which I have now described, embrace everything which is necessary to constitute a fit of asthma. Nevertheless, it may be as well to mention some of the concomitant circumstances. The face is most commonly pale, haggard and shrunk; but occasionally it is flushed and swollen. The latter is the case when the respiration is so slow and laborious that the blood cannot pass through the lungs, and being detained there, checks the progress also of the blood within the head. It is in the more severe cases that this flushing of the face is observed, and it is always a sign, inasmuch as it denotes impending suffocation. The body is sometimes bathed in an immoderate perspiration, while at the same

time the hands and feet are unusually cold. Occasionally the heart palpitates violently, and they pulse is small, feeble, and irregular. Sometimes, also, the bowels and bladder are evacuated at the commencement of the attack. When the latter occurs, the state of the urine is worthy of observation. It is light, limpid, and without smell or color. It very much resembles that voided by insane persons and hysterical women, and is very copious.

The attack is for the most part over in three or four hours, but it will sometimes, though rarely, last as many days. Nay, in very severe cases, according to Dr. Robert Thomas, it will extend over a period of three weeks without any material intermission. Generally, however, towards morning, (for this seizure almost always takes place at night,) a remission alleviates the sufferer's pain. The breathing becomes more tranquil and easy, and the patient is enabled to speak or cough, neither of which he could accomplish before. The cough is frequently accompanied by the expectoration of some phlegm, when the asthma is said to be humid; when this is not the case, it is called dry asthma. As soon as any mucus is expectorated, immediate relief follows, and the patient again propitiates the god of sleep.

Sometimes, every night will bring with it a paroxysm of this kind for many nights in succession; but the length and severity of these paroxysms will at last gradually diminished, till, for a period, they cease altogether. But, even although the asthmatic attack has passed quite away, the person who has been so afflicted, is still far from well. Very slight exercise takes away his breath; in conversing, he is frequently compelled to stop and take breath; walking quickly up stairs makes him pant and blow like a broken-winded horse.

PREDISPOSING CAUSES.

Among the important predisposing causes of this disease, the most prominent, certainly, is hereditary taint; as in the case of apoplexy, gout, and scrofula, a tendency or predisposition to this malady is handed down from father to son, sometimes for many generations. Another important and very general remote cause of an asthmatic attack is a previous seizure. This fact is observable in most other nervous diseases, as epilepsy, St. Vitus' dance, apoplexy, and many others. In the instance before us, when there has been a single fit, the patient rarely escapes without

many and many a recurrence. The existence of previous disease in the lungs or heart always renders a man more prone to asthma. Thus, a person may have lungs and heart healthy enough to carry on the process of purifying the blood, when every other part of the animal economy is in perfect order; but not sufficiently so, if anything occurs to clog the motion of a single wheel in the vital machine. For instance, if a man, laboring under any permanently damaged condition of the thoracic organs, and whose stomach is habitually in a weakly state, make an excessive meal shortly before retiring to rest, in about two or three hours afterwards, when digestion has gone on for some time, his stomach will become distended with gas. This, aided considerably by the recumbent position, will press against the diaphragm and so cramp the movements of the chest. Now, in a healthy chest, no harm would accrue from this; but in a previously diseased one, no compensation for the unnatural pressure can occur, and congestion of the tissue of the previously healthy portion of lung will happen, and probably a fit, such as I have described, be the consequence. This leads me to speak of the immediate or exciting causes of asthma.

EXCITING CAUSES.

First, then, distension of the stomach and flatulency of the bowels will bring it on. Secondly, any undue amount of work imposed upon a heart or pair of lungs, which shall be able to do duty only when the body is in a state of perfect order and quietude. But the most remarkable exciting cause of all is, a peculiar influence which the atmosphere, or rather certain states of the atmosphere, seem to exert upon the asthmatic. That this is the case is proved beyond a doubt, but the rationale is involved in the greatest obscurity. Different persons are affected in different ways. Where one asthmatic can live free from his enemy, another would be half strangled by it. Some people predisposed to this disorder cannot live in exposed, bleak, and windy places. Others cannot live in damp, marshy districts. Others, again, shun the thick, foggy air of large towns, and court the bleak tops of high hills. Others breathe the best in low, damp, marshy districts. Some breathe nowhere with so much freedom as in the smoky atmosphere of London. This eccentricity is sometimes carried so far that an asthmatic patient can only inspire the air of

one particular part of a town. Nay, Dr. Watson relates a most extraordinary case. A patient of his, when in Paris, used to lodge at Meurice's Hotel. In a front room he could sleep well, but if he attempted to sleep at the back of the house, he never escaped a fit of asthma. There are also various odors which inevitably induce an attack of this malady in those who are subject to it. The odor of ipecacuanha is the most familiar example I can give of this.

Inasmuch as this disorder differs from most affections of the chest by residing in the nervous system, and therefore requires treatment applicable to nervous diseases, before I proceed to describe the method of treating it, I will adduce the principal evidence to prove that the nerves are the structures implicated, and therefore that the nerves are the structures amenable to treatment. In the first place, then, the capriciousness of the nerves is alone sufficient to explain the rapidity with which it comes and goes. In the second place, it is frequently induced by mental impressions, as fear, grief, or sudden surprise. Moreover, a feeling something akin to cramp is experienced in the chest, and sometimes also accompanied by genuine cramp of the leg. Lastly, those remedies which are of use in nervous diseases are of use in this, and those which are of no avail in the former are of none in the latter.

But I believe that asthma frequently depends on eruptions repelled from the skin, which, falling on the air tubes, irritate their nerves and produce spasmodic contraction of their muscular rings. Or the eruption may fall on these tubes in the first instance, instead of appearing on the skin at all. Cases strongly confirmatory of this opinion have come within my own knowledge. A gentleman, residing at St. Petersburg, but who had come to England on business, called on me. He had suffered for a long time under a most severe asthma, which nothing had been able to relieve. At last there appeared upon his body a large patch of an itching eruption. This remained out upon the skin for several weeks. Immediately previous to its appearance he was suffering severely under his asthma. The moment, however, that it came out, his asthma ceased as if by magic; but directly it went in again his asthma returned. In several cases of asthma, too, I have observed that an eruption has appeared upon the skin during the treatment, and that these cases have begun to improve simultaneously with such appearance. The curability of asthma, however, will greatly

depend on whether or not there be any other disease—organic disease—within the chest.

TREATMENT.

For the first three days the patient may gradually accustom his skin to the impression of cold, by rubbing his chest thoroughly well about eleven o'clock in the morning, with a towel dipped in water at 70° Fah.; immediately after which he may dress and take a gentle walk.

This process may be repeated immediately before getting into bed at night.

For the next three days he may take a wet friction twice a-day —water still at 70°—and the friction with the towels should be well and vigorously applied. For three days more he may take a wash-down twice a day—water at 65°. He may then take the half wet sheet for thirty minutes, every other morning, followed by the shallow bath, and a wash-down every evening at five o'clock. On the mornings intervening between those on which he takes the sheet, he must take the shallow bath alone, covering himself well with bed clothing for half an hour before the time of taking it.

In a month more he may take the sheet every morning for twenty minutes, followed by the shallow bath—still continuing the wash-down in the evening.

If this treatment agree well with him, he may, in a fortnight, take a second half wet sheet for twenty minutes, immediately before his evening wash-down.

Previously to commencing the treatment, the patient should be well assured that he has no organic disease within the chest, head, or abdomen, which might render it advisable to modify it.

If the patient have any difficulty in getting warm in his evening sheet he may take a short brisk walk, for ten or fifteen minutes, according to his walking powers. While he is absent his sheet should be prepared, and be ready spread to receive him on his return. When he comes in he should go straight to his bed room, undress instantly, before he has time to cool, and jump at once into the sheet. Or he may place upon the sheet a double slip of thick new flannel, or flannel ironing cloth, for his spine to rest upon. This should be four inches broad, and long enough to extend from the nape of the neck to the lower extremity of the back bone.

Or he may adopt both these precautions—that is, both the walk and the flannel too.

If the weather be cold, the water used for bathing should have a temperature of 70° or even 75° of Fahrenheit, at the commencement, which may be afterwards gradually reduced to 60°, or even lower.

The treatment recommended last (two half-wet sheets a-day) may be continued so long as it produces no inconvenience, and the patient's strength can easily bear it. When he begins to feel sensible of weakness, the morning sheet may be discontinued.

Should the bowels become costive, or painful, or distended, four, five, or six drams of castor oil may be taken, and the treatment should be suspended till these symptoms disappear.

Should the face become flushed and swollen, the treatment should be discontinued altogether.

Change of air alone is sometimes very serviceable in asthma.

In the last case of asthma to which I was called, while yet practising the drug-treatment in London, the patient was killed by one of the remedies which were ordered for him—the Lobelia inflata.

The object of the treatment is to establish a rash or other eruption on the skin.

DIET.

The patient should use plain diet, and take great care never to overload his stomach, especially in the evening. He should not take too much lean meat, and that only once a-day. He should take no stimulants, and may drink from six to eight tumblers of water daily, when the stomach is empty.

EXERCISE.

His exercise, whether on foot or on horseback, should be moderate and apportioned always to his strength. He should carefully avoid walking up hill, and should never fatigue himself.

WET BANDAGE.

This must be renewed at every bathing, and should extend up to the arm pits; should be worn night and day; should be covered with oiled silk, and this again with flannel, and should be so closely applied and so well covered by the dry covering over it, that the

cold air cannot get under it, nor the warm air escape from beneath it, at its edges. If the bowels be (not absolutely confined, but) sluggish, a little well-boiled green vegetable may be added to his dinner.

Asthma is sometimes a very serious disease, and whoever undertakes to treat himself, must exercise continued watchfulness over his sensations, and feel his way with unabating caution.

The particular danger to be apprehended in asthma—the manner of the death whenever death happens—is suffocation.

Should any crisis appear, the patient should at once consult some hydropathic physician. As it is impossible to foresee what form the crisis may assume, no previous directions can be given. But I recommend persons suffering under asthma, and desirous of trying the hydropathic treatment, not to do so without the superintendence of a medical man, if circumstances will permit it.

ANÆMIC ASTHENIA,

OR, GENERAL DEBILITY FROM POVERTY OF BLOOD.

This is a condition into which people frequently fall from various causes. It is produced by frequent losses of blood, either artificially, as by blood-letting, or frequent leeching; or naturally, as by bleeding piles, excessive losses at the monthly periods, &c. Frequent purging of the bowels will often occasion it; constant drugging is a fruitful source of it. It is also occasioned by insufficient food, or food of an unwholesome quality. People are often starved into this condition by the vain endeavors of medical men to cure indigestion, by giving the stomach nothing to digest, or next to nothing. I have met with a great many cases of this description. People go to their medical man to complain that this, that, and the other thing, disagree with their stomachs; and the medical man replies: "then don't eat them." And this goes on until the patient is at last brought to starve himself upon a single mutton chop and piece of bread.

The only marked symptom is general debility; with (frequently) pallor of the face, tongue, and lips, and a general sense of lassitude and languor. Sometimes, however, such persons are subject to breakings out upon the skin of various kinds; and any slight injury, as a cut for instance, does not readily heal. The pulse is commonly small and feeble.

If blood be drawn from the arm, and suffered to stand in a basin, there is found a very small clot of red blood floating in the middle of a very large quantity of water.

TREATMENT.

This affection requires a light tonic treatment. But, as the functions of the skin are generally impaired, the wet sheet should be used occasionally for a week, and then discontinued, and again resumed for another week, according to the condition of the skin, and its effects upon the patient.

A wash-down twice a-day; a pail douche twice a-day; or a shallow bath in the morning, and a sitz bath for ten minutes, at half-past twelve, or at five; will, in most instances, be found to be the sort of treatment most useful in these cases.

If there be any eruption on the skin, the wet sheet may be taken every morning for thirty or forty minutes, followed by a pail douche, and may be continued until it begins to depress the patient's strength. It must be then discontinued, and not resumed until these effects have quite ceased. But the other baths may be continued.

The following case will illustrate the mode of treating general debility from poverty of blood.

In April, 1847, Mrs. ——— came to be treated for this affection. Great debility, with jaded appetite, and pallor of countenance, were the only prominent symptoms. But she was extremely thin, and subject to headache. The utmost distance that she was able to walk, without excessive and painful fatigue, was one mile. Her height was five feet five, and her weight seven stone nine pounds; and she had been in her present condition for six years. Her treatment was as follows:

26th April, 1847.—Weight 7st. 9lbs.—shallow bath at 70°—sitz bath for twenty minutes—ditto, daily.
3rd May.—Weight 7st. 6lbs.—continue same treatment.
10th —— Weight 7st. 8lbs. 8oz.—pail douche twice a-day.
17th —— Weight 7st. 8lbs.—pail douche—half wet sheet for forty minutes, followed by a pail douche, daily.
24th —— Weight 7st. 7lbs. 8oz.—pail douche—ditto, daily.
31st —— Weight 7st. 7lbs. 8oz.—pail douche three times a-day.
7th June.—Weight 7st. 8lbs. 8oz.—continue same treatment.

Up to this time the patient had made but little progress, and it will be observed that she had lost weight. She was very much discouraged, and became anxious to return home, but did not.

14th June.—Weight 7st. 10lbs.—pail douche twice a-day.

21st —— Weight 7st. 11lbs.—improving—pail douche—wet friction at half-past twelve, daily.

28th —— Weight 8st.—wet sheet one hour, and pail douche—pail douche daily.

5th July.—Weight 8st. 3lbs.—improving, and daily gaining strength—shallow bath on rising and plunge bath at five, daily.

12th —— Weight 8st. 2lbs.—still improving—same treatment—daily. This patient was now walking six or seven miles a-day.

19th —— Weight 8st. 5lbs.—the treatment was here interrupted. Walked four miles at one stretch.

26th —— Weight 8st. 6lbs. 8oz.—still no treatment. Walked six miles at one stretch.

2nd August.—Weight 8st. 9lbs. 8oz.—douche, daily.

9th —— Weight 8st. 11lbs. 8oz.—can't bear the douche—one shallow bath, daily. Walked nine miles at one stretch.

16th —— Weight 9st. 0lbs. 12oz.—pail douche—dripping sheet—ditto, daily.

23rd —— Weight 8st. 13lbs. 12oz.—pail douche twice a-day. Walked four miles within the hour.

30th —— Weight 9st. 4lbs. Returned home in good health, having gained 26lbs. in weight in the last two months of her treatment.

DIET.

The full mixed diet should be used in these cases. No more water should be drunk than will allay thirst, the exercise should be graduated according to the patient's growing strength, and the wet bandage may be worn if the bowels be constipated.

No stimulants of any kind must be taken.

APHONIA,

OR, LOSS OF VOICE.—RELAXED THROAT.

Some persons, especially those accustomed to much public speaking, are apt to be troubled with a huskiness of voice, and some soreness of the throat, arising from a relaxed condition of the organs of voice.

Sometimes the voice is reduced almost to a whisper.

Trivial as this affection is, it is often productive of great discomfort and inconvenience; and is sometimes very difficult to remove. A wet bandage, however, worn constantly round the throat, night and day, and covered with a dry one, together with a shallow bath taken every morning on rising, and a wash-down at five, will often remove it. But the voice must be used as little as possible All stimulants should be avoided, a full mixed diet be adopted, and exercise, apportioned to the strength, systematically taken three times a-day, before breakfast, before dinner, and before the third meal, or before bed time.

The throat should be thoroughly well rubbed with the wet hand of an attendant, for five or ten minutes, three times a-day; after which the wet bandage should be reapplied.

ACUTE BRONCHITIS,

OR, COLD IN THE CHEST.

The opening symptoms of this complaint are dry cough, hoarseness, or a sense of roughness and soreness in the windpipe; the chest feels stuffed and constricted; there is some difficulty in breathing, which is more or less laborious; and these symptoms are accompanied perhaps by pains in the limbs or back, resembling rheumatic pains; the bones ache, and there is a general feeling of soreness; the appetite fails; the patient feels thirsty, and complains of a general lassitude over the whole body. With all this there probably is some sense of chilliness and a quickened pulse. The patient feels feverish.

The above group of symptoms constitutes the first stage, which

generally does not last more than twelve or twenty hours. Sometimes, however, though rarely, it will last a day or two.

Some hours, then, after the development of the above symptoms, the second stage commences. The cough is no longer dry, but a transparent, tough, sticky, and frothy mucus is coughed up with difficulty; and occasionally it may be streaked with blood.

Gradually the expectorated mucus ceases to be transparent, and becomes opaque, less tough and sticky, and of a white, greenish, or yellow color. The cough is now said to be loosened. With this change in the appearance of the mucus (which generally happens between the fourth and eighth day of the disease) there is a gradual remission of all the symptoms; and, in a few days more, the disorder has subsided.

This is the course which the disease runs in the most favorable cases.

Sometimes, however, matters do not go on quite so smoothly. The fever runs high; the difficulty of breathing is very considerable; the cough extremely troublesome; and the expectorated matter so tough, sticky, and viscid, that it can with great difficulty be coughed up. A remission of the symptoms does not take place at the usual time.

The disease now begins to assume a dangerous character. If no relief be afforded, and the disorder continue to advance, the next symptoms are those which denote impending suffocation; the lips, cheeks, and tongue become purplish; the countenance assumes a livid paleness; the breathing is excessively laborious; the expression of the face becomes more and more anxious; delirium now comes on; the powers of life sink; cold, clammy, profuse sweats bedew the patient's body, and he dies suffocated—suffocated by the tough phlegm or mucus which blocks up the air passages, preventing the ingress of air to the lungs, and which he has not sufficient strength to cough up.

It now and then happens that acute bronchitis does not advance in the gradual manner above described, but makes its attack, attended by all its worst symptoms, at once—beginning, as it were, at the wrong end.

TREATMENT.

On the first appearance of the symptoms enumerated above as ushering in an attack of acute bronchitis, a pail douche should be

taken immediately, whether those symptoms be first observed on first waking in the morning, or at any other time in the day. And this bath should be repeated every morning on rising.

At five o'clock in the afternoon the half wet sheet may be taken for forty minutes, followed by a pail douche, and repeated every day at the same hour, so long as the pulse is quicker than natural and the skin hotter than usual. If the skin be not hot, nor the pulse quick, the pail douche, or a wash-down, may be taken at five o'clock instead of the sheet, preceded and succeeded by a gentle walk, or ride on horseback, or in an open carriage, if the weather be fine and mild. If not, the patient may walk up and down the largest room in the house for ten or fifteen minutes.

The temperature of the air of the room in which he lives should be 60° Fah.

The patient should not wear flannel next the skin, but should be comfortably clothed, according to the season, when he goes out of doors. If the weather be cold, he should not go out of doors at all.

It should be remembered that the object of the treatment is to keep down feverish excitement, and to diminish the heat and inflammation of the air-tubes, and thus to enable the disease to run its natural course, and terminate in the most favorable manner. The natural course of the disease is not a dangerous, nor even a severe one. It is only when aggravated by neglect, by imprudence or by debilitating treatment, or when the organs within the chest are the seat of old organic mischief, that acute bronchitis assumes an aspect of danger, except in some very rare instances.

If there be much heat and dryness of skin, with a quick pulse and parched tongue, on waking in the morning, and if the pail douche do not seem sufficient to relieve these symptoms, then the half wet sheet may be taken early in the morning for forty minutes before rising, succeeded by a wash-down or shallow bath.

Should the bowels be costive, four, five, or six drams of castor oil may be taken.

Should aggravated symptoms set in; should the breathing become excessively laborious, the countenance pale and livid, the tongue, lips, and cheeks, purplish; there is great danger; and the nearest medical assistance should at once be sought. In these extreme cases, however, but little can be effected by any treatment; for the mischief arises from the mechanical blocking up of the air-tubes by particles of tough, sticky, viscid phlegm.

It is the common practice to give opium in these cases to procure sleep. But the remedy is worse than the disease. As Dr. Watson very truly acknowledges: "Opium is a very ticklish remin these cases. Many a patient—some within my own knowlaboring under general or extensive bronchitis, have been put so soundly to sleep by a dose of opium on going to bed, that they have never waked again."

If the patient be restless and feverish during the night, it is far better to endeavor to soothe him to sleep by tepid sponging of the chest and rest of the trunk, than by the use of so hazardous a remedy as opium.

In spite of all treatment whatever, acute bronchitis will now and then terminate fatally.

DIET.

atient should live entirely on farinaceous puddings, and and butter. Of these, if his appetite be good, he should eat freely. If there be no appetite, then tapioca, sago, gruel, barley water, &c., should be given.

The patient may also drink plentifully of cold water in small doses; a wineglass full every two hours.

No stimulants are to be taken.

As soon as the affection is evidently subsiding, a pail douche every morning will be sufficient treatment to ensure a rapid convalescence. And he should now take a full mixed diet.

CATARRH,

OR COMMON COLD IN THE HEAD.

The symptoms of this affection are too well known to require any minute description. It generally commences with a sense of chilliness, succeeded, especially towards evening, by some slight fever. The nostrils, at first, are dry and stuffed up; tender and irritable; contact with cold air produces sneezing. There is often more or less of headache, with a sense of oppression over the brow. Sometimes the tears flow down the cheek, instead of following their healthy course.

This constitutes the first stage.

The nose, before dry, now begins to secrete a thin, acrid fluid, which irritates, reddens, and inflames the upper lip and parts about the entrance of the nostrils.

The disease is now in its second stage.

By degrees, the thin secretion from the nose becomes thicker, yellowish, less irritating; and gradually diminishes in quantity, and finally subsides altogether; and the cold disappears. In addition to the symptoms enumerated above, there is sometimes a feeling of universal soreness over the body, and the bones ache. There is a sense of constriction at the chest, with some cough, expectoration, and, perhaps, hoarseness of voice; sore throat, considerable lassitude, and disinclination to move about.

TREATMENT.

On the first appearance of a cold in the head the patient should take the half wet sheet for forty minutes. On coming out of the sheet, let him be well rubbed in the dripping sheet for two minutes, then go immediately into the shallow bath and be well rubbed for three minutes more. Let him then dry himself, and take a smart walk for twenty or thirty minutes.

At five in the evening let him take a pail douche.

This treatment may be repeated for three or four days, if necessary.

After this, a pail douche on rising, repeated at five in the evening, will generally be found sufficient to complete the cure.

If the sheet disagrees, the sweating blanket may be taken every morning, for three mornings, followed by the dripping sheet and shallow bath, as recommended above.

Should the cold degenerate into bronchitis, the patient must take the treatment recommended for that disorder.

A very elegant and neat remedy for a cold in the head is the wet head-bag recommended under the head of Hay Asthma, and worn for two or three hours during the day, or all night.

DIET.

At first, the diet should be purely farinaceous, and scanty in quantity. A little bread and butter for breakfast and tea, (about three ounces,) and a little pudding only for dinner, (about eight ounces). This diet should continue until the cold begins to break;

when it should be increased in quantity, and some animal food added to it at dinner. As soon as the nose begins to discharge, the patient should rigidly abstain from all fluids, or as nearly so as possible, for forty-eight hours; taking only one table spoonful of water twice in the day, and one wine glass full at bed time. No stimulants.

EXERCISE.

He should not fatigue himself with much exercise, especially for the first two or three days.

CHRONIC BRONCHITIS, CHRONIC COUGH, CHRONIC CATARRH,

OR WINTER COUGH.

Sometimes an attack of acute bronchitis leaves behind a legacy, in the shape of chronic bronchitis—a slow, subdued, or chronic inflammation of the bronchial tubes. But, just as often, the latter comes on without having been preceded by the acute form.

The prominent symptoms of chronic bronchitis are shortness of breath, expectoration, (sometimes tinged or streaked with blood,) and cough.

Herein it resembles the acute disorder; but it will soon be seen to differ from the latter in many important particulars.

It does not run through a definite course. It most frequently attacks those who are of an advanced age. It comes on when the cold season begins, and departs on the approach of spring, or, at all events, of summer. Every winter brings it back again, and so on.

It is very frequently complicated with or even sometimes apparently quite dependent upon some chronic change in the structure of the heart.

Every winter, then, the patient begins to breathe thick, and short, and this difficulty in his respiration varies very much day by day, depending upon the fluctuations of the temperature, and the hygrometric state of the atmosphere. He begins, too, to spit a great deal. The expectoration is not tenacious, stringy, and

transparent or frothy, as in the acute form of the complaint, but opaque, yellowish or greenish, and friable.

Occasionally this discharge is very profuse; and, with emaciation and debility, constitutes the only evidence of the disease. Two or three pints have been evacuated daily.

It by no means unfrequently happens that this chronic affection of the air tubes clothes itself with all the appearance and symptoms of pulmonary consumption. The extreme importance of this resemblance cannot be urged with too great earnestness on the consideration of the reader. Because, if a patient labor under such an advanced stage of consumption as to exhibit the symptoms which I shall presently describe, he is sure to succumb to it; whereas, if their development depend only upon the disease now under discussion, he may, and very probably will, recover. The profuse expectoration, the emaciation and debility, may be accompanied by hectic fever, nocturnal sweats and uncontrollable diarrhœa; which are also equally indicative of incurable consumption. So precisely similar are the symptoms, that numbers of instances have occurred where the most eminent physicians have been mistaken in their diagnosis. The error of diagnosis has of course led to an error of prognosis; so that frequently, believing their patient to be beyond all hope of recovery, they have paid him their last visit, never expecting to see him again. But after the lapse of years they have been amazed and confounded by encountering him in the full enjoyment of robust health and manly vigor.

It is the recovery of patients laboring under this disease, simulating consumption, that has led to that most erroneous idea, that pulmonary consumption, even when fully established, is a curable disease.

TREATMENT.

The chief object here is to support the strength; for in pure, uncomplicated, chronic bronchitis, the very essence of the disease is weakness; and want of power in the system is the only reason why it does not get well.

It is the sustaining cause of the complaint.

The pail douche is an admirable remedy in these cases. It may be taken (first at 70° Fah.) every morning on rising for a week or two. It may then be administered twice a-day. Occasionally it

may be varied for the wash down, the shallow bath, or the sitz—the last for not more than ten minutes. When the sitz is taken it should be at twelve o'clock, or about three hours after dinner.

If the disease does not yield to this treatment in a month, or show evident signs of improvement, the patient should have, if possible, change of air.

Should feverish symptoms come on, he may take a single half wet sheet for forty minutes, followed by a pail douche. In winter time, or in any cold weather, he should wear a flannel waiscoat; and in all other respects be comfortably clothed. But he should always avoid sitting near a large fire, and heated rooms.

Before commencing the treatment, care should be taken to ascertain that there is no other disease present which may contra-indicate the treatment here recommended.

DIET.

He should take the mixed diet, but be very careful never to load his stomach; and should avoid all stimulants. But if the mixed diet seem to aggravate the cough, he may dine plentifully on any farinaceous puddings.

He should not eat largely of lean meat.

He may drink some six or eight tumblers of water daily.

The temperature of his room should be about 60° Fah.

EXERCISE.

This must be graduated according to his strength. He should never greatly hurry his circulation or his breathing.

CHOREA SANCTI VITI,

OR, ST. VITUS' DANCE.

This singular disease, which more frequently affects children than adults, occurs in those of a nervous excitable constitution.

It begins generally with slight twitching of some of the muscles of the face. Gradually the spasm becomes more pronounced, and after perhaps a few days, the features are in constant agitation.

To look at the child, one would imagine that it was mouthing and making faces at you; but the contortions of countenance continue so long that they are evidently wholly independent of the will. Each fit of face-making is succeeded by a vacant, silly look; the muscles of the face, however, soon recommence their antic play. If the patient be requested to put out his tongue, after several vain attempts, it is suddenly jerked out, and as suddenly jerked in again. He is constantly writhing his shoulders. The arms and hands, too, are in perpetual motion, and the fingers seem employed in twisting or pulling some invisible object. If the little patient endeavor to write, he finds it impossible to restrain the pen within its proper office, for it will jump backwards and upwards, hither and thither, in all directions but the right. Neither can he carry his food to his mouth without offering it first to his nose or his chin, and perchance to each shoulder.

So with the lower extremities. When the child is sitting, either his feet tattoo the ground, or shuffle backwards and forwards, or are thrown across each other. When he tries to walk, instead of going directly to the spot which he wishes to gain, he moves like a bewildered dancer lost in the mazes of a new quadrille; and only accomplishes his purpose after a zigzag course; sometimes even, when half-way, he wheels right about and returns to his former place. The muscles of speech are affected in the same manner. His words are uttered in a rapid, broken, half-articulate fashion. So strangely grotesque are all the motions, that the disease has been metaphorically termed "insanity of the muscles."

When the disease is strongly marked, it is generally accompanied by slight impairment of the mental faculties; and the countenance wears a peculiarly foolish expression. But this goes off as the disease subsides.

It is not attended with pain. The functions of the stomach and bowels are usually somewhat deranged. The tongue is foul, the breath offensive, the appetite capricious, the abdomen portuberant, the bowels constipated.

St. Vitus' dance sometimes occurs in a milder form; and children frequently undergo the reproach of the ignorant for what is simply a disease.

These children are awkward in their movements, clumsy in their actions. They break plates and tea-cups, and stumble over the furniture, spill the soup over the dinner table. Or they may have what is called a knack or kabit of knitting their eye-brows, shrug-

ging their shoulders, or twitching their mouths. For these supposed tricks they are severely blamed, but often most unjustly, for they are not uncommonly the expression of genuine disease.

In its rarest and most aggravated form the convulsions are so severe and so prolonged that they ultimately exhaust the patient's strength, and terminate only in death.

But generally it is a curable disease.

EXCITING CAUSES.

By far the most common exciting cause of this complaint is some sudden fright, or other shock to the nervous system. I remember a little girl, who was intended to figure as a fairy at a Christmas pantomime, but her emotion on facing the audience not only deprived her of the power of performing her part, but actually brought upon her this disease, so that her ridiculous gestures marred the great tableau of the piece, and exposed her to the anger of the manager.

TREATMENT.

A shallow bath or wash-down every morning; a sitz bath for twenty minutes every day at twelve o'clock, and a pail douche every evening at five; a half wet sheet being taken twice a week, for twenty minutes, early in the morning, before the wash-down or shallow bath; is the sort of treatment suited to this disease.

The douche is very serviceable in this affection; so also is the plunge bath. But these can rarely be obtained in private houses.

Occasionally the treatment should be varied. Leaving the early morning treatment always the same, the dripping sheet may be sometimes substituted for the sitz bath, and the wash-down for the pail douche, et vice versâ.

Should the patient's strength suffer under this treatment, the third bath may be altogether omitted, the wet sheet discontinued, and the pail douche substituted for the shallow bath in the morning.

DIET.

A full mixed diet will be proper, and the patient may drink seven or eight tumblers full of water (on an empty stomach) in the course of the day.

EXERCISE.

The child should live in the open air, and be in exercise and play all day long.

He should not wear flannel, unless he be very delicate, and then only in winter and during the day.

But he should be always comfortably clad.

CYNANCHE PAROTIDŒA; PAROTITIS;

OR MUMPS.

In this disease the glands behind the ears become tender, hot, painful, and swollen. The swelling soon involves the neighboring glands, and travels behind and beneath the jaw. Sometimes, one side only suffers; sometimes, both are affected; sometimes the swelling and inflammation, having subsided on one side, occupy the other. These symptoms are attended with pain and difficulty in opening the jaw. There is generally some slight febrile disturbance.

The disease attains its climax in about four days, and disappears within four more.

This complaint is undoubtedly catching, and rarely attacks the same individual twice.

It is stated that, in certain cases, upon the sudden subsidence of the inflammation in the glands behind the ear, the breasts in the female (of the same side as the inflamed glands of the ear) become swollen and tender.

When this secondary inflammation departs, the glands thus attacked sometimes waste and shrivel; and sometimes the inflammation takes a second kangaroo leap, and lights upon the brain.

Sometimes, it dodges from the glands behind the ear to the breast, from the breast to the brain, from the brain back again to the glands behind the ear, and that with such rapidity that we find it very difficult to overtake it and arrest its progress.

I have no doubt that mumps (as well as hooping cough) is, strictly speaking, an eruptive disease; the habitat of the eruption being the parotid gland, instead of the skin.

TREATMENT.

A wet sheet every morning for forty minutes, followed by a wash-down; and a sitz bath twice a-day, at twelve and five o'clock, for fifteen minutes; are all that will be required.

A heating compress may be constantly applied to the swelling.

This should be entirely farinaceous for the first three or four days. After this, the plain diet should be used for four or five days. Then, the full mixed diet is to be used.

CYNANCHE TONSILLARIS; TONSILLITIS:

INFLAMMATORY SORE THROAT, OR QUINSY; COMMON SORE THROAT.

Slight uneasiness and difficulty of swallowing, with a sense of dryness and constriction of the back of the mouth, and a feeling as if some foreign body had become therein impacted; redness and swelling of the tonsils or kernels of the throat, and all the neighboring parts; mark the commencement of this complaint. The uvula is of a scarlet color, and so elongated that it drops upon the base of the tongue, causing constant ineffectual attempts at swallowing.

In the second stage of the malady, an abundant transparent, frothy, and sticky mucus is secreted, which adheres to the inflamed membrane. This, the patient endeavors to expel by constant hawking and swallowing.

In an early stage of the disease, the tonsils are seen speckled with white points, secreted by the follicles of those glands.

In bad cases, the inflammation extends to the glands behind the ear, which then swell and pour out a continued current of saliva.

Sometimes, the tonsils, greatly swollen, meet, and almost entirely block up the passage to the throat.

The act of swallowing is exceedingly painful and difficult; and liquids taken into the mouth return through the nostrils.

In certain cases, (and this symptom very generally indicates

suppuration,) there is a shooting pain from the throat to the ear. Singing in the ears, and partial deafness also occur. The voice is mostly affected. The speech is thick, guttural, and inarticulate. Sometimes, when the inflammation extends over the whole mouth, involving the root of the tongue, which is then considerably swollen, the patient is unable to separate the jaws, even so far as to admit of the introduction of the finger.

Sometimes, this general tumefaction so far impedes respiration, that danger arises from this source.

With this exception, the disease never threatens life.

The inflammation terminates by gradual subsidence, or by suppuration; that is to say, an abscess forms, which, if not opened, as it always should be when possible, bursts and discharges profusely; and the inflammation dies away.

Suppuration is announced by one or more shivering fits.

After the disappearance of the disease, the tonsils not unfrequently remain permanently enlarged, and sometimes require to be abbreviated by the surgeon's knife.

During the violence of the inflammation, the patient usually suffers from smart fever. His pulse sometimes rises to 120 beats in a minute.

There is sometimes present severe headache.

EXCITING CAUSES.

Exposure to cold.

Sometimes the disease is epidemic. It attacks so many persons at once, that it has been thought to be contagious. But it is not so.

The cause of its general diffusion is to be sought in atmospheric influences.

TREATMENT.

If the proper means be adopted at the first onset of this disorder, it may generally be cut short at once.

Three times a-day the patient should kneel down before an empty sitz bath, and bend down his head quite into it. An assistant should then pour two or three pails of cold water over the back of the neck and back of the head.

A wet cloth, two or three times folded, should be applied round the throat, covered with a dry one, also two or three times folded. This should be worn night and day, and frequently renewed.

The throat should be well gargled with cold water—deluged with it—all day long; and as much cold water should be swallowed as the patient can get down.

In addition to all this, a wash-down should be taken on rising every morning, and a sitz bath twice a-day for twenty minutes, at twelve and five o'clock.

If the patient be very delicate and weakly, the wash-down and sitz bath may be omitted.

If the inflammation, in spite of this treatment, should increase and threaten suffocation, a hot linseed meal poultice should be applied every three hours to the throat, instead of the wet compress; the throat should be well gargled with warm milk and water; and a surgeon should be called in to puncture the tonsils, as soon as matter has collected in them.

DIET.

Farinaceous diet will be proper, and the patient should abstain from all stimulants.

CHLOROSIS:

OR, GREEN SICKNESS.

The symptoms of this disorder are those which follow. A young lady, previously in good health, begins to droop and languish. She becomes dispirited, joyless, averse from society, loses her relish for amusements in which before she delighted, and goes through her allotted tasks or avocations with pensive dulness. If she be a novel reader, she fancies herself the victim of domestic tyranny; or perhaps, that wondrous creature which the French call "une femme encomprise." But on these mental vagaries there supervenes a real impairment of health. Her cheeks lose their freshness. They are sometimes so pallid that one might imagine every particle of red blood to have been sucked out of her body. The eyelids are puffy and encircled by a greenish discoloration, such as we find exhibited by the weeping saints painted by the early Italian masters. The paleness of the lips, tongue, and interior of the mouth, is also very striking. The digestion fails, the appe-

tite vanishes. Perhaps she will take a fancy to devour, at every opportunity, the most strange and indigestible substances—bits of slate-pencil, ends of tallow candles, lumps of chalk, pellets of paper, and other equally absurd articles.

The bowels are usually constipated, and the evacuations offensive. The abdomen is tumid, the tongue covered with white fur, and the breath foul.

One very common ailment is an obstinate headache—not that headache elsewhere described in this work as hysteric headache or clavus hystericus, nor the plethoric headache, but the headache of weakness, relieved by drooping the head upon the pillow.

Another ailment is a swollen state of the ankles. This is apt to come on at the close of the day; especially if the patient have been long in the upright position. It disappears on adopting a recumbent posture; not suddenly, however, but after the lapse of a short time. They are not tumid in the morning, because the continued rest in bed allows the water (which, effused into the tissues, constitutes the swelling) to be again absorbed by the blood-vessels.

Another symptom is palpitation of the heart. This occasionally attains a very distressing height, and sometimes constitutes the principal feature of the complaint.

The breathing is often embarrassed. The patient cannot walk up stairs without frequently pausing to take breath.

When the disease assumes its severest form, frequent giddiness, fainting, dimness of sight, floating specks before the eyes, noises in the ears, various singular perversions of the senses of taste and smell, complicate the complaint.

Hysteria may or may not be associated with chlorosis.

The monthly periods are sometimes suppressed, sometimes profuse, sometimes irregular, sometimes as in perfect health.

Chlorosis makes its invasions sometimes suddenly, but more usually in a gradual manner. The apothecary of a metropolitan hospital related to me a curious illustration of the former mode of attack. He had once in his service a hale and buxom country lass. Her countenance glowed with health and good looks. The roses in her cheeks contrasted with the faded waxen colors of the city dames, were a sight to see. Well! in one night a blight came, the roses were all withered, and the bright hues of health ceded to the pallor of confirmed indisposition. This was a rare case of acute chlorosis.

The disease appears to have no peculiar or proper termination. If it continue for a great length of time, however, it produces such debility, that the patient is liable to fall a victim to any of those diseases which result from weakness.

EXCITING CAUSES.

The exciting causes of chlorosis are quite unknown.

TREATMENT.

For the first two days, a tepid wash-down twice a-day.

If the periods be suppressed, the patient should then take the sweating blanket, and the half wet sheet for thirty minutes, on alternate mornings, until they be reproduced, followed by a shallow bath for three minutes. And a sitz bath should be taken twice a-day, at twelve and five o'clock, for ten minutes.

If they be not suppressed, the half wet sheet may be taken every morning for thirty minutes, followed by the shallow bath, excepting when the periods are present. And two sitz baths a-day for ten minutes.

If the periods be profuse, then neither the sheet nor blanket should be taken, but the treatment should be restricted to two pail douches daily, except as before excepted.

In many cases of chlorosis the various preparations of iron are often useful. During the progress of the main treatment, therefore, ten or fifteen drops of the tincture of the sesquichloride of iron may be given three times a-day in a little water. Or half a dram, or a dram, of the sesquioxyde of iron may be administered thrice a-day in treacle or milk.

If the bowels be constipated, two or three of the pills, called the "pill of aloes and myrrh," may be taken at bed-time twice or thrice a-week.

DIET.

A full mixed diet will be proper. No stimulants.

EXERCISE.

Two or three times a-day, in proportion to the strength. Exercise on horseback is the best. A change of air is often necessary in these cases.

COLD FEET.

Persons who habitually suffer from cold feet will often find that when the feet are cold the head is hot. In these cases the coldness of the feet is caused by the heat of the head; or rather, the disorder in the head, whatever it be, which makes the head hot makes the feet cold. In these cases, the patient should take the head douche twice or thrice a day, the water at 70° Fah., soaking his feet in hot water for twenty minutes immediately before taking each douche.

On going to bed the foot bath should be taken for five minutes, the water being quite cold; and the feet being well and rudely rubbed, first with a wet and then with a dry rough towel, immediately after it. The water should not be more than an inch deep.

Sometimes cold feet depend upon general debility and languid circulation. In these cases the treatment recommended under the head of "General debility and languid circulation" must be taken, in addition to the foot bath as advised above.

But cold feet frequently depend upon mere want of exercise. In these cases exercise, in addition to the foot bath at night, must of course be used.

If the feet be only cold during night, sharp exercise, even up and down a room, stamping the feet down on the floor at each step, will most commonly warm them sufficiently.

CRAMP IN THE LEG.

Persons otherwise in health, who are subject to cramp in the leg at night, should take the foot bath immediately before getting into bed, for seven minutes, rubbing the feet well, or one against the other, the whole time.

As soon as the bath is over, the legs, as high as the knee, should be well rubbed with a coarse wet towel and then with a dry one.

DYSPEPSIA:

OR, INDIGESTION.

These terms both indicate a disordered condition of the functions of the stomach, with certain uneasy sensations experienced in that organ.

The symptoms of indigestion, as laid down by the great nosologist, Cullen, arethese: Want of appetite, nausea, occasional vomiting, distension or flatulence, acid eructations, jumping up of the food out of the stomach into the mouth, heartburn, pain at the pit of the stomach; and, generally, these symptoms are accompanied by inveterate constipation.

To these, more modern writers have added a sensation of gnawing and emptiness, of want and exhaustion, in the stomach; and sometimes this painful sensation will be felt even when the stomach is not empty, as for instance an hour or two after eating; a sense of constriction and uneasiness about the throat, intermitting pulse, pain in the side or under the breast-bone, habitual chilliness, languor, headache, lowness of spirits, palpitations, giddiness, and disturbed sleep.

Sometimes, there are present appearances before the eyes like black specks, or flies, or pieces of broken cobweb; and sometimes, the sight is affected in various ways, as by double vision, &c.

Decayed teeth, too, although they cannot be properly considered as amongst the symptoms of indigestion, are very commonly its attendants. And I have no doubt whatever, that decayed teeth depend upon the same causes which produce indigestion.

No one single individual, perhaps, was ever affected with the whole of these symptoms at one time. Not only in this disease, but in almost every other, the symptoms will always vary in different individuals. But more or fewer of those I have enumerated will always be present in every case of indigestion, and will be sufficient to mark its existence. But, in many instances, they will be accompanied by others not here mentioned; for, the several uneasy sensations which sometimes accompany an attack of indigestion are so infinite in number that it is impossible to enumerate them all.

I will take this opportunity to mention a very common misapplication of terms into which I have observed many persons fall.

They very frequently confound the two terms constipation and indigestion, and therefore confound the two diseases; using the term indigestion instead of the term constipation.

Patients have very often come to consult me, and when I have inquired what it is of which they complain, the answer has been "indigestion." But, after some conversation, it has turned out that they only meant constipation.

Constipation is often one of the symptoms of indigestion; but only one, and by no means a constant one. The very opposite state of the bowels very often prevails. They exist as two distinct diseases. There may be constipation where there is no indigestion; and severe indigestion where there is no constipation. Constipation has nothing to do with the digestion of the food. It is a suppressed secretion, just as the secretion of wax in the ear is sometimes suppressed.

I have mentioned want of appetite as one of the signs of indigestion. But in some persons this is quite reversed, and the appetite is morbidly great—it is rather a morbid craving than a natural appetite. Either loss of appetite or excess of appetite is sometimes the only symptom present. The appetite is, at all times, even in health, completely under the dominion of the brain, and nerves; for the keenest and most healthy appetite may be destroyed in a moment by the sudden receipt of distressing news.

Sometimes, the appetite is capricious and uncertain.

In many cases the most harassing symptoms present are sickness and vomiting. Sickness will sometimes arise soon after a meal is taken. At other times, without any previous nausea, the food will be returned by vomiting, an hour or two after it has been swallowed; and, on these occasions, will generally communicate a sour taste to the mouth; and sometimes it will be mixed with bile, especially if the vomiting has been severe.

"Not seldom," says a modern writer of great celebrity, "they" (the rejected contents of the stomach) "are mixed also with bile, especially if the retching have been violent or long continued; and then the patient is apt to ascribe the whole of his complaint to an "overflow of bile," although, in fact, the secretions of the liver have nothing whatever to do with it; the appearance of bile in the fluids ejected from the stomach proceeding from an inverted action of the duodenum. The effort of vomiting, however induced, will, if often repeated, be attended with the expulsion of yellow bile. I have more than once referred you to the phenomena of sea sick-

ness for an illustration of this fact. The fallacy which I now point out has been one cause of the notion that is prevalent among patients, and the public—and not unfrequently perhaps amongst practitioners—that indigestion very commonly depends upon a disordered state of the biliary organs."

Sometimes, and indeed very commonly, a sense of distension, especially after eating, and belchings of wind—in one word, flatulence—are the only matters of which the patient greatly complains. This flatulence is extremely prone to occur, if, by any accident, the patient have to wait for a meal a little beyond the usual hour.

It often happens that there is no pain at all in indigestion; but sometimes the pain is one of the most distressing symptoms. In one case the pain will assume the form of heartburn; in others, that more severe form called cramp or spasm of the stomach.

Pain in the stomach will sometimes occur when that organ is empty, and when no flatulence is present; and this pain is relieved by taking food.

Sometimes the pain comes on immediately that food is put into the stomach, and either continues during the whole process of digestion, or until vomiting occurs, which gives instant relief.

Sometimes, again, the pain does not come on until from two to four hours have elapsed after eating.

In other cases, the pain comes on at uncertain intervals, and in violent paroxysms, accompanied by distention, great anxiety, and extreme restlessness; occasionally shooting through the back between the shoulders.

There is yet another symptom of disordered function in the stomach—an uneasy sensation, attended by the rising into the mouth of a watery liquid, sometimes sour, sometimes saltish, but often tasteless, and described by patients themselves as being cold.

This is called water-brash, and is apt to arise in the forepart of the day when the stomach is empty. It makes its attack by a pain in the pit of the stomach, with a sense of constriction, as if the stomach were drawn inwards towards the back. The pain is increased by the erect posture, and the patient therefore stoops to relieve it. These previous symptoms having lasted for some time, a considerable quantity of thin liquid rises into the mouth. A pint or two, in very bad cases, may be discharged during the day; and this may happen, as post mortem examinations of the stomach have proved, without any perceptible disease in that organ.

Another of the most marked and obstinate of the conditions which harass the dyspeptic patient is costiveness of the bowels. But here again, we do sometimes meet with exceptions; for, occasionally it happens, that the bowels are preternaturally loose.

There is still another form of indigestion, in which there is sickness and vomiting, accompanied by a violent headache. This form of the complaint is generally termed sick-headache; or, "in the fashionable jargon of the day," (as Dr. Watson well calls it) "bilious headache."

Palpitations of the heart and irregularities of the pulse are also frequent accompaniments of indigestion.

Another concomitant of indigestion is HYPOCHONDRIASIS. The patient is affected with a great sense of languor and lassitude, with causeless depression of spirits, and fears which have no foundation. There is a great want of resolution and activity; a disposition to seriousness, sadness, and timidity; as to all future events, an apprehension of the worst—a dread of great evil upon slight grounds. Such persons are apt to apprehend great danger, and even death itself, from any unusual feeling, however slight.

CAUSES.

These are immoderate and protracted grief; an anxious and unhappy state of mind; sedentary habits; long-continued close application to business; over taxation of the brain, especially in early youth; great mental exertion, of whatever kind; and continued stimulation of the brain, whether by moral or physical stimulants; the immoderate use of certain substances, known to act injuriously on the brain and nerves, as tobacco, alcohol, green tea, coffee, and opium. To these may be added excessive eating, unwholesome food, deficiency of food, and too free an indulgence in sensual and exhausting pleasures.

Such is the account given by the best modern medical authorities on the subject of indigestion or dyspepsia.

But when this account is looked closely into, though it is undoubtedly correct as far as it goes, it will at once appear that it does not go far enough; but exhibits one marked and very notable deficiency. For what, after all, is indigestion? These same authorities furnish the answer. They say, truly enough, that it is "a disordered state of the functions of the stomach." Well, but a disordered function is itself only a symptom, an effect produced

by some diseased state of parts. If there be no disordered state of parts, there can be no disordered function of organs. If every part of the machine be exactly what it ought to be, in its arrangement of parts, &c., then every part of that machine will necessarily work as it ought to do. Disordered function—that is, some error in the manner of its working—is but a symptom, sign, or proof, therefore, that there is something wrong among some of the parts whereof the machine is constructed.

Disorded function of the stomach, then—or, as it is called, indigestion—is only a symptom of some diseased state of parts; and what are called the symptoms of indigestion, are but the symptoms of a symptom.

When the lower limbs are paralyzed, the patient cannot walk; the muscles, whose function it is to move those limbs, have lost that function; or, which is the same thing, have lost the power to perform it.

But this loss of function in the muscles does not constitute the disease. It is only a symptom, that is, a sign of disease; and that disease does not even exist in the muscles at all, but in the spinal cord.

So again, when disease first commences in the hip of a child, one of the first symptoms is pain in the knee—which is perfectly sound. This pain is not disease, but only a symptom or sign of the disease in the hip—scrofulous inflammation of the hip-joint. The pain in the knee is owing to the disturbed function of one or more of the nerves of the knee, which disturbed function is produced by actual disease in the hip.

Now then comes the question: When the functions of the stomach are disturbed—that is to say, when that state occurs which we call indigestion—what and where is the diseased state of parts which produces it? When all the several parts of the body are perfectly free from any disease, then the functions of the stomach, as well as those of every other organ, are also perfectly free from any disturbance. Again I ask then: Where and what is the disease which produces that disorded function called indigestion? This question has not been answered; and this is the deficiency of which I complain, in the accounts generally given of it.

We are told, indeed, that it sometimes depends upon incipient consumption, lencorrhœa, green sickness, and some other diseases. And now and then, though rarely, it depends on cancer in the

stomach, an ulcer in the stomach, or chronic thickening and inflammation of the pylorus—the bowel-extremity of the stomach. But these are all mentioned as occasional and exceptional instances; and whole hosts of cases of indigestion are perpetually presented to the notice of the physician, in which it is impossible even to suppose the existence of any such concomitant diseases as these. Besides, these are not cases which can be called instances of pure indigestion; for it only takes rank, as a separate and distinct ailment, when it does not depend upon any other recognized disease.

In answer to the question which I have twice asked, I reply, that the seat of that disease which produces that disordered function of stomach, called indigestion, is the brain and nerves; and the nature of that disease consists in an irritable and exhausted state of certain portions of the brain and nerves, and a congested condition of their capillary vessels.

All modern writers agree that indigestion is a disorder especially belonging to an advanced state of civilized life. It must depend, therefore, upon that peculiarity, whatever it be, which distinguishes advanced civilization from a more primitive condition.

This peculiarity undoubtedly consists in the greater amount of brain-work and brain-excitement, which results from a highly artificial state of society. The employment of mankind is more intellectual—there is more study; more head-work of every sort; more anxiety; a keener sense of the moral responsibilities of all kinds; the sensibilities have a keener edge, and the moral emotions are therefore more easily and more frequently excited, and are more intensely felt; there is more pride; more envy, hatred, and malice; more ambition; more competition; more everything in the world to harass, worry, distress, excite, and depress the brain and nervous system.

All these are causes which are well known, and universally acknowledged to be capable of producing diseased conditions of the brain. They are acknowledged to be causes which sometimes produce insanity, and other well defined brain-diseases. It must be remembered also that the same advanced state of civilization which gives rise to these causes of brain and nervous disease, also gives rise to a luxurious, sedentary, in-door, and enfeebling manner of life, which makes the brain and nervous system more tender, and therefore more easily affected by these injurious influences.

Now, these moral causes are causes which act immediately upon

the brain and nerves—they cannot possibly act immediately upon the stomach. The brain and nerves are the only organs which are capable of being influenced, in the first instance, by moral impressions. They are the only organs capable of perceiving moral causes.

But it is admitted on all hands that indigestion is chiefly produced by causes which are entirely moral, such as anxiety of mind; protracted grief; intense study; moral excitement; exhausting pleasures, &c.

Now, since it is acknowledged that these causes can and do act upon the brain injuriously, and cannot act upon the stomach at all, otherwise than through the brain and nerves—since it is admitted that these are among the most frequent causes of indigestion—since it is avowed that indigestion may be produced by disease in any remote organ, between which and the stomach there exists any sympathy—and since none will deny that there is a very striking sympathy between the stomach and brain—it seems to me that those who admit all this cannot do otherwise than admit also that indigestion, whenever it does depend upon moral causes, (as all allow that it most commonly does) must necessarily depend upon disease of the brain—since the brain is the only organ upon which these causes can exert any immediate influence.

Here, then, we recognize a set of influences which we know to be in constant operation upon the brain and nerves of those particular classes of persons who are most subject to dyspepsia; we know that these influences can, because we are constantly seeing that they do, produce diseases of the brain, as, for instance, insanity; we know also that the brain cannot be diseased without producing more or less of disturbance in the stomach, because we see that the functions of the stomach are disturbed whenever the brain suffers under any of those diseases peculiar to that organ; and that the same symptoms of indigestion, as they are called, are then manifested as in instances of pure dyspepsia, although in conjunction with others of a more decisive character.

On the other hand, if it be presumed that the diseased state of parts which produces functional disorders of the stomach is situated in that organ itself, then we find ourselves in this difficulty, viz., that we are unacquainted with any causes (where the stomach has never been abused by intemperate eating or drinking) which are capable of influencing that organ in such an especial manner as to

set up disease within it, which, after enduring for years, yet leaves no trace behind it after death.

This last observation will not apply to the brain. For, since the healthful impressions made on the brain by moral causes are totally inappreciable by our senses, it is nothing wonderful that their morbid impressions should also be inappreciable.

Since moral causes can only influence the stomach, in any manner, by first influencing the brain, how can they influence the stomach in that one particular manner called a morbid manner, but by first influencing the brain in a morbid manner? But to "influence the brain in a morbid manner" is only another form of words signifying to establish a "morbid state of the brain," and a "morbid state of the brain" is only another phrase for "disease of the brain."

Besides all this, we observe, that indigestion is a disease not only peculiar to an artificial state of society, but more especially, almost exclusively, peculiar to those classes of persons whose lives, where all are artificial, are the most artificial—the middle and upper classes.

Another fact cannot fail to strike the thinking reader of medical works, viz., that all those symptoms which are enumerated, as indicative of indigestion or disordered function of stomach, by all writers on the subject, will be found stated by the same writers as being, amongst others, the symptoms of well-ascertained and recognized diseases of the brain; and the same causes mentioned as causes of indigestion, he will also find mentioned as causes of some one or other of the ordinary brain-diseases. Let him consult the best authorities under the several heads of apoplexy, epilepsy, palsy, St. Vitus' dance, insanity, and other brain-affections, and there is scarcely a single symptom of indigestion which he will not find mentioned as also indicative of one or more of the brain-diseases.

What then is the inference? The inference seems to me to be clearly this: that when the moral causes I have mentioned have only produced a certain amount of injury to the brain, that injury manifests itself by a certain train of symptoms, the chief of which is a disordered state of the functions of the stomach; just as hip-disease in a child, which has only just commenced, chiefly manifests itself by a pain in the knee.

But when the injury inflicted on the brain by those moral causes has become more pronounced, then the symptoms become more

pronounced also; and then there are, superadded to disordered digestion, other symptoms of unequivocal brain-disease, which make the true seat of the mischief no longer mistakeable; just as, in hip-disease, after the pain in the knee has been for some time the only symptom, other symptoms develop themselves. There is now pain in the hip itself; the hip joint begins to swell, and a difference of shape becomes discernible between the two hips; and there is now no longer any doubt that the pain in the knee did not indicate any disease in the knee, but was only the first manifestation of incipient disease in the hip joint.

I have a patient in my house now, who came for indigestion. The following is the history of his case, which he sent me before he came himself.

"For upwards of twelve years I have been subject to indigestion, flatulency, acidity, and latterly to spasms, vomiting of bile, costiveness, dimness of sight, and severe pains in the temples, which sometimes almost stupefied me." This gentleman is a man of business; and has, almost all his life, undergone daily a very great amount of mental labor.

From the progress of the symptoms it seems pretty clear that when this daily drudgery of the mind first began to tell upon the brain, the mischief it was beginning to do first showed itself by deranging the functions of the stomach, producing "flatulence and acidity." A few more years rolled on, the evil cause was still in operation, and the mischief it was doing was every year increasing. Accordingly, we find new and more painful symptoms now begin to show themselves also in the stomach, viz., "spasms, vomiting of bile, and costiveness." But the mischief in the brain still proceeds; and the next symptoms which occur are in the head itself, viz., dimness of sight, and severe pains in the temples:" clearly showing, I think, that all along, the stomach symptoms did not result from any disease in that organ, but arose gradually one after another from the mischief which was daily inflicted upon the brain, and which was accumulating every year.

I should have stated that his medical attendant pronounced his case to be one of "most inveterate dyspepsia, with occasional most violent spasmodic attacks of biliary derangements."

Excessive eating and drinking are mentioned as amongst the causes of indigestion. Undoubtedly, these are capable of producing it. But excessive eating and drinking, drunkenness and gluttony, are amongst the vices of a by-gone age, whereas indigestion

is more prevalent than ever. We are perpetually meeting with cases of indigestion, moreover, in persons who we know have, all their lives, lived in the most temperate and wholesome manner, so far as regards eating and drinking.

There is indeed, very often, but little distinction or difference between that state of disease called indigestion, and that popularly termed nervousness. Every dyspeptic is more or less nervous, and every nervous person is more or less dyspeptic.

The truth is, that what are called dyspepsia, nervousness, and determination of blood to the head, are little more than different phases of the same diseased condition. And one or other of the more important brain affections, is the natural goal towards which they all have a less or greater tendency.

It is extremely difficult, however, to convince patients themselves, that the true seat of disease is not in the stomach. They very naturally imagine, not being conversant with such matters, that the disease must be in that organ in which the symptoms are felt.

I should not have dwelt so long and earnestly on this subject, but that it has a vast practical importance; and because erroneous notions concerning the true seat and nature of the disease which gives rise to indigestion, has led to a practice of the most mischievous kind. For, under the vague supposition that dyspeptic symptoms must, somehow or other, depend upon weakness of the stomach, medical men have been accustomed to advise their patients to take various drugs, supposed to be capable of strengthening the stomach, and various alcoholic stimulants, as wine, brandy, beer, &c., with the view of stimulating that organ to more activity; all of which things (though often affording some slight temporary relief) have the direct effect of aggravating the disorder of the brain and nervous system, on which the whole evil depends; and of actually inflicting disease upon stomachs which before were perfectly sound.

That wine can assist digestion, when taken with or immediately after food, is really, when one comes to reflect upon it, a supposition so gross and inconsistent, that one cannot help suddenly stopping in the course of one's reflection, in order to express astonishment at the extraordinary force of prejudice. Now these same medical authorities (but they are fewer than formerly, thanks to the temperance movement) who tell us that wine assists digestion, also inform us that stomach-digestion consists in the chemical

influence of the gastric juice upon the food. Whatever, therefore, assists digestion, can only do so by urging the stomach to pour out the gastric juice in greater abundance than it would otherwise do. But then, again, we are told by these same authorities, that nothing can induce the stomach, under any circumstances, to secrete gastric juice, excepting matters which are solid, or capable of becoming solid in the stomach! The two doctrines, therefore, that wine can assist digestion, and that solids are the only substances capable of stimulating the stomach to pour out its juice, clearly involve a positive contradiction. But, besides all this, it has been proved that brandy taken into the stomach while that organ is in the very act of secreting its juice, absolutely arrests the process, and causes the stomach to cease from secreting!!

In a little work of mine, entitled "Results of Hydropathy," I have treated indigestion somewhat more at large. To this work I beg to refer the reader.

Persons suffering under indigestion, however, must never forget that any disease of any important organ, by setting up general disturbance throughout the whole system, will disturb the stomach in common with the other organs.

Indigestion is, indeed, always no more than a symptom—most commonly depending on cerebral irritation. This is what is called simple or pure indigestion.

But sometimes, it depends on disease of some remote organ, and is then only a secondary matter, and is mixed up with other symptoms, denoting that remote disease.

And sometimes, but most rarely of all, it depends upon actual disease of the stomach itself, as cancer, inflammation, &c.

One other remark, and I dismiss the subject. There are two distinct nervous systems, having two distinct offices—the office of the one being to preside over the functions of digestion, and of the other to preside over the functions of the mind. Accordingly, the former is called the nutritive system of nerves; the latter, the cerebral system. Both these systems of nerves are capable of being over-taxed; the one, by the various matters and things committed to the stomach, and called FOOD; and the other by the various matters and things committed to the brain, and called THOUGHTS. If this excessive taxation be severe and long continued, it will, in both cases, produce disease. When the excessive tax is laid on the stomach in the shape of gluttony and drunkenness, the stomach will be the seat of the disease, in whatever

other part of the body the mere symptoms of that disease be manifested. When the excessive tax is laid on the brain, in the shape of mental impressions, then the brain will be the seat of the disease, in whatever other part of the body the mere symptoms may be manifested

Now, indigestion is a disease especially, peculiarly, almost exclusively, prevalent among highly cultivated, highly artificial, highly educated, and therefore much-thinking nations—nations who live chiefly by the sweat of the brain, rather than the sweat of the brow; and amongst these nations, it is almost exclusively prevalent among those classes of people who exercise their brains the most, viz., the middle classes. Now, in order to account for this acknowledged fact, it is necessary to suppose, (under the supposition that indigestion is a disease of the stomach) that the prevailing habits of these classes are drunkenness and gluttony. But I put it to the unprejudiced reader to say whether drunkenness and gluttony be the prevailing habits of the middle classes of the present day? But, under the supposition that indigestion is a disease of the brain, then it is necessary to suppose that the prevailing habits of these classes are excessive thinking and mental labor. And now, once more, I put it to the unprejudiced reader to say, whether excessive thinking and mental labor be not the prevailing habits of the middle classes.

TREATMENT.

The treatment of indigestion must always depend upon the degree in which the brain and other parts of the nervous system are implicated; and this degree of implication varies immensely. I have had scores of persons come to me to complain of indigestion, whom I have found to be on the verge of paralysis or apoplexy.

I have two such cases in my house at this moment.

The symptoms connected with the stomach are so very obvious, and harass the patient's sensations so much and so constantly, while the head symptoms are so obscure and trouble him so little, that all his attention is concentrated upon the former, while he totally overlooks the latter. Or, if he adverts to them at all, it is very cavalierly, as being matters of little moment, and wholly dependent upon the state of his stomach. And this is all very natural. When a patient is perpetually annoyed with pain in his stomach; sickness of stomach; wind in his stomach; distension of stomach;

sinking in the stomach; it is perfectly natural that he should infer the disease under which he is laboring must surely be in his stomach too. It is natural that a patient, under these circumstances, should see no farther than his stomach; but it is neither natural nor pardonable that the vision of a medical man should be bounded by so narrow an horizon.

I very lately lost a most excellent and most amiable friend at Birmingham. He suffered most severely from stomach symptoms. He had not one single uneasy feeling about the head. But he was corpulent. With the exception of these stomach symptoms, which attacked him every now and then, on the slightest error in diet, he was in perfect health, strength, and spirits. I have sat up with him a whole night, and seen him dosing himself almost every hour with carbonate of soda, blue pills, ammonia, brandy, magnesia, rhubarb, in the vain effort to relieve the painful sense of distension and flatulence which was harassing him and depriving him of sleep. I could by no effort of reasoning convince him that his stomach was only affected from sympathy with the brain. He was my firm friend, and would gladly have believed my arguments if he could—but he couldn't. His sensations were too strong for his reason.

Some few weeks after I had spent a whole night in watching him and reasoning with him, and while, to all appearance in the full vigor of health and strength, he died in an instant. He died of apoplexy. He died the victim of that fatal but almost universal error which mistakes effects for causes—which mistakes mere signs for the thing signified—which mistakes stomach symptoms for stomach disease; and thus leads men to overlook and neglect that morbid state which exists in the brain, but whose symptoms are chiefly manifested by disordered sensations in the stomach—just as an ignorant surgeon might mistake the pain in the knee, which indicates hip-disease, for disease of the knee itself, and proceed to bleed and blister the knee instead of the hip.

I am constantly seeing patients with all the early and obscure symptoms of approaching paralysis about them who have been for months treated for indigestion. And thus, not only is much precious time lost in treating a disease which never existed; but the system, weakened by the rigid diet enforced, and by the calomel, blue pill, and other drugs perpetually dropped into the stomach, is thus rendered less and less able to resist the advance of the true disorder; and the patient, who fondly hoped he was only la-

boring under indigestion, suddenly finds himself smitten down by a paralytic stroke.

I am expecting such a case from Scotland on Tuesday next. The patient has been treated for months for indigestion. Lately, however, as the symptoms of brain disease began gradually to announce themselves in plainer and less mistakeable language, his medical attendant admits that his disease is approaching paralysis; but adds, in order to cover his blunder, the following words to his admission: "caused in the first instance by indigestion, but now existing as an independent disease." And now—now that a portion of that time has been wasted during which the disease was in its infancy, and readily curable—now that the disease has become more or less confirmed—now he recommends the patient to come to me; after having, in the first instance, abused hydropathy, and assured his patient that he had "seen it do harm" in such cases as his.

But, begging pardon for this digression; which has been caused, partly by the very recent nature of the circumstances above mentioned, and partly by the fact that these very circumstances sufficiently elucidate my reasons for advising a very mild treatment in cases of indigestion; I return to the treatment.

Persons in whom the nervous system is deeply implicated, in whom any of those diseased conditions of the brain or spinal cord, which tend to apoplexy or paralysis, have actually commenced, can never bear a heavy treatment. And in a work like this, chiefly addressed to those who cannot be supposed to be able to make nice discriminations as to their own exact conditions, it is better to err on the safe side—on the side of mild treatment. It is for this reason, and it is an important one, that I recommend all dyspeptics who treat themselves, without medical advice, to adopt a mild treatment. And let not people imagine that the efficacy of any treatment must needs be little in proportion as it is mild. This is not the case. A mild treatment will often succeed more quickly than a more heroic practice. For it goes always quietly and steadily on, while the more heroic measures have frequently to be interrupted in order to give time for some unlucky bleeding from the bowels, or other mischief produced by the heroic measures themselves, to subside. Like the tortoise in the fable, it wins the race by the unswerving steadiness with which it proceeds. I have a horror of all heroic practice whatever. A single lucky hit, here and there, is occasionally made, and becomes a town's talk,

and a nine days' wonder. While the voice of the unlucky hundreds, who have become victims to such heroism, is lost in the clamor and eclat which follow the lucky hit. The amount of good which is quietly and unostentatiously effected, without any attempt at heroism, I am persuaded, greatly exceeds that which can ever be achieved by your medical heroes. The treatment of disease is not a fit field for the exhibition of heroism—it is fit only for the display of patient observation and deliberate judgment.

The patient may begin his treatment by taking two tepid pail douches daily; and the temperature of the water may be gradually lowered.

Having continued this treatment for a fortnight, he may then take a wash-down every morning, and the head douche at eleven, repeated at five, the temperature of the water being 70°. At first, this douche should only consist of one pail. But it may be gradually increased to three, and then the temperature of the water should be gradually reduced to cold. For instance, he may take only one pail, for each douche, for the first two days. For the next three days he may take two pails at each douche. Then he may increase it to three pails. He may now also reduce the temperature of the water to 65°. At this temperature he should continue for, at least, a week. He may then reduce it 5° every two or three days, till it gets down to cold.

The treatment, up to this point, will have occupied about one month.

He may now suspend the use of the head douche, take a shallow bath every morning, and one sitz bath daily for twenty minutes.

Occasionally he may vary the treatment by taking nothing in the early morning, and two sitz baths during the day, one at eleven, and one at five o'clock, for fifteen minutes each, each sit being immediately succeeded by a cold pail douche of two pails.

Or he may take the sitz baths without the pail douche.

The patient must weigh himself every week, and watch his strength. If he get weak and low spirited; if, on slight exercise, he be affected with sensations of lassitude and languor; if he get singing in the ears, become drowsy, or lose his appetite, or have creepings over his skin; he must omit the third treatment; or take advice.

I cannot recommend him to take either the sheet, blanket, or douche, without advice.

Of the several forms of treatment here advised, some will agree

better with certain persons than others. Whatever form seems to suit the patient's sensations and improve his strength, to that form let him adhere so long as it seems to benefit him.

It will occasionally happen that persons cannot bear the head douche. In these cases the sitz bath for twenty minutes, or the foot bath for ten minutes, must be substituted.

If the patient become hot and feverish, or get headache, he must suspend whatever treatment he be then using, and take the foot and hand bath, or the head bath, two or three times a-day; and take a cold wet friction, with plenty of friction, on going to bed.

If he get heart-burn, he should drink freely of cold water, till it leaves him.

If the bowels be torpid, he should wear the wet bandage.

DIET.

He should use the plain diet, and should not stint himself as to quantity. Neither should he ever overload his stomach. All stimulants must be carefully avoided.

EXERCISE.

He should take as much exercise, regularly and systematically, as his strength will bear, always stopping short of fatigue.

DELIRIUM TREMENS.

A patient affected with delirium tremens has, to the uninitiated, all the appearance of a raving madman. His face is flushed; his eyes perhaps red and ferrety; his limbs quiver; he is constantly fidgetting with his hands; his pulse is rapid; his skin bathed in perspiration; his tongue is white and moist: but the great symptom of all is delirium—delirium of a peculiar and characteristic kind. It is not violent nor spiteful, as that which marks some other diseases; but it is a busy and loquacious delirium. If we order the patient to do anything, he does it, but in a rapid nervous manner, as though he were in a hurry to get away from it. During the whole of our visit, he is talking partly to himself, partly

to us; explaining, perhaps at great length, and with infinite repetition, some project which interests him. From this subject it is impossible to distract his attention. All his ideas move in this limited circle, and constantly return to the same point. Sometimes he fancies himself the object of pursuit. He entreats his friends to search under the bed and in the closets, and behind the window curtains, for his hidden enemy. To please him the search is undertaken, but nothing is discovered: still he will not be satisfied; he insists that some one is there: and wishes to recommence the investigation. Sometimes the patient holds a confidential conversation with some unseen visitant, and talks unceasingly in a rambling, disconnected, half intelligible manner. He speaks as it were in cypher. With all this there is extreme watchfulness. The patient cannot be made to sleep. The excitement continues, and unless checked in time, is followed by extreme exhaustion and by death. But if sleep be induced, the patient will in all probability recover from the attack.

EXCITING CAUSES.

Habitual intoxication. The disease, however, may be produced by any excessive excitement of the brain. Thus, a person harassed by a lawsuit, upon the successful event of which his whole future depends—inflated at one moment with hope—depressed at another by despair; and impressed upon these passions, perhaps for months, by the delays of justice, when at last judgment is pronounced, and pronounced against him, such a person is not unlikely to become the victim of delirium tremens.

TREATMENT.

There is but one remedy for delirium tremens, and that is sleep. There is but one way of producing sleep within a given and definite time, and that is opium, or some of its preparations.

If the patient cannot be made to sleep within a few days, he will die.

In these cases opium acts like a charm; and in nine cases out of ten will save the patient.

Having such a remedy, so nearly specific, for delirium tremens, it would be a most unpardonable and criminal trifling with human life to reject it in favor of any less tried measures, especially in so

terrible a malady; which may, by only slight mismanagement, so easily become fatal; and so rapid in its progress as to leave no spare time to be trifled away in experiments.

It may almost be said that we do not want a better remedy for delirium tremens than we already possess in opium. But there is one drawback. The doses required to ensure sleep, in this affection, are so large and must be so frequently repeated—and there is so much difference in the degree of susceptibility to the influence of opium in different constitutions—that patients are not infrequently slept to death.

What we want is some auxiliary remedy, with power to lessen excitement and allay nervous irritation; and, by thus diminishing the resistance to sleep, to enable opium to produce sleep in doses less dangerously large.

This auxiliary remedy, (though I have never had an opportunity of trying it) I am firmly persuaded, we possess in the cold bath. At all events it could do no possible harm; and although I would not think of treating delirium tremens without opium, I would certainly add the use of cold water as an adjunct.

What I would do is this.

The usual plan of treating the affection by opium alone is to give two or three grains of that drug at once, and then to repeat one grain every hour till sleep is produced. In this way I have seen thirty grains administered, which is equivolent in narcotic power to 600 drops of laudanum. I would proceed in precisely the same manner; but previously to giving the first dose, I would give the patient a pail douche of four pails—all of them on the head. And if he were not asleep in four hours I would repeat it —and again in four hours more—but still continuing the opium all the time, in one grain doses.

In this way the patient would still have all the chances of recovery to be derived from opium, while he would have, in addition, a chance of doing with one half or one quarter probably of that dangerous drug; and be, by just so much, less in danger of being slept to death.

COLD WATER A STIMULANT.

It was formerly supposed that cold water externally applied cannot be a stimulant. Dr. Brown, Dr. Darwin, and others, entertained this notion. Their opinion, however, has since been

abundantly disproved. For instance, in that state of insensibility which accompanies [illegible]sion, and which supervenes on deep drinking and intoxication, the sudden application of cold water will frequently rouse up and re-awaken the dormant sensibility, when all other stimulants have failed.

When apoplexy has been produced by the inhalation of the fumes of charcoal, the sudden affusion of cold water over the naked body is the most efficacious of all remedies.

When dogs have been suffocated in the vapor of the Grotto del Cani, what are the means used by the owners of the dogs to resuscitate them? The practice is, to plunge them immediately into the adjoining lake, and it is well known that they are thus recovered.

This stimulant property of cold affusion, suddenly applied, makes it singularly applicable to delirium tremens as an auxiliary remedy.

DIABETES.

A patient, having perhaps noticed some time previously a disturbance in the functions of digestion, is astonished at the excessive thirst which afflicts him. He drinks many pints of fluid in the course of the day. His condition is worse than that of Tantalus; for the stream laves his lip, his tongue, his throat, and yet his thirst is unquenched and unquenchable. The extraordinary quantity of urine which he passes by night as well as by day (for he is compelled frequently to rise from bed in order to empty his bladder), he mistakenly considers as the natural result of the vast amount of fluid which he imbibes. Together with this, his appetite is voracious, his bowels constipated, his motions hard and lumpy, his tongue white and furred, his digestion impaired. He is flatulent, frequently sick at stomach, and occasionally vomits. He is subject to heart-burn, and complains of a burning, or sinking, or other unpleasant sensation at the pit of the stomach. The skin is harsh, dry, and unperspiring. He becomes rapidly emaciated and exceedingly feeble. A peculiar faint odor emanates from his breath and urine. This odor has been compared to that of hay, of honey, of new apples, or rather of an apple chamber. Some persons of acute smell recognize a diabetic patient immediately on entering the room in which he is staying. The mind undergoes a change

in this disease; it becomes weak, mutable, indecisive. The once amiable temper is now peevish, morose, and tyrannical. But the great peculiarity of diabetes is the presence of sugar in the secretions. The urine is loaded with sugar—indeed, to such an extent, that it sometimes coats the utensil with a white glittering crystalline deposit. Sugar has been found in the saliva, in the bile, in the perspiration, in the blood itself.

The four most prominent symptoms, then, are unquestionably, thirst, the passage of an unnatural quantity of urine, voracious appetite, and emaciation. But the most important and decisive one is the specific gravity of the urine. If its specific gravity be higher than 1030 (taking that of distilled water as 1000) it is almost certain that it contains sugar; and if it contain sugar, that fact demonstrates the case as being diabetes. The specific gravity can be easily determined by a small instrument, called a urinometer, which may be purchased of almost any mathematical or surgical instrument maker, for a mere trifle.

Unless the patient be prematurely cut off by accident, or new independent disease, diabetes terminates either in the production of organic disease in the kidney or lungs, or both; which diseases soon destroy their victims. Many years, however, may elapse between the first detection of the disease and its fatal dénouement, and much may be done by judicious treatment to procrastinate the catastrophe.

EXCITING CAUSES.

Sometimes the patient refers his disease to exposure to cold or damp. It is evident, however, that, of itself, such exposure is totally incompetent to originate the malady. The true causes of the complaint lie "super Garamantas et Indos"—in regions impenetrable even to conjecture.

TREATMENT.

I have had occasion to treat (by the hydropathic method) only one case of diabetes. But when it came to me, it was so far advanced that I advised the patient, after a very short stay, to return home, as being too weak to bear any important amount of treatment.

Diabetes has hitherto proved a perfectly incurable disease. I

believe there is not on record a single authentic case of recovery. The most that is hoped for, under the drug treatment, is some precarious prolongation of life; with inevitable death, however, perpetually occupying the foreground of the prospect.

Surely it is in such cases as these, if in any, that we are not only justified, but even called upon to adopt any new mode of treatment that offers some hope of success, however faint.

For these reasons alone, had I no other, I should certainly recommend a trial of the hydropathic method in every case of diabetes, in which sufficient vital power is left to bear it. And so far as I am able to form an opinion from reasoning—reasoning concerning the nature of the disease, and the nature of the treatment, with its peculiar effects upon the living actions—I think there is very fair ground for hope that diabetes, if it be curable at all, may ultimately be found curable by the hydropathic mode. Certain I am that this treatment is more likely to prolong life, and enable the patient to support his disease, than any other with which I am acquainted.

Wherein does diabetes consist?

Mr. McGregor, of Glasgow, has instituted a series of very beautiful and elaborate experiments on diabetic patients, which prove, almost with the force of demonstration, that the disease is one of faulty digestion. It is emphatically a disease of the nutritive actions, from which a wrong product is formed. That product is sugar; and sugar forming no part of the natural constituents of the blood, Nature considers it, so to speak, in the light of a poison, and hurries it out of the system as quickly as possible. But, in order to effect this object, she is compelled to expend a vast amount of the water of the blood. Had it so happened that none of the excreting organs were capable of conveying it away, she would have purified the blood of its presence by storing it up in some of the nooks and corners of the body, and we should then have had a sugary tumor; or sugar stones as well as chalk stones.

It is faulty nutrition, from which there results sugar instead of fat, muscle, bone, membrane, nerve, &c. And here, as in all other cases, the object most clearly is to correct the nutritive actions. It is not the sugar, but it is those wrong actions which produce the sugar, which constitute the disease. For the power which the hydropathic treatment possesses in correcting these actions, see, under the several heads of "General Observations," "Hydropathic Treatment considered as a preventive measure," "Local and Gen-

eral Disease," and "Medical Catechism." what has been said on this subject.

But, though diabetes has hitherto never failed to destroy its victims, sooner or later, there can be no doubt that it is capable of mitigation, and that life may sometimes be considerably prolonged.

In treating diabetes, I recommend the sweating blanket, or sweating cradle, once a-day, in the morning, or at eleven o'clock; the amount of perspiration being regulated by the patient's strength; and followed by a tepid wet friction, if the patient be very weak; or a wash-down, or shallow bath, if his strength be sufficient to obtain good reaction after it.

If the blanket and cradle distress the head, the wet sheet may be substituted, in which he may lie for forty minutes.

A tepid sitz bath, for fifteen minutes, might also be taken in the afternoon at about five o'clock; of course, with exercise after it, on foot or on horseback. But the patient should never fatigue himself. If the sitz bath produce too much chilliness, a tepid wet friction may be substituted.

A dose of castor oil two or three times a week may be required.

DIET.

All systematic writers on diabetes, whether English or French, lay great stress on the importance of an animal diet, and on the avoidance of all such food as contains starch, gum, or sugar. The patient, therefore, should live entirely on lean meat, and on gluten bread and gluten pudding, in the preparation of which all the starch has been washed out of the flour, according to the directions given in another part of this work. The amount of food he takes during the whole day should not exceed twenty-eight or thirty-two ounces: and he should take no sugar or fruit. The more lean meat and the less of the gluten bread and gluten pudding he takes the better, since the whole of the starch may not always be washed from the flour.

The same writers also insist upon the amount of fluids taken into the stomach being diminished as much as possible. The patient should, therefore, control his thirst as much as he can. Under these circumstances, it is important to know what kind of drink possesses the greatest power of quenching thirst. This will be found to be distilled water, acidulated with phosphoric acid.

When all hope of cure has ceased, there is nothing left but to palliate symptoms by the daily use of opium, continuing the same diet. For this purpose, five grains of Dover's powder, given three times a-day in a little gruel, is the best method of exhibiting opium.

For a child, of course the dose must be reduced in proportion to its age.

DYSENTERIA; OR, DYSENTERY.

By the term diarrhœa, is signified an increased discharge, generally of liquid motions, which may or may not be attended with pain in the belly, straining and frequent desire to evacuate the bowel. But, by the term dysentery, we signify the discharge from the bowels of blood and mucus, which is always attended with frequent desire to evacuate the bowel, and great pain and difficulty in the attempt. In addition to these symptoms, there is generally griping pain in the belly, and febrile disturbance of the system. Matter, or pure pus, is sometimes expelled from the bowels.

The motions are generally retained, but when they are allowed to pass, they are not liquid, as is usual in diarrhœa, but formed into hard solid balls, or lumps.

Sometimes diarrhœa and dysentery coexist. There may be increased discharge of fluid motions, mixed with blood and slime, and frequent desire to go to the stool, with great pain and difficulty in evacuation.

This mixed condition is called dysenteric diarrhœa.

The febrile disturbance which usually accompanies dysentery sometimes precedes, but more commonly follows, the appearance of the local symptoms. In some cases the fever is very severe, the pulse is hard and frequent, the skin hot, the face flushed, the tongue furred, and considerable headache and thirst are present. The pulse, however, soon becomes small and weak, exhaustion supervenes, and the surface becomes cold. The pain is often violent, but intermitting; it is felt somewhere in the track of the large intestine, which is the seat of this disease. The patient is harassed by a constant desire to go to stool, and is compelled to strain violently, but only succeeds in expelling a jelly-like mucus, or a slimy matter, mixed with blood, membranous shreds, and

morsels resembling flesh. These matters are sometimes green, or black, or red, and horribly fetid. There may be no true motion at all; or little hard lumps may be expelled from time to time.

Occasionally, there is also pain and difficulty in making water; or sickness at stomach, and vomiting may supervene. Together with all this, the patient's nights are sleepless; or, if sleep be obtained, disturbed by distressful dreams.

When death is about to occur, the pulse becomes very small and rapid, the countenance cadaverous, and the surface cold.

EXCITING CAUSES.

This affection, which essentially consists in inflammation, followed frequently by ulceration of the mucous membrane of the large intestine, is principally produced by vicissitudes of temperature, especially when the patient is at the same time insufficiently supplied with food, or amply supplied with food of an ill quality, exhausted by fatigue, and exposed to damp, or other morbid influences.

TREATMENT.

The sweating blanket must be used every morning, and the perspiration should be kept up for full half an hour, and should be promoted by drinking plentifully of cold water or hot weak black tea. The sweating should be profuse, and should be followed by the shallow bath.

At five in the evening a pail douche may be administered.

This treatment may continue for a week.

If the disease now show no signs of yielding, a dozen leeches may be applied to the anus; or, if there be a painful and tender spot anywhere about the belly, the leeches should be applied over it; or they may be applied to both parts. After this, the half wet sheet should be taken every morning, instead of the blanket, for twenty minutes, and repeated at five in the evening; followed, in both instances, by the wash-down.

At one o'clock, a tepid sitz bath may be used for twenty-five or thirty minutes.

This treatment should not be taken for more than a week, when, if the malady be still unabated, medical advice should be taken.

If the patient's nights be sleepless

twenty-five grains of Dover's powder every night; and four, five, or six drams of castor oil should be taken every day from the commencement. When the patient is convalescent, a single wash-down may be taken every morning.

Dysentery will often continue for two or three weeks, in spite of all treatment.

The plan of treatment proposed by Dr. Somers, and adopted by Sir James McGrigor in the army, is, first, to bleed freely; then twelve grains of Dover's powder are given every hour for three hours, encouraging perspiration for six or eight hours, by copious draughts of warm barley-water. Three grains of calomel, with one of opium, is exhibited every second night; and, on the intervening days, two drams of Epsom salts dissolved in a quart of light broth.

The bleeding (followed by the three doses of Dover's powder, to produce sweating,) was repeated while the strength and the pulse permitted it.

The calomel, I am quite certain does more harm than good; and I believe the most effectual and useful part of the above plan of treatment, consists in the six or eight hours' sweating.

I have treated several cases of dysentery on the plan which I have here directed to be pursued, (not Dr. Somers' plan,) and have never been disappointed in any one instance. In some cases, the patient has been quite recovered in three or four days.

DIET.

Barley-water, gruel, arrowroot, sago, tapioca, &c. If the patient can take solid food, it should consist of toasted bread sopped in water or in weak black tea, nearly cold, or quite cold; and bread pudding, or other farinaceous puddings. The best of all is gluten pudding, made as recommended in this work.

No stimulants should be allowed.

CHRONIC DIARRHŒA:

OR, PRETERNATURAL LOOSENESS OF THE BOWELS.

This is a very common complaint; and although it produces but little inconvenience, and is seemingly attended by no danger, yet

in reality possesses considerable importance. The expelled contents of the bowels should always be characterized both by firmness and figure. Whenever they possess the opposite characters, it is always a sign of weakness, congestion, and irritability of the intestinal canal. And if this state of things be allowed to go on, year after year, it will gradually sap the foundations of strength, and, generally, lead eventually to other diseases of a very serious nature.

The insidious nature of the disease, the little inconvenience it occasions, its apparent innocence, only invest it with so much the more importance; for these circumstances very naturally lull the patient into fancied security, and lead him to neglect a condition seemingly of so little moment, until he begins to find his health failing in a more marked manner. Even then, he will frequently attribute his failing health to any cause but the true one; for the chances are, that he has often been told that this state of bowels is beneficial.

In different parts of this country, and at different periods of time, the gout, the ague, even the itch, have been considered as beneficial, and the advent of any one of them hailed as a blessing. Such absurdities are less frequent than formerly; but even now, in this nineteeth century, they are not utterly extinct.

TREATMENT.

A cold shallow bath every morning, preceded by the half wet sheet for twenty minutes, should be taken for a month. The sheet may then be discontinued, and the shallow bath used without it.

This treatment, with strict attention to the following diet, will generally remove this chronic looseness, provided it do not depend upon ulceration of the bowels or other organic mischief.

DIET.

The patient should take no more liquids than are barely sufficient to allay thirst. If he take tea, it should be quite cold. Cold water is better. He should take toasted white bread for breakfast and at the third meal; but he should not stint himself in quantity. He should eat somewhat sparingly of lean meat, and the oftener he takes it cold the better. He should eat gluten bread or, at all

events, very fine white bread or biscuit, at dinner, and no kind of vegetables.

After his meat he should take the cold rice pudding or gluten pudding.

EXERCISE.

He should take as much exercise as his strength will easily bear; but he should be extremely cautious not to fatigue himself.

DIARRHŒA;

OR, COMMON BOWEL COMPLAINT.

By this term is signified an increased discharge from the bowels. In its slighter, as well as in its more severe form, it is an exceedingly common affection. In the former case, it is marked by a more or less liquid state of the motions, which are increased in frequency and sometimes also in quantity, and have not uncommonly an offensive odor. This condition is generally accompanied by a feeling of sickness, and sometimes vomiting, flatulence, uneasiness or griping pain in the belly, furred tongue and foul breath. The pulse is not augmented in frequency; the heat of the surface is not increased; in short, there is no fever present.

EXCITING CAUSES.

Excess in eating, a slight debauch, food of an unwholesome quality, depressing emotions, as fear, and the hot weather of summer and autumn, favor the production of the lighter forms of this complaint. It is not autumnal fruit, but autumnal heat, which causes autumnal bowel complaints.

TREATMENT.

As diarrhœa is sometimes produced by the presence of acrid matters in the bowels, it will be right, immediately before commencing the hydropathic treatment, to take fifteen or twenty grains of rhubarb with twenty grains of calcined magnesia.

The next day, the patient may take a pail douche at eleven

o'clock, and repeat it at five in the afternoon; and the day succeeding this, he may take a pail douche in the morning, a sitz for fifteen minutes at eleven o'clock, and another at five.

If the diarrhœa do not cease or begin to decline on the third day, the patient may take five drops of laudanum or of Batley's sedative solution, in two ounces of chalk mixture, every four hours; still continuing the two sitz baths daily, and the pail douche every morning. But the necessity for the laudanum and chalk will rarely occur in simple diarrhœa or bowel complaint. For children, of course, the dose must be reduced to suit the age.

DIET.

The patient should drink as little fluid as possible; about six or eight ounces of cold water may be taken during the whole day. At breakfast he may take, for instance, one wineglass of cold water and two or three ounces of toasted white bread. The same for his third meal. For dinner, he should merely take from four to six ounces of the cold rice pudding, or cold gluten pudding, made in the manner I have elsewhere described in this work.

But the less he eats and the less he drinks, the sooner he will get well; and everything he takes should be perfectly cold—even the dry toast.

He must take no stimulants.

If the complaint do not succumb to this treatment in a few days, the patient may be sure that there is something beyond simple bowel complaint, and should take advice.

When diarrhœa occurs, as a crisis, under the treatment, the treatment should be greatly lightened, or altogether suspended, and the patient should take the diet above recommended. But in such cases it will be safe to take advice.

DIURESIS:

OR, IMMODERATE FLOW OF URINE.

The symptoms of this disease, which is very rare, resemble very much those of diabetes. Indeed, so similar are they, that the former is frequently recognized under the name of diabetes in-

sipidus, in contradistinction to diabetes mellitus, as the latter is called. The insatiable thirst; devouring appetite; harsh, dry, unsecreting skin; and the extreme abundance of urine; are the same in both disorders. There is also the same emaciation and general costiveness of bowels. And, what is still more remarkable, diuresis, or insipid diabetes, appears to have the same extraordinary and mysterious connection with tubercular consumption of the lungs, which is observed so frequently in the more common form of diabetes. But here ends the likeness. The pathology of the disease is totally different.

In true diabetes, the essence of the disease consists in a perverted state of the nutritive actions. Those parts of the food which should be applied to the repairing of the various tissues of the body, instead of fulfilling that design, are converted into a useless substance. This substance, which is sugar, not being required in the animal economy, is eliminated by the kidneys. Now, in diuresis no sugar whatever is formed by the stomach, as far as we know. At all events, none is recognized in the blood, urine, and other secretions, as in the former disease. So that the urine, instead of being denser than natural, presents an abnormal diminution in its specific gravity. Although it is abnormal in one point of view, still, considering the quantity passed, it is perfectly normal. To explain: Dr. Watson relates the case of a boy who labored under this disease. He was eleven years old and weighed three stones and a half. In twenty-four hours he voided about nine or ten pints; the natural quantity for a boy of his age being about one pint. The specific gravity was 1002. The natural specific gravity is 1018 or 1020. Now, if these are compared, the amount of solids in each quantity of fluid will be precisely the same; the only abnormality being the large quantity of water in which those solid parts were held dissolved.

The pathology of this disease, involving the cause of this unnatural superabundance of water in the urine, remains to be unravelled. We know, however, that, in some cases, the water is imbibed through the pores of the skin, or through the mucous membrane of the air-channels. For, when the quantity of fluid taken into the stomach of a man suffering from this complaint is limited to the ordinary quantity consumed by a healthy man, the unnatural flow of urine continues. Dr. Watson, too, performed an interesting and most satisfactory experiment. He weighed a patient laboring under this disease immediately after he had evac-

uated his bladder. After the lapse of three hours, during which time the patient had abstained from everything, he weighed him again, and found he had gained just a pound. This must of course have entered through some channel independent of the stomach. When the patient had voided sixteen ounces of urine, he was restored to his original weight.

TREATMENT.

I have never treated a case of diuresis. If a case presented itself, I should treat it by the sweating blanket and shallow bath every morning, and the wet sheet and wash-down every day at five o'clock.

But the disease is very rare, and is not likely to become the subject of domestic treatment.

ERYSIPELAS,

OR, ST. ANTHONY'S FIRE,

May attack any part of the body, and is an excellent example of a disease which is both contagious (under circumstances favorable to its propagation) and epidemic. It is also very frequently idiopathic; that is, arising without there being any known reason for its invasion.

The course it pursues is very definite in kind, but varies much in extent. It is, generally, heralded by some amount of feverishness and feeling of debility; and sometimes, there are distinct shiverings. Very frequently, too, the pulse is considerably accelerated before there is any affection of the skin. Nausea, vomiting, and diarrhœa occasionally present themselves; and when the erysipelas affects the face, a sore throat is so common a precedent or accompaniment, that many hold it to be as essentially belonging to the complaint as even the inflammation of the skin itself. Now, when these, or some of these, symptoms of febrile excitement have lasted a short while, if the face be the part attacked, the skin of some prominent part, as the cheek bone, or tip of the ear, or nose, begins to feel hot and tingle, and turn red. It then becomes stiff, hard, and swollen, and soon begins to spread. It gradually invades the whole of the healthy skin in the vicinity, until the face

and head attain twice their natural magnitude, and lose all resemblance to their former selves. No pantomime mask can be more frightful, or disguise features more effectually. Many and many a time I have been at a loss to recognize the well-known lineaments of some of my patients, only two days after they have been attacked by erysipelas of the face. The eyes and eyelashes are completely lost in the immensely swollen lids; the lips resemble those of negroes, only that they are twice as large; and the nose, cheeks and forehead, swell in an equal proportion, and present a smooth, polished, but angry-looking surface. After a short time, the cuticle is thrown up into large irregular blisters. This is the course the disease takes when it is unchecked; but it may stop at any point in its progress. Thus, it sometimes merely affects the skin covering the two cheek bones. It may, therefore, begin and stop at any spot according to its caprice. After the disease has lasted a few days, the inflammation being spent, the painful sensations and, at the same time, the redness and swelling subside, and the skin scales off. Nor does this take place over all the affected part at once. It is common to see one part red, from progressing inflammation; and another white, from an accumulation of dead cuticle.

There is great variety in the depth of the inflammation. Sometimes, this is merely confined to the superficial skin. At other times, it dips deeper, and attacks the cellular tissue lying subjacent to the skin. When this is the case, the disease assumes a more formidable aspect, since it may give rise to extensive suppuration, and even mortification.

The intensity of the concomitant symptoms depends considerably on the constitution of the invalid. Sometimes, the whole disease shall pass away, and the patient have never had his rational powers affected in the slightest degree; on other occasions, delirium in its worst forms supervenes, and kills the patient by exhausting his vital energy. Or coma (apoplectic sleep) may step in suddenly and put an end to his sufferings. Sometimes, too, the patient dies from strangulation or throttling, fluid being poured out into the cellular tissue of the wind-pipe at the root of the throat, and thus preventing the passage of air to the lungs.

PREDISPOSING CAUSES.

General visceral derangement and debility are predisposing causes of erysipelas; while the immediate or

EXCITING CAUSES

are cuts, or wounds of any description, as the scratch of a pin; ulcers, especially of the throat; contagion; and that state of the atmosphere, whatever it is, that gives it its epidemic character.

These are known to give rise to it sometimes; but it frequently makes its attacks under circumstances which neither of these influences is sufficient to explain.

TREATMENT.

As soon as the inflammation appears, and there is no longer any doubt of the nature of the disease, the inflamed parts are to be well washed with a solution of nitrate of silver, in the proportion of two drams of the nitrate to one ounce of distilled water. This solution must be kept wrapped up in brown paper, in a dark place, and well corked; and the inflamed parts, by means of a very soft tooth brush, or small piece of sponge affixed to the end of a piece of stick, are to be well washed with it once a-day; and sometimes, on the first day, even more than once; great care being taken that the whole of the inflamed surface, quite to its edges, or even a quarter of an inch or so beyond, be included in the washing.

The merit of this most valuable discovery of a very simple and efficacious remedy for subduing the inflammation, in cases of erysipelas, is due to Mr. Higginbottom of Nottingham. Dr. Elliotson and many others have since used it with marked success.

In using this solution, care should be taken that it is not spilt on the bed clothes, which it will discolor and destroy. It will also turn the skin black; but this is of no consequence whatever, as the blackened skin will peel entirely off in a few days.

Should any person object to the use of this solution, then the next best application is, certainly, flour. The inflamed parts should be thoroughly and very frequently sprinkled with common flour.

But the solution is the better application; for much of the danger in erysipelas depends upon the extent of surface which is inflamed, and the effect of the solution is to prevent the spread of the inflammation. The sooner it is applied, therefore, the better. Thus much for the local treatment.

At the very onset of the disease, four or five drams of castor oil should be given, in order to clear away any acrid matters which may inhabit the bowels. Immediately after this, the ordinary wet

sheet should be applied; but, in addition to the blanket in which the patient is also enveloped outside the sheet, it will not be necessary to cover him with more than some two or three others, doubled. This wet-sheet packing may be repeated every five or six hours, for thirty or forty minutes each time; and each time it is to be followed by tepid sponging, with water at 75°.

This practice is to be continued till the height and severity of the fever and inflammation have abated. After this, tepid sponging, with water at 75°, twice a-day, will generally be sufficient.

On the second or third day of the attack, I should begin to give quinine, and should administer three grains, in the form of a pill, or dissolved in an ounce and half of distilled water with ten drops of diluted sulphuric acid, every six hours. This dose may gradually be increased to four grains; or, if the pulse be very feeble, and the living powers very much depressed, it may be increased as far as five, or even, in extreme cases, six grains.

The majority of cases would, I believe, get well without the aid of quinine; but the weight of experience has incontestably proved the utility of this drug in this particular disease; and I should not think myself justified, nor would any one be justified, in rejecting its aid, merely to gratify the pride of an exclusive practice. It is, moreover, a drug which can, when moderately used, inflict no injury; and human life is too precious a thing to be trifled with, merely to satisfy an impertinent whim, or foolish enthusiasm.

For ages, the use of cold water has been considered the handmaiden of drugs. I would only reverse the proposition, and make drugs the handmaiden of hydropathy.

This should be generous and supporting. Strong beef-broth, thickened a little with pearl barley; the yolks of eggs, beaten up with milk, and a little wine and nutmeg added; sago, with a little wine in it, &c. Cold beef tea or cold mutton broth may be taken as common drink.

ERYTHEMA NODOSUM:

OR, APPEARANCES ON THE SKIN RESEMBLING BRUISES.

This is an affection which occurs, chiefly, in young people of a weakly frame of body and poor-conditioned blood. And since,

putting aside all particular causes of debility, this state is more common in young women than in young men; and generally also connected with some disturbance of the monthly menstrual function, the disease is more incidental to this class of the community than to any other. After having been preceded for two or three days by a slight degree of feverishness, an eruption makes its appearance, by the elevation of some round or oval red patches on the skin, in size differing between that of a walnut and that of a fowl's egg. They more rarely appear on the arms. After remaining a few days, they change color exactly in the same manner as an ordinary bruise, and the projections gradually subside. They become first blue, then green, then yellow, and finally disappear.

TREATMENT.

A single pail douche, or wash-down, or shallow bath, every morning, for a few weeks, will generally be sufficient to get rid of this complaint.

Three grains of quinine, three times a-day, will be a valuable auxiliary; having first cleared out the bowels with six drams of castor oil.

If the monthly periods be suppressed, (that is, having appeared, but afterwards stopped;) or if they be retained, (that is, having never appeared;) then a sweating blanket, to full perspiration, twice a-week, followed by a wash-down, must be administered.

DIET.

A full mixed diet should be used.

EXERCISE.

Regular, daily, systematic exercise should be taken.

EPILEPSIA:

OR, EPILEPSY.

Epilepsy is a curable disease; but its curability will always depend upon the nature of the cause which has produced it.

A man apparently in the enjoyment of perfect health, and oc-

cupied perhaps in some ordinary buisness, falls suddenly to the ground, convulsed and senseless. His breathing is embarrassed; his face purple and turgid; the veins of his neck visibly swollen; his heart palpitates violently; his pulse is scarcely perceptible; he foams at the mouth; and a sound of choking is heard in his windpipe: apparently, he is about to perish. In most fits, at their commencement, the spasm is first manifested in a twisting of the neck; the chin is raised and irregularly jerked round to one shoulder; one side is generally more affected than the other; the features are always distorted; the brows knit, and the eyeballs revolve, or are fixed in a ghastly stare; sometimes they are drawn up so far under the upper eyelid, that the whites of the eyes are alone visible; the mouth is contorted; and the tongue is frequently severely bitten by the jaws forcibly closing upon it; and blood oozes out from the corners of the mouth. The hands are closed and the thumbs bent upon the palms; and the arms are thrown about hap-hazard, and, not seldom, inflict severe injury upon the patient himself, or upon the friends busy about him. He struggles violently. The bladder and bowels, startled, as it were, by the tumultuous hurricane and general storm which is convulsing the little world of animal life, suddenly evacuate their contents. In severe cases, muscular commotion is so intense as to dislocate certain bones. Sometimes, an attack of epilepsy is ushered in by a sudden, terrible, and most appalling scream.

These fearful convulsions having continued a certain time, varying from a few minutes to an hour or more, are at last terminated by deep profound sleep, or rather lethargy, often of many hours' duration. When he awakens, the sufferer is at first confused and incoherent, and frequently quite unconscious of what has happened to him.

When this group of symptoms is found collected, it constitutes what is called the grand mal or major fit of epilepsy.

Epilepsy, however, exhibits also a petit mal or minor fit; which consists in a transient suspension of consciousness, lasting sometimes only a few seconds. It is marked by no violent agitation, no turgor or lividity of face, and disturbance of respiration. The individual affected stops, for an instant, in any occupation in which he may be engaged; if anything be in his hand, it falls to the ground; his face assumes, for the moment, a vacant look—a fixed gaze; the eyes turn upward, and the thumbs are generally affected as in the major fit. In an instant, all is right; the patient resumes

his employment; usually, but not always, fully aware of what has happened to him. Between these extremes of major and minor modes, there are many intermediate grades; the characteristic signs of epilepsy are present, however, in all; differing only in degree and duration; viz., insensibility with convulsion.

Not the least singular phenomenon, connected with epilepsy, is what is called the warning. Most epileptics, previously to the fit, receive a kind of notice or intimation of what is about to befall them. This premonitory symptom is different in almost every individual. Sometimes it consists in some particular sensation in the head, as giddiness, headache, the hearing of unreal sounds, or the seeing of motes or specks floating before the eyes. Sometimes, the admonition is derived from a peculiar change in the patient's temper; he is either irritable and morose, or low spirited; or he may feel heartier and happier than ordinary. Sometimes, the stomach and bowels, or other organs, sound the note of alarm; thus, the appetite may be remarkably increased, or as remarkably diminished; the bowels may be relaxed or constipated; or a great flow of urine may occur. It has sometimes happened that spectral illusions are the ushers, giving a terrible dignity to the tragedy about to commence. Dr. Gregory, of Edinburgh, knew an epileptic who, when he had a fit approaching, fancied he saw a little old woman in a red cloak, who came up to him and struck him with her crutch, upon the head; upon this he immediately became insensible and fell.

One very curious kind of warning is termed the aura epileptica; it is a sensation compared, by some, to the creeping of insects; by others, to a breath of cool air; and by some, to a minute stream of water. This aura usually commences at some distant part of the body—at the fingers or toes, or elsewhere—and travels upwards, along the skin towards the head. Sometimes, however, it stops at the pit of the stomach; and when it has reached this point, the patient falls; and the usual symptoms, more or less, take their course. Epilepsy is not usually fatal to life; but, when it continues many years, as it not unfrequently does, it is followed by an equally sad result—imbecility of mind, or perfect idiotcy, or insanity.

PREDISPOSING CAUSES.

Epilepsy is, unhappily, an hereditary disease; it descends from

parent to child; but, like other hereditary complaints, it often skips over one generation. Thus, the grandson may inherit a disease from which his father escaped.

The shape of the head also is influential in the production of this disease; where the head of any person is misformed, in any way, a cause, which would scarcely affect injuriously an ordinary person, in him sets up epilepsy.

Individuals of a [illegible] constitution are more disposed to epilepsy than others.

Debauchery, habitual indulgence in intoxicating liquors, and other degrading vices, greatly predispose to the reception of this fearful malady.

EXCITING CAUSES.

Organic disease of the brain—as tumors of any kind, bony growths within the skull, a hardened or ossified condition of the membranous envelop of the brain; a preternaturally thick skull—each of these may be the cause of epilepsy, which is then absolutely incurable. It is sometimes a consequence of mere irritation of the brain, propagated through the nerves, from distant diseased organs; and in this case, the curability of the epilepsy depends upon the curability of the distant disease.

Disease of the kidneys, in the liver, in the stomach, and almost any other organ, is known to produce it. Anything which irritates the stomach or bowels may, and very frequently does, produce epilepsy; as irritating drugs, the incessant iteration of what are called gentle or mild aperients, an unusually full meal, &c. These same gentle aperients ultimately produce on the bowels and stomach an effect similar to what would be produced by the gentle pricking of the back of the hand with a fine needle, if repeated day after day, and month after month; that is to say, they set up an irritation in the part.

The presence of a tape-worm in the intestines frequently excites epileptic convulsions, which immediately cease upon the expulsion of the worm.

Mental affections have now and then the same result.

Mere imitation may excite the disease. Dr. Hardy, of Bath, makes mention of a strong healthy young man, who was hired to take care of an epileptic patient. He remained with him night and day, but at the expiration of seven weeks he became unfit to discharge this duty, for he was himself seized with the disorder.

Fright will produce epilepsy. I remember a woman, of about forty years of age, who had been epileptic from a child. She told me that, having committed some juvenile offence, her aunt put her up the chimney; the terror occasioned by this punishment, and the sight of her apron blackened with soot, threw her into an epileptic convulsion. To this accident she ascribed the origin of her disease.

In many cases of epilepsy, the cause of the disease is perfectly inscrutable. I had once a patient under my care for a disease in the leg, who told me that, during twenty-nine years, he underwent, regularly every six weeks or two months, an epileptic attack; but nine years before I knew him, the disease suddenly vanished, and never recurred. He was totally unable to account for this spontaneous cure; he had made no particular change in his diet or habits of life. In this case, as in many others, the disease evidently depended upon a transient and removable cause. Had the patient been submitted to treatment based upon scientific principles, it is highly probable that the disease would not have endured so long as it did.

When epilepsy does not depend upon organic alteration or malformation, but merely on cerebral irritation, it is a curable affection.

Sometimes, it depends upon a repulsed or suppressed eruption falling upon the brain instead of the skin. These cases are also curable by the hydropathic treatment.

TREATMENT.

The treatment of epilepsy can, of course, be only adopted during the intervals between the attacks; and must be spread over a considerable space of time.

If the patient, with the exception of his fits, be in tolerable health, he should take the sweating blanket, or sweating cradle, or vapor bath, to full perspiration, once a week, and the perspiration may endure for twenty or thirty minutes; and the blanket should be immediately succeeded by the shallow bath for two or even three minutes.

On the other five mornings he may take a wash-down on rising, and repeat it at twelve o'clock or at five in the evening; and this treatment may continue for a month.

He should now discontinue the blanket, take a wash-down every morning, and the head douche twice a-day, two pails at each douch-

ing. In another fortnight he should add the sitz bath to the head douche, taking the sitz first, for fifteen minutes and then immediately his douche.

He should wear the wet bandage night and day, during the whole treatment.

I have generally found the wet sheet, in these cases, to weaken the system. It should not, therefore, be taken, unless there arise some especial circumstance, as quick pulse, hot and feverish skin, or other marks of active irritation, to demand its application.

At an advanced stage of the treatment, the douche should be taken once a-day; but this can seldom be obtained at home.

DIET.

I look upon diet as forming a very important item in the treatment of epilepsy. The patient should at once reduce his daily allowance of food to eighteen ounces. Taking this as the starting point, he should reduce it at the rate of one ounce each day till the daily quantity has fallen to twelve ounces, thus; 18, 17, 16, 15, 14, 13, 12. It will be observed that this will occupy exactly one week. He should continue at twelve ounces per day for one month. He may then begin to increase it again, at the rate of one ounce per day, until the daily allowance reaches twenty-four ounces, and this should be his daily allowance for the rest of the period of his treatment. The diet should consist of brown bread and meat only, and he should take two ounces of meat every day, while the diet is at a very low quantity, making the difference of weight, both in the descending and ascending scale, in the bread only. When he is eating eighteen or twenty ounces in the whole, he may take three ounces of meat; and the meat should always be taken at dinner. The entire quantity should be pretty equally divided between the three daily meals. He should drink nothing but water, and the quantity of this should be very limited—say from twelve to sixteen ounces, in divided portions.

EXERCISE.

He should take but little exercise; but he should take the air, as long and as frequently as he can, in an open carriage.

I have seen two cases of epilepsy cured in this way.

EPISTAXIS:

OR, BLEEDING FROM THE NOSE.

Epistaxis occurs most frequently in children: for, during childhood, in accordance with the rapid development of the brain, the circulation of blood through the head is at its point of highest activity; plethora, or fulness of the vessels, is, therefore, apt to supervene; and, when it does supervene, nature usually relieves the head by evacuating a certain quantity of blood through the nose. Frequently, however, nature is unable to stop the bleeding which she has herself set up; and then the interference of art is called for. In some children, a very slight blow on the nose, and sometimes even a rude shaking, will suffice to set the nose bleeding. We may call this natural epistaxis.

There is a second variety which I call scrofulous epistaxis. Weakly children, with blue eyes and light hair, and delicate skins, and, perhaps, deformed backs, are subject to frequently repeated and profuse gushes of blood from the nose. This is a disease, and sometimes one full of peril; for the flow of blood may be so great as to destroy the child, unless prompt assistance be rendered.

Epistaxis, occurring in adults, is usually a symptom of some other disease—of congestion of the head, of apoplexy, of disease of the heart. Jaundice, it is well known, frequently leads to the effusion of blood, whether from the bowels, from the mouth, or from the nose. Engorgement of the spleen, also, produces epistaxis; and in this case, the blood generally flows from the left nostril.

Bleeding from the nose is sometimes produced by suppression of the monthly periods. In these cases, and also when it proceeds from too much fulness of the vessels of the head, it should not be stopped unless it become too profuse.

TREATMENT.

In all cases in which it is desirable to stop or check bleeding from the nose, the pail douche, sitz bath, foot and hand baths, and the head douche, should be used.

Should these means fail, a surgeon must be called in to plug the nostrils.

DIET.

A farinaceous diet will be proper.

EXERCISE.

The patient should be very careful not to take any active exercise; even carriage exercise will sometimes cause the bleeding to return, when only recently stopped. He should maintain, as much as possible, the erect position. When in bed, he should support his head on a high pile of pillows.

PREMONITORY SIGNS OF APPROACHING CEREBRAL OR SPINAL DISEASE.

FLATULENCY, HEART-BURN, ACIDITY, WATER BRASH, PAIN OR SPASMS IN THE STOMACH.

These are the symptoms of some derangement of the functions of the stomach, and depend, in almost every instance, on some nervous irritation, referred from the brain, or spinal cord, to that organ.

The term water brash is applied to a discharge of clear limpid water from the stomach, and which patients frequently describe as feeling cold.

I have given these symptoms a place here, under a separate head, because they usually occupy a very prominent place in the patient's mind; are amongst those disordered sensations which give him the most annoyance, and first attract his attention; and, indeed, are frequently the only symptoms of which he complains; and lastly, because of their delusive character and profound importance.

They are delusive; because, by forcibly attracting the patient's attention, and too often that of his medical adviser also, towards the stomach, they withdraw it from those more important organs, the brain or spinal cord, wherein the true danger lies concealed, insidiously gathering strength and magnitude, until the former becomes resistless, and the latter makes concealment no longer possible; in a word, until both patient and physician are suddenly

roused from their long, long dream of security, by the obvious development of the more unmistakable symptoms of approaching disease of the brain or spinal cord.

And they are profoundly important; inasmuch as, except where they can be traced to some recent error in diet or other temporary cause, they frequently denote the commencing stages of some of the most deadly and incurable of all human diseases, as apoplexy, paralysis, chorea, diabetes, epilepsy, &c.

In nineteen cases out of twenty, these early symptoms of irritation in the brain or spinal cord are produced by excessive mental taxation.

For more on this subject, see Indigestion, Paralysis, Nervousness, Apoplexy, Epilepsy, &c.

GENERAL FEVERISHNESS.

Persons who, generally speaking, are in the enjoyment of tolerable health, will sometimes fall into a condition which I know not better how to characterize than by the term, general feverishness. Some unusual and temporary exertion, perhaps, of body or mind; some irregularity in their general habits of life; some unaccustomed excess either in eating or drinking; deprivation of the usual quantity of sleep; some sudden but temporary anxiety of mind; a very long journey, to persons not accustomed to travel; some one or more of these temporary causes having excited and deranged the system, the patient becomes out of sorts. The skin is hot and dry; the head aches a little; the appetite is somewhat impaired; and the patient, without well knowing what to complain of, still feels that he is not quite what he ought to be.

TREATMENT.

In such cases it will generally be sufficient to take a wash-down or pail douce, once or twice a day; or a couple of sitz baths, for twenty minutes each. In very slight cases, the foot and hand bath, both at once, two or three times a-day, may be enough. In cases not quite so slight, the wet sheet may be taken, for an hour, at any convenient time of the day, followed by the dripping sheet.

DIET.

It will, also be wise to take only a light farinaceous diet for a day or two.

HECTIC FEVER.

The principal characteristics of this species of fever are gradually increasing weakness and emaciation, a quick pulse, chilliness alternated with heat and flushing, and profuse nocturnal sweats, but which sweats neither diminish the frequency of the pulse, nor allay (in most instances) the patient's uncomfortable sensations. The palms of the hands and soles of the feet are hot and dry.

This form of fever is further characterized by the facts, that while laboring under it, the patient's appetite may be tolerably good, he may be free from thirst, and his tongue may be perfectly clean. It is, essentially and emphatically, the fever of debility. Mothers, who have nursed their children too long, are apt to suffer from it. But that which gives a terrible importance to this affection, is its existence as the constant accompaniment of consumption, especially in the latter stages of that malady. In the absence of other more especial evidence, hectic fever is often, of itself, sufficient proof that the burglar, consumption, has effected his entry into the house of life.

As this fever almost always depends upon the presence of some other disease, and can therefore only be cured by removing the disease on which it depends, I have nothing to say here of its treatment.

When, however, it has been set up in nursing mothers, the first thing to be done is to wean the child. Simple cold bathing and a change of air, will then remove it.

FEBRIS GASTRICA:

OR, GASTRIC FEVER.

This disease is peculiar to infancy and childhood; and is worthy of receiving most particular attention, on account of the resem-

blance existing between some of its symptoms and those of the very fatal disorder, water on the brain. The latter disease is rarely cured, whereas the former is rarely fatal. One of the most frequent things that first directs attention to the patient, is the contraction of a habit of perpetually picking the nose. This practice often leads to the formation of extensive sores about the nostrils. If now the child be well examined, he is found to be the subject of many other symptoms characteristic of the complaint. Thus his belly is swollen, and perhaps tender; his appetite is capricious, and generally deficient, but sometimes greedy; he complains of pain in the belly or head; his breath is offensive, his tongue foul; the bowels also are capricious, sometimes torpid, sometimes relaxed; the motions fetid, sour, slimy, and of a pale, or dark, or perhaps green, color; the patient is occasionally sick, his nights are disturbed; he frequently wakes with a sudden clenches his fists, and rolls his eyes; during sleep, too, he is observed to grind his teeth forcibly together; sometimes, though more rarely, there are distinct convulsions of the limbs, or of the body generally. The mind, also, suffers with the body; the little patient, not uncommonly, becoming fretful and peevish.

These symptoms continue and increase in severity, till the invalid wastes away to a perfect shadow. It rarely however kills, except by implicating the brain. When the child has become a living skeleton, very frequently, and most unaccountably, a favorable turn ensues, and he rapidly recovers.

It sometimes happens, in this malady, that worms, often in large quantities, are evacuated with the stool; so that gastric fever has gained the soubriquet of "worm fever."

EXCITING CAUSES.

t common of these certainly is painful dentition. But cold is also sufficient to produce the disorder.

REMOTE CAUSES.

Anything calculated to lower the tone of the system generally, induces a liability to this, as to some other diseases. Impure air, therefore, insufficient clothing, a scanty supply of food, and that not of the most generous quality, may be considered as favorable to the attacks.

TREATMENT.

The doctrine of the schools, with regard to the presence of worms in this disorder, is, that the worms are not generally the cause of the fever, but that their presence is itself the effect of that depraved condition of the system which predisposes to the establishment of the fever.

There can be no doubt, however, that worms in the intestines or stomach are sometimes the cause of the disorder. On this account, it will be always better, and more satisfactory, to exhibit a dose or two of turpentine and mucilage (the dose being always determined by some medical man) before commencing the hydropathic treatment, for there is nothing in that treatment which can expel worms, if worms be present.

The wet sheet, for twenty or thirty minutes, twice, or even three times, a-day, followed by the wash-down, will be the proper treatment. And the child should be carried out into the open air much and frequently, should be kept in a room whose temperature does not exceed 60°, and should sleep lightly covered with bed clothes.

The wet bandage should be worn night and day.

Purely farinaceous diet must be used; and the little patient should be induced to drink as much cold water as possible.

FEBRIS INTERMITTENS:

OR AGUE.

A fit of the ague consists of three periods. These are known the cold, the hot, and the sweating stages. During the first period, the patient is feeble, languid, incapable of any mental or bodily effort; he experiences an uneasiness at the pit of the stomach, and a general chilliness creeps over him. He crouches by the fireside, with his chin resting upon his hands, and his elbows on his updrawn knees, and sighs or yawns repeatedly. He feels as though a stream of water were trickling down his back. His face,

like the whole surface of the body, is pale and contracted; the skin is roughened and drawn into minute elevations; each individual hair rises erect from the centre of a tiny hillock. By and by the cold becomes more intense; he trembles and shivers all over. His hair bristles like porcupine quills; his teeth chatter; his knees knock together; his face, lips, ears, and nails turn blue; tightly-fitting rings upon his fingers become loose; his breathing is accelerated; his pulse quick and feeble. Flying pains attack his head, back, and loins; all the secretions are diminished. He may, indeed, frequently make water, but what he passes is pale and scanty; his bowels are confined; his tongue is dry and white.

To this cold stage the hot stage succeeds. The shivering alternates with flushes of heat, which generally commence about the face and neck. Gradually, the chilliness departs, the general pallor and contraction of the integuments are no longer visible. But the reaction continuing, soon passes the healthy limit: the countenance is flushed and turgid; the temples throb; a new kind of headache appears; the pulse is full, strong, and rapid; the skin becomes pungently hot and dry; the breathing is again deep, but oppressed; the urine is scanty, but high colored. The patient is excited, restless, and disturbed.

Then, the hot stage passes into the stage of sweating. The skin becomes soft and moist, and is soon bedewed by a copious perspiration. Upon this all the previous symptoms vanish; the pulse acquires its natural standard; the headache and the pains in the loins, the general malaise, are dissipated; the urine is secreted plentifully, but is turbid.

Before proceeding further, it is necessary to explain a few technicalities, which the singular phenomena of ague compel us to employ. By the word paroxysms, we signify the whole of that group of symptoms just depicted. The period which elapses between the termination of one paroxysm and the commencement of another, when this period is one of entire immunity, is called an intermission; but that period which elapses between the commencement of one paroxysm and the commencement of the succeeding paroxysm is called an interval. When the paroxysms run into one another, relaxing at certain periods, but never entirely quitting their hold on the patient, the disease is called remittent fever; and the period of mitigation is called a remission.

The principal forms in which ague exhibits itself are, the quo-

tidian, the tertian, and the quartan varieties—the one-day, three-day, and four-day ague.

In the quotidian, the paroxysm is a morning visitor, and appears regularly every day. It remains from ten to twelve hours; its interval, consequently, is a period of twenty-four hours, and its intermission lasts about twelve hours.

In the tertian, the paroxysm arrives at noon, and commonly stays till evening, lasting about six or eight hours; but it only appears on alternate days; its interval, therefore, is forty-eight hours, and its intermission about forty hours.

In the quartan, the paroxysm does not commence till the afternoon, and remains four or six hours. It appears every two days, as on Monday, Thursday, Sunday, Wednesday, &c. Its interval is seventy-two hours, and its intermission about sixty-six hours.

Occasionally, a patient has, as it were, two or even three agues at once: for instance, he may have a daily paroxysm, and yet not be suffering from a quotidian, but from a double tertian, ague; the paroxysm of the first day differing from that of the second, but precisely resembling the paroxysm of the third day; while the paroxysm of the second day is exactly similar to that of the fourth, and so on. These differences may be decided and unmistakable; the paroxysms of two consecutive days differing in the period of invasion, in severity, in length of duration. The double tertian assumes another form. The patient may have, say on Monday, two paroxysms, one commencing in the morning, and the other commencing in the evening; on Tuesday, both paroxysms intermit; on Wednesday, they reappear; the one commencing, as before, in the morning, and the other in the evening. This strange duplication of disease is also found in the quartan variety.

There are yet other inconsistencies and deviations from the regular type; and these it is important to remark; otherwise, the true nature of the disease will not unfrequently be mistaken. Ague is sometimes curiously curtailed of its fair proportions—mutilated and masked. An ordinary paroxysm consists of three stages—cold, hot, and sweating; but the paroxysm of a disguised ague is frequently lopped of one or other of these. The patient may become hot and sweat, without having previously been cold; or he may be cold and shake, without afterwards becoming hot; or he may merely be chilly, languid, and depressed, without suffering from any further symptoms. This is called the dead or dumb ague. I have even read of a case where, apparently, the

stages were inverted; the paroxysm commencing with general heat and terminating with chilliness. Sometimes the ague will so far deviate from the ordinary type, that no regularity of attack, or of duration, or of severity, is apparent in the paroxysms. Cases of this kind are called erratic ague. This disease may be still further travestied. Stript of every characteristic symptom, Inconspicuous Ague, with his pallid features and gaunt frame, stands before the physician and asks: "Who am I?"—"Whence are you?" is the counter inquiry.—"From the banks of the Thames."—Then the physician places his hand upon the left side of the questioner, and finding there a tumid spleen, replies: "Your name is Ague."

The various forms of this malady pass, readily, the one into the other. Thus, a quotidian easily becomes a tertian; a tertian a quartan; and a quartan, again, a quotidian, or tertian. In all these varieties, also, the time of attack of the paroxysm is liable to change. In favorable cases, it postpones its invasion to a later period in the day; in unfavorable cases, it anticipates its usual hour.

The modifications of ague, which we have hitherto considered, have resulted principally from changes in the duration and disposition of the interval or intermission; and from obscuration, invasion, or partial amputation of the paroxysm. But still other modifications exist, dependent upon exaltation or intensification of the paroxysm. Thus, during the fit, the patient may faint, or be affected with tetanic or epileptic convulsions, or the skin may be dappled by livid spots, which disappear with the paroxysm. Or again, he may be violently delirious. This usually coincides with the hot stage. Sometimes the presence of this symptom characterizes a whole epidemic. It is more common in spring and autumn than in the other seasons. The quotidian is more frequent in the spring; the quartan in the autumn; the tertian is frequently found both as a vernal and autumnal affection. The autumnal ague is the more perilous of the two.

The duration of ague is absolutely indeterminate. It may vanish after a fit or two, or it may endure a life-time. When much prolonged, it leaves an ineffaceable impress upon the constitution. The abdominal organs suffer particularly. The spleen becomes so large, that it has been known to weigh eleven pounds, while it ought not to exceed a few ounces. In marshy counties, this tumor in the left side is well known, and is called the ague cake. The

liver and bowels are also affected. In Zealand, the complaint is termed the gall fever, on account of the sickness, diarrhœa, dysentery, jaundice, disturbance of the intellect, by which it is accompanied. In addition to these local disorders, general cachexia and debility are induced, which remain long after the cure of the ague. This is rendered evident by the sallowness and pallor of the patient's countenance, by his muscular weakness, by his feeble digestion, and by the readiness with which he falls a victim to any accidental cause of disease.

PREDISPOSING CAUSES.

The very young and the aged are both liable to be attacked by ague; but they are less liable than the middle-aged to its invasion. Any debilitating cause, as previous disease, scanty food, overfatigue, &c., is a predisposing cause of ague; for the strong and healthy resist morbid influences much more successfully than the weakly invalid. But, by far the strongest predisposing cause is a previous attack of ague itself. If a person were never exposed to the ague poison, he would never have ague; but having been exposed to this poison, and having had ague, it seems probable that the disease, though apparently cured, may recur without re-exposure to this poison. Dr. T. Watson relates the following case. "The brother-in-law of Dr. James Gregory, of Edinburgh, was a strong active man, in command of a battalion in the West Indies; and he escaped for a long time, while others were falling around him in remittent fever. At last, he was wounded by a musket-ball, which passed through his shoulder. He insisted, much against the will of the surgeon of the regiment, on resuming his duties before his strength was completely restored; and the consequence was, that he was immediately attacked by a remittent fever of such violence that his life was for some time despaired of.* But this was not all. The remittent disease assumed, by degrees, a distinctly intermittent form, and became a tertian; and at last he got well and strong, and came over to this country. But, for a long time, though to all appearance his health was re established, ague fits would from time to time occur; and they came precisely

* How forcibly does this case illustrate the truth of what I have said elsewhere in this work, viz., that to get put into a good state of health and strength is the best defence against all epidemics, as cholera influenza &c., and also against consumption.

at the day and hour on which they would have happened if the tertian had continued with its original type; and slight causes were sufficient to reproduce them. He had marked, in an almanac, the days of the expected accession; and on those days it occurred, for some time, whenever the east wind blew."

EXCITING CAUSES.

The invisible, impalpable, imponderable, altogether inscrutable exciting cause of ague, the haunter of the Maremma and the Alentejo—of the swampy level and of the arid sand-plain—is familiarly known by the name of marsh miasm, or malaria. This miasm is a specific poison, generated, it was formerly imagined, during vegetable decomposition. This idea however is now by great authorities discarded, for reasons such as those immediately succeeding. "The river Tagus"—I quote from Dr. Watson's abridgment of Dr. Ferguson's account—"is, at Lisbon, about two miles abroad; and it separates a healthy from a very unhealthy region. On the one side, is a bare hilly country; the foundation of the soil and of the beds of the streams being rock, with free open water courses among the hills; this is the healthy side. But the Alentejo land, on the other side, though as dry superficially, being perfectly flat and sandy, is most pestiferous. Moreover, in and near Lisbon, there are numerous gardens where they keep water during the three months' absolute drought of the summer season, in stone reservoirs. These reservoirs, containing water in the most concentrated state of foulness and putridity, are placed close to the houses and sleeping rooms. The inhabitants literally live and breathe in their atmosphere. Yet no one ever heard or dreamt of fever being generated amongst them, from such a source; though the most ignorant native is well aware that were he only to cross the river and sleep on the sandy shores of the Alentejo, where a particle of water, at that season, had not been seen for months, and where water, being absorbed into the sand as soon as it fell, was never known to be putrid, he would run the greatest risk of being seized with remittent fever." The conditions necessary to the production of malaria seem to be, a surface capable of absorbing moisture, and that this surface should be flooded, and soaked with water, and then dried: and the higher the temperature and the quicker the rate of drying, the more abundant, and consequently the more virulent, is the poison generated. This theory explains the occurrence

of ague in fenny districts, equally with its appearance in the parched and sandy plain, where not a blade of grass evinces decomposition.



TREATMENT.

In the more ordinary cases of ague, we have already a remedy, which may be almost considered as specific. I mean, of course, quina—the disulphate of quina. In all ordinary cases, therefore, this should be given; three grains every four or five hours, in form of pill.

In all those cases, however, in which quina has been tried and has failed, it should be discontinued; and the hydropathic treatment should be adopted, and will most commonly succeed.

Immediately before the time at which the cold stage is expected, the patient should take the douche, for one minute. If a douche cannot be procured, a plunge bath may be substituted; and, in the absence of this, the pail douche, four pails before and four behind.

As soon as the hot fit commences, the patient should go into the wet sheet for forty minutes; and then should be well rubbed in the shallow bath, for five minutes; if he stand it well, he may remain in the shallow bath for ten minutes, especially if the weather be warm. And this should be repeated every time the hot stage comes on Irrespectively of all this, the patient should take the half wet sheet every morning, for thirty minutes; followed by the shallow bath, for three minutes.

While lying in the sheet, the head should be kept constantly sponged with cold water.

If the ague be one of that irregular kind, in which the several attacks and intermissions are so jumbled together, as not to be well and clearly distinguished—if neither the paroxysms nor the intermissions be very obviously defined—in that case he may take the following treatment: in the early morning, at six o'clock, the half wet sheet, for thirty minutes, followed by the shallow bath, for three minutes; at ten o'clock, the dripping sheet; at one o'clock, dripping sheet repeated; at five o'clock, the pail douche; and this should be repeated on going to bed. If the patient's strength do not fail, this treatment may be continued for a fortnight; and then the following may be substituted: shallow bath—douche, or pail douche—shallow bath. And this may continue, until the aguish habit is broken through.

After the patient has been under treatment for six weeks, or two months, if the malady is not overcome, he should resume the quina in the dose above mentioned, but still going on with the hydropathic treatment. I have often been much struck by the increased efficacy of quina, steel, and one or two other drugs, when all excitement has been removed, and all the secretions have been improved, by a month or two of water treatment. In all those chronic cases in which particular drugs possess any efficacy, that efficacy is greatly increased by the use of water treatment in conjunction with them. The reason of this is very obvious. In these cases, the use of the water treatment is to remove and hold down excitement, to keep the system cool, to improve the appetite, and to restore the secretions; thus removing all impediments to the full and favorable development of whatever influence the drug may be able to produce. Many drugs, especially tonics, can be very readily borne, while under the water treatment, which, without it, could not be borne at all.

There is a kind of irregular ague which long residents both in the East and West Indies, and other hot climates, sometimes bring home with them. I have had occasion to treat two cases of this kind, which both did well.

DIET.

No stimulants are to be taken. The patient should use plain diet; and, during the hot stage, should drink abundantly of cold water.

FURUNCULUS:

OR, BOILS.

When boils make their appearance, as the result of treatment, they should be covered with wet cloths, and these again with dry cloths. If they be very large, red, hot and painful, they should be poulticed with hot linseed meal poultices; and the treatment should be considerably lightened.

But, under these circumstances, it would be always safer to take advice.

GLANDULAR SWELLINGS,

ABOUT THE NECK AND ELSEWHERE.

The extreme frequency of these swellings, especially about the neck, makes it quite superfluous to describe the affection. They are the certain sign or symptom of the scrofulous taint. Apparently the disease is local, but in reality it is constitutional; and to the constitution the remedies must be chiefly addressed. It is difficult to find terms sufficiently strong in which to reprobate the conduct of those who, in order to get rid of what is, in truth, a mere symptom, fill the system with the poison of iodine; and thus, even when they succeed in getting rid of the symptoms, (which, however, rarely happens) only do so at the expense of greatly aggravating that state of system (weakness) which originally caused the development of that symptom; entailing upon the patient a series of consequences infinitely more important than the symptom removed.

While iodine, mercury, arsenic, prussic acid, strychnine, &c. are quietly resting on the shelves of the chemist's shop, they are labelled and called simply "poisons." But the moment they quit these shelves, and assume the form of pills or draughts, they lose the name of poison, and are merely called medicines; and the innocence of this term medicine helps to blind both the patient and the physician to their true nature as poisons. If the physician were obliged to use the word poison, whenever he used the word iodine—if, when the patient inquired how he was going to be treated, the physician were always to reply: "I am going to give you a little of the poison of iodine, three or four times a-day"—the patient would be less ready to take it, and the physician himself less ready to prescribe it. But the truth is that, in this case, as in most others; "familiarity breeds contempt." Both patient and physician are so familiar with these drugs under their several Latin names, and as medicines, that they come, in time, altogether to forget that the plain English name for them all is, "poison." It is wonderful to think how the human judgment may be cheated by a mere change of name.

In these cases, it is the constitution which wants curing. Let this be strengthened—let the blood be purified and enriched; the heart invigorated; the nervous tone exalted; and these swellings

will disappear, as matter of course. The only local treatment which should be adopted, is the application of a wet folded cloth covered with a dry one, also doubled; the wet one being re-wetted as often as it becomes dry. Or the wet one may be covered with oiled silk, and then with a cravat. In winter, a piece of flannel may be applied over the oiled silk.

For the constitutional treatment, see that recommended for the scrofulous or consumptive diathesis, or habit of body.

DIET.

The full mixed diet will be proper; and no stimulants of any kind should be taken.

HYDROCEPHALUS:

THE ACUTE FORM OF WATER IN THE HEAD.

A child in whom this disease is about to declare itself, usually exhibits, for some time previously, certain peculiarities which, to the experienced eye, are pregnant with meaning. The digestive system is the first thrown into disorder. The child loses his relish and appetite for food, or he may be possessed with an insatiable craving, or his appetite may vary. The tongue is foul, the breath offensive, the abdomen tumid and tender, the bowels constipated, and the motions unnatural: they are pale; or they are dark, fœtid, slimy; or hard and lumpy. The child becomes thin and pallid. Already, some intimations of the approaching disease of the brain appear. The little patient becomes heavy, sleeps much in his nurse's arms, and exhibits great fretfulness when disturbed. The languor of the child increases daily. Sometimes, his gait evinces slight unsteadiness. Sometimes, an unnatural wakefulness is present. His sleep is disturbed; he grinds his teeth; and appears overpowered by the terrors of his dream. Sometimes the child wakes its parents by a sudden sharp scream. His agony is further marked by clenching of the fists and turning in of the thumbs, during the paroxysm. These symptoms, after an uncertain space of time, are succeeded by those which mark the actual incursion of the disease. The pain in the head is more frequent and more

violent; it recurs at irregular intervals, and is often so intense as to compel its victim to utter the most heart-rending shrieks. The head is hot; the pupils are contracted; light, and sound, and motion, even the gentlest, distress the child, and he therefore replies very unwillingly to questions, but the answers obtained are clear and rational. The pulse, during this stage, is quick and sharp. Pain and stiffness in the back of the neck; pain in the limbs; tenderness of the scalp; are concomitant symptoms. To these are added, sickness at stomach and actual vomiting. The child sighs frequently, and looks grave or sad; his eyes are pained by a strong light, so that he knits his brow.

When the second stage supervenes, the pulse becomes irregular, fluctuating, and often slow; but it is easily accelerated by the slightest exertion—by taking the child out of bed, or even raising him into the sitting posture. The patient is oppressed with stupor. The pupils are now dilated, instead of being contracted, as before; the light does not now annoy him; his vision has become imperfect; sometimes the child seems unable to see at all; he squints, and sees double. Nothing now disturbs or irritates him. He lies in a state of continued drowsiness, with his eyes half closed; occasionally uttering some cry expressive of pain or uneasiness. Very frequently, the child is convulsed, or affected with spasmodic twitching. The stools and urine flow from him unconsciously; and he is observed to be constantly boring his fingers into his ears or nostrils, or picking his lips. This stage will possibly continue for ten or twelve days; and in the meantime the child may, more than once, seem to be getting better. But these apparent amendments are deceptive, and apparent only.

Presently the pulse suddenly gets up to 200 in the minute; the patient rolls his head continually from side to side; moans; waves his hands (one or both) in the air; one side, perhaps, becomes palsied; while the other is affected with convulsive twitchings. One part of the body will become moistened with a cold sweat, while the other parts are hot and dry. The child raves or is insensible; his face flushes, and then becomes pale; his pulse gets weaker and weaker till death closes the scene; and thus terminates the third and last stage of the disease.

The above is but a slight sketch of the progress of water in the head, in which only the more prominent features of the malady are depicted; but it is sufficient for all the purposes of a work like this.

PREDISPOSING CAUSES.

An hereditary taint of the scrofulous diathesis, or habit of body, and whatever may tend to weaken the system.

EXCITING CAUSES.

Blows on the head, difficult and painful teething, frequent and violent fits of anger, sudden and severe frights, overworking of the brain, too violent exercise, everything, in short, which has a tendency to blow the slumbering fire of inflammation into a blaze —these are the exciting causes of water in the head; a disease whose essential nature is inflammatory. It may occur at any age up to twelve years; but is most frequent within the first year of life.

TREATMENT.

Water in the head is another of those diseases in which, as it seems to me, we are not only warranted, but imperatively bound, to try the hydropathic treatment; and for this simple reason, viz., that under every other mode of cure hitherto in use, the patients almost always die. But, whatever be the remedies adopted, their chance of success must always greatly depend upon their being put in practice at the very onset of the disease.

The treatment by water, in these cases, is extremely simple. It consists in douching the head of the little patient, from a small tea-pot, held about six inches above it, with cold water. This douch should be continued until the heat of the head no longer returns when it is discontinued.

In winter, the water may bear a temperature of 65°. In summer it may be cold.

Water in the head sometimes comes on so insidiously, that it is often difficult to detect its first aggression. Whenever a child, therefore, is obviously feverish, with a quick sharp pulse, hot head, flushed cheek, and severe headache, I strongly recommend every mother not to wait for any more marked or better defined symptoms, but to douche the child's head at once. If the disease be hydrocephalus, much time and danger will be saved by this prompt recourse to the douche; and the treatment will do no manner of harm, but only good, if it be not hydrocephalus.

The bowels should be purged every day, with two or three

drams of castor oil, or a dose of jalap and cream of tartar, according to the age of the child. If the medical man object to trust to these simple means—if he insist on leeching, blistering, calomel, &c.; and if the parent have not sufficient faith or firmness to resist him—at all events let that parent stipulate that the douche shall be used in conjunction with his other means; and if it be used at the very onset, perseveringly, until the morbid heat no longer returns on the cessation of the douche, the probability is that the douche will cure the child, even in spite of the leeching, blistering, calomel, &c. Many a child, however, has been, to use the words of Dr. Watson, "leeched out of its life."

The value of cold water to the head has long been known and acknowledged by medical writers. Dr. Darwall states that he has known cases, apparently the most hopeless, rescued from the grave by the mere dropping of cold water, drop by drop, upon the head. Indeed, the diseases are numerous in which the great efficacy of cold water has been almost universally acknowledged throughout the whole profession, at home and abroad. But the great evil has been, that it has always been used in a small, pettifogging, inefficient, and unsystematic manner. It has been made altogether a secondary thing—a matter which might be left to the discretion of the nurse—a something so simple and so devoid of all mystery as to be beneath the dignity of the physician's attention.

The hair should be closely cut, and the head should be a little elevated, and should lie on a horse-hair pillow.

The little patient should be induced to drink freely of cold water; and his nourishment should consist of cold barley water, gruel, sago, &c. &c.

HYDROPS FEBRILIS:

OR, ACUTE DROPSY.

This disease commences with chilliness and shivering, followed by the ordinary signs of fever; viz., hot dry skin, quick pulse, headache, &c. To these are added uneasiness, or dull pain, in the loins, sickness at stomach, and sometimes vomiting. The urine is

secreted in scanty quantity, and is occasionally entirely suppressed; it is sometimes tinged with blood; when heated in an iron spoon over a candle, it turns milky. The limbs and face and abdomen become, suddenly, enormously swollen and distended with water. This kind of dropsy depends upon a peculiar condition of the kidney. This organ is completely gorged with blood. As the affection progresses, inflammation of various organs frequently sets in. The brain may become affected, causing the patient to fall into a state of apathy, or perfect lethargy and insensibility, accompanied by wandering of the mind. Sometimes, the chest is attacked; in this case the breathing is embarrassed and painful, and there is a short dry cough. Or, the inflammation may fall upon the heart, or other vital organs. And it is upon these accidental complications, that the danger of febrile dropsy depends.

CHRONIC DROPSY.

If acute dropsy be allowed to follow its ordinary course, unchecked by treatment, the gorged condition of the kidney passes into inflammation; which, when it has endured a certain period, finally becomes absolutely incurable; and the dropsical condition of the abdomen and face and limbs, becomes permanently chronic. Temporary relief is frequently obtained under these circumstances by tapping the belly and evacuating the fluid: but it invariably re-accumulates.

Dropsy may appear, also, under another form. It is common in cases of long-standing disease of the heart, where the circulation through the heart and lungs is impeded. It generally originates somewhat in the following manner; a young person is attacked with rheumatism. In the course of this disease, inflammation of the heart supervenes. The patient suffers, in consequence, from severe palpitation, distress of breathing, and a sensation of oppression and constriction of the chest. These symptoms, however, under careful treatment, gradually disappear, and the patient apparently recovers his health; but he remains subject to palpitation and difficulty of breathing, upon any exertion rather greater than ordinary. In this state of seeming health he continues, perhaps, many years; flattering himself that his life is as secure as that of other men. But he is mistaken; he stands on the verge of a precipice; only a slight impulse is wanting to his destruction; for his heart is organically diseased. Let such a man take a cold

in the chest. This new affection, however slight, increasing the embarrassment of the circulation, is sometimes sufficient to overwhelm the powers of the diseased heart and incapacitate it from duly performing its functions. The blood accumulates in the chest, for the heart can no longer force it onward; as a consequence, the blood descending from the head and neck cannot find admission, but stagnates in those regions, imparting a dusky lividity to the complexion. The lips assume a bluish-black color. The eye-balls protrude from their sockets. In the same manner, the blood, ascending to the chest from the abdomen and legs, is unable to enter that cavity, but is delayed in the abdomen and legs. Now, all these distended blood vessels about the face and head—about the abdomen and legs—endeavoring to free themselves from their burden, allow the water of the blood to sweat out through their pores, into the surrounding parts. Hence, dropsy ensues. Hence, the legs and face and arms and abdomen, sometimes, swell enormously; and when the finger is pressed upon any of these parts, an indentation or pit is left behind. Cases of dropsy from old heart-disease do now and then, however, get well.

EXCITING CAUSES.

The affection of the kidney, which produces the first described form of dropsy, is frequently a legacy left by scarlet fever, especially when this disease has been more than usually severe, or improperly treated. It often arises from exposure to damp and cold. It is said particularly to affect those of a scrofulous constitution. The diseases of the heart which lead to dropsy are principally those which result from rheumatic inflammation; or the slow changes which occur, as age steals on, in those who labor, or in those who indulge in the pleasures of the table. The worshippers of "la Divine Bouteille" are liable to a peculiar alteration of the liver, which ultimately produces dropsy. Various kinds of abdominal tumors have a similar effect. Dropsy is a symptom, not a disease. There are three kinds of dropsy, viz., *acute, or febrile dropsy*, setting in suddenly, attended by feverish symptoms, sometimes supervening on scarlet fever, and depending on congestion of the kidneys: this form of dropsy is curable. Secondly, there is *chronic dropsy*, depending on inflammation and disorganization of the kidneys, the result of previous congestion: this form is frequently incurable. Thirdly, there is *chronic dropsy*, depending on

old heart-disease, or any other cause (as mere weakness, or some mechanical obstruction) interfering with the free passage of the blood through the heart and lungs: this form is sometimes curable.

The first is called febrile, or acute dropsy; the second, renal dropsy; and the third, cardiac dropsy. The two latter forms often exist in conjunction. When the dropsical accumulation is in the areolar tissue under the skin, it is called anasarca; when in the cavity of the belly, ascites; when in the ovaries, ovarian dropsy; when in the chest, hydrothorax.

TREATMENT.

In the treatment of dropsy, the two principal objects are, first to get rid of the water, and, secondly, to prevent its collecting again. By the old system of drug medication, these are sought to be attained—first, by diuretics: as acetate of potash, cream of tartar, iodine, oil of tartar, squills, ammonia, digitalis or foxglove, spirit of nitrous ether, juniper, broom-tea, buchu, turpentine, Spanish flies, and mercury—secondly, by drastic purgatives: as jalap and cream of tartar, gamboge, castor oil, and elaterium. Thirdly, by blood-letting.

The objections to this treatment are, First, because, to use Dr. Watson's own language, "diuretics are notoriously of most uncertain operation." Secondly, because, in the majority of cases of dropsy, the disease is either produced by, or associated with, congestion and inflammation of the kidneys. In other words, the kidneys are always much excited and contain too much blood. Now, even when diuretics do succeed in augmenting the secretion of urine, they can only do so by determining to the kidneys more blood, and by exciting them still further. Whatever good they may do, therefore, by diminishing the dropsical accumulation of water, is greatly overbalanced, and ultimately neutralized, by aggravating the original cause of all the mischief—viz., excitement and congestion, or inflammation, of the kidneys. Thus, although they sometimes palliate symptoms, this temporary good is only obtained at the expense of a permanent aggravation of the disease.

No secretion can be increased from any organ, except by preternaturally exciting it, and determining a preternatural flow of blood into it.

There is less objection to the use of purgatives. But, even these, if powerful, and too frequently repeated, do mischief, by irritating the delicate membrane lining the bowels and stomach, lowering the tone of the system, destroying the appetite, aggravating the thirst; and by determining the flow of blood from the surface of the body, and accumulating it within the central organs—the kidneys as well as others.

In all dropsical cases, there is already an enfeebled condition of the whole system, and an impoverished state of the blood. The objection therefore, to blood-letting is, that it still further enfeebles the system, and still further impoverishes the blood.

The objection to the whole plan is that it very rarely succeeds in curing the malady. There are but few cases of dropsy which can be cured by any means. The curable cases are those which do not arise from any organic disease, but from a weakly and depraved state of the general health, and an impoverished state of the blood. It must be admitted, I fear, that these cases, curable at the outset, are too often rendered incurable, and the patient's life is too often lost, by the increased debility resulting from the nature of the treatment usually adopted.

The organ through which the hydropathic treatment proposes to get rid of the accumulated water is the skin. Here is an organ of vast extent, capable of throwing out an immense quantity of fluid, and one, by exciting which, you can, comparatively, do no harm; since it is not a vital organ. Sweating does not impoverish the blood like bleeding, as it only carries out of the body the watery parts of the blood, leaving the vital and nutritious blood still in the system. The object of blood-letting is to induce the veins to supply the place of the lost blood by sucking up (which it is known they will do) an equal quantity of the dropsical fluid; thus diminishing the dropsical accumulation to that extent. But no patient could bear to lose a quantity of blood equal to the whole quantity of dropsical effusion. When, therefore, as much blood as the patient can bear to lose has been abstracted, and the veins have sucked up an equal quantity of dropsical fluid to supply its place, there is still left a quantity which the veins cannot suck up; because they have already sucked up all they have lost, and therefore, all they want; and there is nothing now to induce them to suck up any more. Another evil is this; that a given quantity of mere dropsical water is thus substituted for a given quantity of red, nutritious, vital blood—viz. whatever quantity it was which

had been abstracted by blood-letting. This objection does not apply to sweating. Sweating abstracts only water from the blood, and the veins supply its place by sucking up the water which constitutes dropsy. Thus, water supplies the place of water. But by blood-letting, mere water is made to supply the place of red vital blood! Again, blood-letting can only be carried to a very limited extent; whereas sweating, judiciously managed, can be carried to a very considerable extent, without injury.

Another superiority of sweating is this: that by exciting the surface of the body, the excitement in the kidneys and other central organs is diminished; and by determining the flow of blood to the skin, the engorgement of the kidneys, liver, and other deep-seated organs, is relieved. In sweating, all the determination is from the centre to the surface. In the use of diuretics, and powerful drastic purgatives, the determination is all the other way—that is, the excitement and the flow of blood are thrown into the kidneys and other internal organs, whose fault is that they are already excessively excited and excessively full of blood. Sweating, too, although it does weaken, nevertheless weakens in a much less degree than either bleeding, purging, as diuresis; and the weakness is less permanent. And, generally, instead of diminishing, it augments the appetite.

In dropsy, therefore, I commence at once, with the sweating process, the blanket packing every morning, or every other morning, according to the patient's strength. If this excite the patient too much, the wet sheet packing may be substituted for it: or the blanket packing may be alternated with the wet sheet packing. And this process is to be continued until the dropsical swellings disappear. The sweating may continue for ten, twenty, thirty, or forty minutes, reckoning from the time that it first appears on the face or brow; and it may be encouraged by drinking copious draughts of cold water, through a glass syphon. If cold water produce uneasiness at stomach, hot weak black tea may be substituted. The period which will elapse before perspiration begins will generally be from two to three hours.

Should the blanket and sheet both fail of producing perspiration, in three hours, then the sweating cradle should be used instead. This is a cradle of wicker work, which is placed over the patient, entirely naked, in bed. The bed clothes are then placed over the cradle, so that no cold air can enter, and only the patient's head is exposed. At the foot of the bed, is a spirit lamp connected

with the cradle, from which hot air is thrown upon the patient's body. This apparatus will generally produce perspiration in fifteen or twenty minutes. When profuse perspiration has been thus excited, the lamp may be put out, and the patient remain sometime longer—as long as he feels comfortable—but not longer than forty minutes, reckoning from the time of the commencement of perspiration; few patients can bear it even so long as this.

The instant he comes out of the sweating process, he is to be placed in a shallow bath (cold in summer, tepid in winter), and well rubbed all over by two men, if possible, for five minutes, or even eight or ten, if he be not very feeble. If the weather be cold, there should be a fire in the room, and the shallow bath should be placed in front of it, but not close to it. If the shallow bath be more than he can bear, he may substitute the wet friction, or wash-down of two towels.

Should the disease be associated with heart-disease—should there be great labor and difficulty of breathing, with a blush-black color of the lips and face, and a protuberant appearance of the eye-balls—the treatment must be prosecuted with great caution The perspiration should not endure more than ten or fifteen minutes, should be produced gradually, and the wet friction should be used after it, and not the shallow bath. It ought, in this case, to be superintended by a medical man. After he is dried, a couple of blankets are to be thrown over him, he is to sit down in a chair, and then his legs, if swollen, are to be well rubbed for ten, or even twenty or thirty minutes, each leg, with a wet hand, dipped from time to time in cold or tepid water. After this, he may walk out a little, if able, and the weather be fine; or he may take a drive, well wrapped up; or, if the weather be bad, he may walk a little about the room, and then recline on a sofa, or go to bed. But no attempts are to be made at exercise beyond what he can easily perform.

As the swellings diminish, however, the exercise may be very gradually increased. As the improvement proceeds, the blanket may be taken only twice, or even once, a-week, and a wash-down twice a-day; and the exercise may be still further prolonged.

In all cases, something must necessarily be left to the discretion and judgment of the attending friends of the patient, and something to the feelings of the patient himself.

The diet should be plentiful, plain, and nutritious—plain diet If there should be no appetite for solid food, then the ordinary

sick-room slops must be given, as gruel, broth, beef-broth, sago, arrow root, tapioca, broma, &c.

There is usually present a good deal of thirst. The patient may drink cold water to the full satisfaction of his desire—no more.

In spite of every kind of treatment, however, the majority of dropsical cases will not do well: because they too frequently depend upon organic incurable disease of some internal organ, as the kidneys, the heart, the liver. Those cases, however, which depend upon mere debility and an impoverished state of the blood, will get well under the hydropathic mode of treatment. And I have known some persons recover even when the dropsy did depend upon organic disease of the heart.

When the dropsy depends upon diseased kidney, the fact may be ascertained by discovering albumen in the urine, the mode of doing which is described in another part of this work; see index for the word "*Urine.*" If albumen can be detected in the urine, the chances are twenty to one that the dropsy depends on diseased kidney—the least hopeful, perhaps, of all the forms of dropsy.

CASE.

John Creaves, Esq., of Radford Semele, near Leamington, aged 71, was severely and extensively affected with dropsy, from organic disease of the heart. He had also albuminuria. His case having been pronounced a hopeless one by three of the most eminent London physicians, as well as by his own ordinary medical attendant; and the reason of its hopelessness pointed out to him—viz., the organic disease; he determined to try the hydropathic treatment.

This treatment consisted of the wet sheet packing, every morning until he perspired, followed by the shallow bath, in which he was well rubbed for twenty minutes. He also took a sitz bath three times a-day, and his legs were well rubbed by two men, three times a-day, for thirty minutes, each leg. This plan was perfectly successful, and he has retained the most complete health up to the present moment, though five years have elapsed since he underwent the treatment. His heart-disease remains, but it gives him no trouble; and he can walk or ride on horseback, with perfect ease and comfort to himself, and for as great a distance, probably, as any man of his years. And the albuminuria has disappeared.

In fact, until he lays his finger on his pulse, he does not know that there is anything the matter with his heart. But his pulse is the most remarkable I ever felt. I call it a mad pulse. For it rattles away, stops, leaps, runs on again, stands still, then marches with a slow and solemn pace, then pauses, then runs on again with extraordinary velocity; and, in short, plays all sorts of mad fantastic pranks. It is frightful to feel it.

Mr. Greaves was not treated by me; but by his friend Mr. Beamish. He came under my care, however, soon after his recovery, to be relieved of a crop of large boils; and I have had the pleasure to know him intimately ever since.

BILIOUS HEADACHE:

SICK HEADACHE.

Pain in the head, accompanied by nausea, and sometimes vomiting, and only lasting for a day or two, is of such frequent occurrence that, although it is in reality only a slighter form of indigestion, or else symptomatic of some other obscure disease, deserves, I think, in a work like this, some separate mention. It is too simple and too well known to need any lengthened description. Indeed, headache and sickness are the only two symptoms generally of which the patient complains.

As both these symptoms, however, are among those which sometimes indicate the commencement of important disease in the head, the patient should examine his own sensations, to ascertain whether these be not accompanied by some others, which perhaps, without such examination, might escape his notice: such as, noise in the ears, temporary deafness, some imperfection of vision, giddiness, palpitation, failure of memory, &c.

If there be present no symptom but nausea and headache, the attack, in all probability, will depend upon some temporary derangement, and will be of short duration. The wet sheet, for forty minutes, every morning, for three mornings; followed by a shallow bath or wash-down, with a sitz bath for twenty minutes, at twelve and five o'clock, will generally be sufficient. The head douche will often remove it at once.

DIET.

The patient should take a spare diet for a day or two—bread and butter for breakfast and supper, and bread pudding for dinner

NERVOUS HEADACHE

Persons subject to this affection will find great relief from the head douche. Two or three pails of water should be poured over the head, and this should be repeated twice or thrice in the day. A sitz bath, for twenty minutes, may also be taken at any convenient time, but not soon after dinner—not until three hours have elapsed. But the head douche may be taken an hour and half after that meal.

If there be general heat of skin, with a quick pulse, the wet sheet may be taken for forty minutes, followed by a shallow bath.

DIET.

The diet should be light, spare and farinaceous. No stimulants should be taken.

ACUTE HEART-DISEASE.

The heart, both inside and outside, is lined by a smooth, polished, glistening membrane. It is these two membranes which are affected—sometimes the one, sometimes the other, and sometimes both at once—when heart-disease occurs in its acute form. This is a malady which occasionally puts a speedy termination to life. More frequently, however, its symptoms subside, and the patient deems himself recovered. He is indeed recovered as far as the acute disease is concerned; but very commonly such mischief remains, that the life of the person who has been attacked is always in more or less jeopardy.

Acute inflammation of the heart is nearly always connected, in a most remarkable manner, with acute rheumatism, or rheumatic

fever. So common, nay almost universal, is this relation, that it is sometimes called "rheumatic inflammation of the heart." There are some other curious facts, regarding these two diseases in reference to each other, which are well worth mentioning.

Thus, it occasionally occurs that rheumatic inflammation of the heart will precede the rheumatic inflammation of the joints. A person will be attacked with symptoms of considerable febrile disturbance, and with [illegible] to account for it, but acute disease of the heart. After suffering, however, in this way for a few days, the joints will become swollen, red, tender, and painful; in other words, rheumatism of the joints will make its appearance.

The fact of having had this heart-affection seems to render a patient more liable to repeated attacks of rheumatic fever.

The younger the invalid is, who labors under acute rheumatism, the less chance has he of escaping the heart-complication. Indeed, it is rare to see a patient, who has not arrived at the age of puberty, pass through the rheumatic affections of the joints with a heart totally unscathed.

This disease usually makes its appearance in the following manner. A patient suffering under an attack of rheumatic fever, and confined to his bed, is observed by his attendant to be rather odd and peevish in his manner, or somewhat flighty. He has also raised himself from the recumbent position, and is sitting in bed with his head thrust somewhat forward, and his back supported by pillows. He appears, too, very distressed. There is an air of anxiety hanging about him, which was not before noticed. He complains now, for the first time, of a beating and oppression at the heart. Pain also may be felt there, which is increased by a full inspiration. The beating is hurried; and there may exist also a dry cough. If pressure be made over the situation of the heart more or less pain is experienced. And if the open palm be extended over the same spot, a purring sensation is felt by the examiner. The pulse is modified. It is probably rapid and feeble, perhaps unrythmical* in its periods. It also has a remarkable unsteadiness, or faltering. It occasionally happens, too, that, independent of the general rheumatism, there is a pain and stiffness about the left shoulder, which frequently runs down the arm.

Now, when these symptoms occur thus together, there can be little or no doubt that, on the original disease, (viz. rheumatism,)

* Irregular.

there has supervened another, which is inflammation of the heart. The most certain proof of this is obtained through the means of Laënnec's invention, the stethoscope. But of this method of diagnosis* it is, of course, foreign to the nature of this work to treat.

The reader, who has carefully perused the foregoing symptoms, will at once perceive that, at the very outset of the complaint, there is apt to be considerable disturbance of the head. This is evidenced by the alteration in the patient's manner. I have mentioned that he becomes strange and querulous. Now, this complication of the brain is sometimes carried to such an extent, that it is liable to be confounded with inflammation of that organ. And if the treatment be directed according to this erroneous notion, the most serious consequences may be apprehended. A medical man, therefore, can never be too careful in his examination of the heart in rheumatic affections; and, above all, he should never neglect to call in the aid of auscultation—that is, listening to the sounds of the heart. In these examples it is that the stethoscope is invaluable, and should never be dispensed with. When this severe irritation of the head follows the symptoms above discussed, it may discover itself in a variety of ways. One common form of it is extreme obstinacy. The patient understands what you tell him to do, but will not do it. For example, he will not put out his tongue when bidden. Taciturnity is another frequent shape it assumes. Stupidity, again, amounting occasionally to perfect idiocy, may be the prevailing symptom; or, on the other hand, the greatest depth of cunning. After a time, the patient tosses his arms about, or is shaken by universal convulsions. Finally, he becomes furiously maniacal, or relapses into a perfect state of insensibility. No wonder, with this perfect suspension or aberration of the faculties of the brain, that, without instituting a most rigid scrutiny into all the phases and bearings of the case, the disease should be at once set down as inflammation within the head. The mistake, however, is fatal to the patient.

PREDISPOSING AND EXCITING CAUSES.

This disease may arise, like any other acute inflammation, from exposure to cold; or by violent blows or injuries. An example occurred, a short time ago, of this kind; and I dare say all my

* Art of distinguishing one disease from another.

readers will remember it. A soldier was severely flogged on the back, and in a few days he died of acute inflammation of the heart; the inflammation, in this case, being said to have extended to this vital organ by contiguity of structure. Rheumatism, however, is by far the most frequent, both predisposing and exciting cause of acute heart-disease.

I have nothing to say about the treatment of this deadly malady. It has but two terminations. It invariably terminates either in death or in chronic disease of the heart. In the present state of our knowledge, and with no experience (in this particular disorder) to guide us, it would be unwise, I think, especially in a work like this, to recommend any new mode of treatment, experimentally. I have thought it right, nevertheless, to mention it; for I think it is important that the public should obtain as much information as possible on the general nature of diseases of all kinds. In this kind of knowledge, so vitally important to all, they are at present most lamentably deficient; and the Cimmerian darkness in which their minds are enveloped, in this respect, exposes them to much imposition, and leaves them completely at the mercy of daring Ignorance, and every kind of arrogant pretence.

Should any medical practitioner, however, feel himself justified in trying the efficacy of cold water in acute inflammation of the heart, I would recommend him to adopt that which I have advised in acute inflammation of the lungs—"Pneumonia."

CHRONIC HEART-DISEASE.

The general symptoms of chronic heart disease may be summed up in few words. Difficulty of breathing and palpitation of heart, especially on going up stairs or walking up hill, are usually the first symptoms which attract the patient's attention. He complains of being short of breath. His heart knocks against the ribs with unusual violence. If he place his hand over the left breast, he feels the beating extended over a larger space than is natural; and the impulse communicated to his touch is not sudden and

short, but a more prolonged, heaving, irresistible swell; which seems as though the impulse were communicated, not by the point of the heart, but by the upheaving of its entire side. Palpitation, however, is not always present. Occasionally, pain may be felt in the region of the heart, and the patient cannot lie with comfort on the left side. On examining the pulse, it will sometimes be found to be intermittent and otherwise irregular; sometimes, slow, weak, and faltering; sometimes, quick and fluttering. Sometimes, there will be cough, occasionally spitting of blood; and dropsical swelling of the legs. Frequently the lips, or cheeks, or both, will have a bluish appearance, with general pallor and lividity or duskiness of countenance. The circulation through the brain being impeded by the imperfect action of the heart, the nervous system soon suffers. There is headache, occasional giddiness, a sense of dread on the mind; cowardice, irritability of temper, great propensity to dreaming, especially disagreeable or frightful dreams, with sudden startings from sleep.

These are the general characteristics of chronic heart-disease. The particular nature and details of each individual case can only be ascertained by the stethoscope.

Much additional mischief is continually inflicted on those who are already suffering, by foolish and rash attempts, and bold and confident promises, to cure diseases which, from their very nature, are necessarily incurable. A little more definite knowledge, with regard to the intrinsic nature of such diseases, would serve, in some measure, to protect the invalid public both from the rapacity of Imposture and the blundering errors of honest Ignorance.

With regard to chronic disease of the heart, I shall endeavor to supply this much needed knowledge by means of a simple diagram, showing so much (but no more) of the mechanism of the heart as is sufficient to enable the general reader to understand the course of the blood, and the mechanical contrivances which regulate its exit, its entrance, and its passage through that organ. The diagram is not intended to represent the exact anatomical structure of the heart, nor the relative position of the heart and lungs; but only to illustrate the *principles* of that structure, and the *principles* of the mechanical contrivances above mentioned; and the principles which regulate the motions of the blood, in its passage through it. Possessed of this general knowledge, he will very readily understand the essential nature of chronic heart-disease (which is chiefly mechanical), as well as the reasons why it is incurable.

The heart is a pump—neither more nor less than a living pump—an hydraulic engine or machine—whose sole office it is to pump the blood through certain conduit pipes, called arteries and veins. The power which works the pump, is the living power of contraction—muscular contraction. The heart is a hollow muscle. When it contracts, the dimensions of its hollow or cavity are diminished, and its contents squeezed out; just as the water contained in a bladder may be squeezed out by compressing the bladder between the hands. The inanimate bladder, or an India-rubber bag, will not contract unless it be made to do so by compressure with the hands; but the heart *will*—by virtue of an inherent, living, contractile power, common to all muscles, whether hollow or otherwise. All muscles have the power of contracting; that is, of shortening their fibres, on the application of a proper stimulus. In the case of the heart, the presence or contact of blood within its cavities supplies the necessary stimulus.

We speak of the heart as having two sides—a right side, and a left side. But, in reality, they are two distinct hearts; having no direct communication whatever with each other, but only lying in juxtaposition, side by side, and, as it were, glued together. They could and would perform their several offices just as well, if they were several inches apart. It is more common, therefore, amongst physiologists, and more correct, to speak of them as two hearts—the right heart, and the left heart. The office of the right heart is to pump the vitiated blood, (brought into it by the veins from every point of the body) along the pulmonary artery and its branches, into the lungs—there to be purified. The office of the left heart is to pump the purified blood, (brought into it by the veins from the lungs) along the aorta and its branches, to every point of the body. The right heart, therefore, is the pump which pumps the blood into the lungs: the left heart is the pump which pumps the blood into every part of the entire body. If the blood did not suffer any deterioration during its passage through the body, only one pump would have been necessary. If the blood, after having performed its circuit through the body, were as good when it returned into the pump as it was when it was first sent out of it, then one and the same pump would have been sufficient to have kept it continually going—sending it out again as fast as it returned into it. But this is not the case. After the blood has performed its circuit through the body, it has become defiled, and unfit to be re-circulated until it has been purified. It was neces-

sary therefore to provide a purifying, or filtering, machine; and it was also necessary to collect the defiled blood into a second pump, in order that it might be pumped into this filtering machine (the lungs), before it was returned into the other pump, to be repumped through the body. If, after being sent out and defiled, it were returned into the same pump which pumped it out, this defiled blood must necessarily have been sent out again just as it returned. Therefore it is not returned to the same heart, or pump; but it is returned into another heart or pump, which pumps it into the lungs, where it is purified; and, having been so purified, it is then returned from the purifying machine (the lungs), into the first pump, to be pumped out again; and so on.

All this will be clear enough when the diagram has been perused.

Each heart is divided into two chambers, rooms, or apartments, communicating with each other by means of a door or valve; just as two drawing rooms may communicate with each other by means of folding doors. These two rooms are generally called chambers.

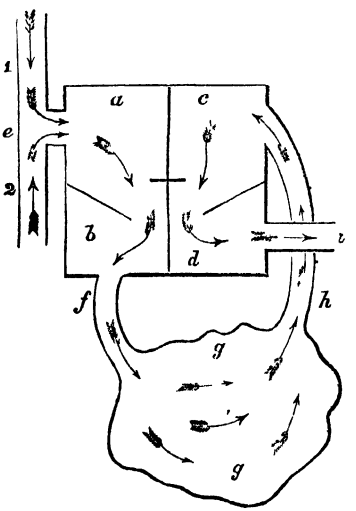
The blood circulates—that is, moves in or performs a circle, by which is merely meant that, at whatever point you begin to trace its course, that course will always bring you back to that same point again. Thus, a large pit, basin, well, or reservoir might be dug in the county of Warwickshire. From one side of this basin, a canal might be cut and carried through every county, town, and village of England and Scotland, and be finally made to return, and terminate in the other side of the same basin; and a steam pump, of sufficient power, might be made to pump the water, in a continual circle, out of the basin, into one extremity of the canal, until it was made to return into the same basin, at the other extremity of the canal. But when the water returned into the basin, it would have become defiled by the waste and dirty waters which would, we may suppose, be emptied into it from the varied houses of the towns through which it passed; and, in this defiled state would be pumped out again. And thus the current of outward bound water would become defiled also, by admixture with the perpetually returning dirty water. But this would be prevented, if the canal were made to terminate in, and empty its defiled contents into, a second basin, sunk near the first—this second basin being furnished with a steam pump, in order to force the dirty water through a filtering machine first, and then onward into the first basin. Thus, the second basin would always contain dirty

water, and its pump would always be propelling dirty water into and through the filtering machine, and then into the first basin: while the first basin would always contain filtered or clean water, and its pump would be always propelling clean water along the canal, and would thus [redacted]e clean water through all the towns and villages of England [redacted] Scotland. Now, if the sides of these two basins could spontaneously contract and expand alternately; so as, by these successive contractions, to force or squeeze their contents onward in the proper directions—as water may be forced out of an India-rubber bottle by compressing its sides; in that case, there would be no need of steam pumps; the office of the pumps being performed by the contractile power of the basins themselves; and then the two basins would pretty accurately represent the two hearts: the filtering machine would represent the lungs; and the course of the water, the course of the blood.

Now, at whatever point of the current of water you placed a boat upon it, it is clear that the boat, carried onward by this perpetual current, would inevitably always return to the same point again—provided it could get through the filtering machine.

DIAGRAM:

SHOWING THE CIRCULATION OF THE BLOOD THROUGH THE HEART AND LUNGS.



EXPLANATION OF THE PLATE.

The arrows indicate the currents of the blood, and the direction of the arrows the direction in which those currents flow.

A and *b* together represent the whole of the right heart, divided into two chambers; the first chamber (*a*) being separated from the second chamber (*b*) by the valve, or folding door, which is seen standing half open; while the blood, represented by the two arrows, is passing through.

1 represents the vein along which all the defiled blood, collected (after having circulated through the head) into one current, is seen descending towards the right heart.

2 represents the vein along which all the defiled blood, collected (after having circulated throughout the entire body, except the head) into one current, is seen ascending towards the right heart also.

E represents the point at which these two currents meet and mingle, and enter the right heart together.

At the point *e*, then, the whole of the blood, brought back from all parts of the body, head, trunk, and extremities, defiled and blackened, enters the first chamber (*a*) of the right heart, and passes through the valve, or folding door, into the second chamber (*b*). At the point *f*, it flows out of this chamber into the lungs, *g g*. Perfectly purified by its passage through the lungs, and now of a bright vermilion color, it quits the lungs at *h*, ascends behind the great artery (*i*) and enters the first chamber (*c*) of the left heart. It now passes through the valve or folding door, into the second chamber (*d*). From hence it flows out of the left heart, through the great artery (*i*), to be by it distributed (through the countless thousands of minute branches into which that artery is ultimately divided) to every point of the body; whence it is again gradually collected into the two great veins, marked 1 and 2, by which it is again poured, at one common point (*e*), (at which point we first began to trace its course) into the right heart—to perform the same circuit over again.

In the diagram, the chambers of the heart, for the sake of simplicity and perspicuity, are represented as square. They are not square however; but irregularly shaped pouches, which contract upon their contained blood, and so propel it onward.

But why, when these pouches contract, do they propel the blood onward? How happens it that this contraction [illegible] the

pouches, or chambers, does not propel the blood backward as well as onward?

This question introduces us at once to the peculiar mechanism of the heart—to the uses of its valves, or folding doors.

The blood is propelled by successive contractions of its pouches, or chambers; but by far the greatest power of contraction resides in the second chamber, or pouch, of each heart. The two first chambers, or pouches, are called auricles; the second, ventricles. The auricles, or first chambers, contract but very slightly. The propulsion of the blood is accomplished, almost entirely, by the contraction of the ventricles, or second chambers—those marked *b* and *d*.

Now then, let the reader fix his eye upon the second chamber of the left heart—that chamber marked *d*. Let him remember that it is not square, but that it is a pouch, something like a small India-rubber bottle. Let him fancy it full of blood, and that its sides are everywhere contracting upon this contained blood. The blood, thus compressed, will try to escape; and it will try to escape in a backward direction, as well as in other directions. But, the moment the blood attempts to move in a backward direction, the effect will be to close the folding door, or valve. My readers have seen a servant entering a room, with something in each hand. The door is, perhaps, ajar. She pushes it gently open with her foot; then, having entered, with a backward movement she closes the door by pressing her back against it. Thus, the blood, the moment it assumes a backward movement, closes the door by which it entered, while the contraction goes on; and the blood, all egress being denied in every other direction, is compelled to make its exit by the great vessel, the aorta—marked *i*.

By the same contrivance, and for the same reason, the blood contained in the second chamber, pouch, or ventricle, (marked *b*) in the right heart, is compelled to flow onward through the pulmonary artery (*f*) into and through the lungs.

When the blood has quitted the heart and entered the great vessels—the aorta (*i*), or the pulmonary artery (*f*)—its progress is further assisted by the alternate contraction and dilatation of these vessels; and it is prevented from being driven backward to the heart by the same contrivance of valves, or folding doors, which prevents it from being sent from the second chambers back first. That is to say, folding doors, or valves, are placed

at the entrance of the two great vessels, *f* and *i*, like those which separate one chamber from the other.

The reader will now be in a condition to understand the nature of chronic disease of the heart.

Looking at the valves, or folding doors, as represented in the diagram, they are seen half open. They have been represented thus merely that they might be the more clearly observed. But, while the blood is passing through them, they are not half, but wide open.

Now, it frequently happens that these valves, instead of being, as in health, thin, soft, flexible, and membranous, become stiff, thick, bony; and not flexible, but fixed in one immoveable position. The door will no longer move upon its hinges.

Suppose one of these doors, then, to have become stiff; and fixed in the position in which they are seen in the diagram: two great evils must necessarily follow. First, the blood cannot pass through the door-way with sufficient velocity, because the door is only half open, instead of wide open. Secondly, when the blood has passed through the door-way into the second chamber, and the second chamber, or pouch, contracts upon it, it is (a part of it) driven back into the first chamber: because the door, being fixed, the backward motion of the blood behind it can no longer close it. That part of the blood, therefore, which is not behind the door is pressed back into the first chamber. A deficient quantity of blood is thus sent, through *f*, into the lungs; because, when the chamber, *b*, contracts, in order to propel its contents into the lungs, a part of those contents is driven back into the first chamber, *a*; and the lungs are defrauded of their due supply.

So, again, the onward passage of the blood out of the first chamber (*a*) being obstructed by the half-closed door; and, moreover, a portion of that which has passed, being driven back again, it is clear that the first chamber, (*a*) must be always gorged and distended with blood. The blood in this chamber becomes, to some extent, stagnant or stopped. And this stoppage in the first chamber, stops also the current of blood coming from behind; just as, in a narrow street, if the first of a long line of carriages is stopped, all the carriages behind must stop also: the first carriage stops the second, the second stops the third, the third the fourth, and so on, until the hindermost carriage of all is stopped too. Now, in tracing the current of the blood in a backward direction, [illegible] tide as it were, from the first chamber, (*a*) backwards [illegible]

to the brain, it will be seen that a stoppage of the blood in that chamber must produce a stoppage of blood, also, in the brain; in other words, an engorged and congested state of the brain. The large vessel marked (1), is bringing blood downward from the brain into the chamber (*a*); but this chamber being already quite full, the blood brought down to it by that vessel cannot find entrance; and therefore, the vessel, unable to empty itself, must remain full; and, being full of the blood which it has already brought, and of which it cannot get rid, it is clear that it is no longer able to bring more blood out of the brain, and thus the vessels of the brain become full also. The vessels of the brain are gorged, because they cannot empty themselves in the vessel marked (1), which is already quite gorged itself. And this vessel is engorged because it cannot empty itself into the chamber (*a*), which is also already gorged; but the chamber (*a*) is engorged because it cannot empty itself quickly enough into the chamber (*b*), the door of communication being only half open, and in that position immoveably fixed; and also because the portion of that blood which does pass through is driven back again into the chamber (*a*).

Congestion of the brain is a very common disease; and sudden death, from the bursting of an engorged blood-vessel in the brain, is also a common accident; and the reader will now understand why these affections often depend upon valvular disease of the right heart.

The vessel marked (1) returns the blood, as we have seen, from the head to the chamber (*a*), of the right heart. But there is another vessel marked (2), which returns the blood from the lower parts of the body.

A large portion of the blood which is returned from the lower parts of the body passes, in its way to the heart, through the liver. It will at once be perceived, therefore, that the same morbid condition of the valve of the right heart which produces engorgement of the brain, must necessarily also produce engorgement of the liver, and other organs situated in the lower portions of the body. In order to understand this, we have only to trace the current of the blood backward from the chamber (*a*), along the vessel marked (2), instead of that marked (1)—remembering that, vessel marked (1) leads backwards towards the brain, so the marked (2) leads backwards towards the liver and the other in the trunk of t

But congestion of the lungs is also a very common complaint; and a train of other disorders arising out of this congestion. When the door, or valve, which divides the *left* heart into two chambers becomes rigid, and fixed in a half-open position, then the same consequences result to the lungs, which I have already described as happening to the brain whenever the valve of the right heart is in this morbid condition.

The current of blood (marked *h*) is travelling out of the lungs (*g g*) into the first chamber (*c*) of the left heart. When, from imperfection of the valve, this chamber becomes gorged with blood, it can no longer admit the current coming from the lungs. And the lungs, no longer able to empty themselves by means of this outward-bound current, necessarily become themselves engorged. They are in the condition of a cistern which is supplied with water by one pipe, while the surplus water is carried off by another pipe, called a waste pipe. If, by any accident, this waste pipe becomes obstructed, the cistern necessarily runs over. The current (*h*,) answers (to the lungs) the purpose of a waste pipe.

Hitherto, we have only considered one of the forms of disease to which the valves of the heart are liable. But they are subject to others. Sometimes, little fleshy excrescences, or warts, grow upon their edges, so as to prevent the door from shutting close. Sometimes, little holes are ulcerated through them, thus letting the blood out when it ought to be closely impounded. Sometimes, they are imperfectly constructed from the beginning; or, as a carpenter would say, the doors are badly hung. Sometimes, the door is too small—smaller than the door-way. Whatever the nature of the fault, the consequences are the same; viz. an imperfect performance of their office, as valves: and a consequent obstruction to the regular course of the circulation, with all its collateral results, and mischievous inflictions upon other and distant organs.

Having thus explained the evil consequences (congestion of the brain, liver, and lungs) which arise, when any disease occurs which interferes with the due performance of the office of those valves which are situated in the very centre of the heart, and which separate the two first chambers from the two second; I will now point out what happens when similar diseases affect those valves, or doors, which are placed at the entrance of the two great vessels, marked *i* (the aorta) and *f* (the pulmonary artery).

Let the reader fix his eye on that point of the chamber *c*, at

which the blood flows out of that chamber into the great vessel, *i*. At this point the folding doors, or valves, are situated. If, from ossification or other disease of these valves, the current of blood out of the heart into this vessel be obstructed, it is clear that an accumulation must take place in the chamber *d*, out of which the blood cannot escape, with the requisite rapidity, into the vessel, *i*. The chamber *d*, which is a muscular contractile pouch, finding itself thus gorged, oppressed, and distended with blood, makes constant and violent efforts to empty itself. It contracts with greater force and frequency, in order to overcome the obstruction; which, however, it cannot do. These strong and continued efforts have the same effect on the muscular fibres, which compose its sides, as constant muscular exertion has upon all other muscles. These fibres become thicker and stronger than is natural. The walls or sides of the pouch become condensed, hardened, and swollen, like the muscle of a blacksmith's arm, while their contractile power is increased—constituting what is called hypertrophy, or enlargement of the heart.

Besides this enlargement of the second chamber (*d*), of the left heart, congestion of the lungs is also produced. For, the current of the blood being obstructed at the entrance of the great vessel (*i*), all the blood of the current, advancing toward the same point from the lungs, is also obstructed, and is thus made to stagnate in the lungs. At whatever point a current of any fluid is checked, the whole current behind the point of obstruction must be checked also.

In like manner hypertrophy of the chamber (*b*), and congestion of the brain and liver, take place, whenever any obstruction to the current of blood out of the chamber (*b*) occurs at the entrance of the pulmonary artery (*f*), from disease of the valves of that vessel.

There is but one other form of heart-disease to which I think it proper to refer, as I am anxious to avoid prolixity as well as all unnecessary minuteness.

The heart is enclosed in a bag. Within this bag it moves freely, contracting and dilating without impediment. The bag is applied loosely around it, and therefore does not compress it, nor in any way obstruct its motions. The heart contracts and dilates within it, just as one may open and shut one's hand within one's breeches pocket. But, when this bag has become the seat of acute inflammation—the result of that inflammation often is, that the sides of

the bag become firmly glued and fixedly adherent to the sides of the heart. When this kind of adhesion between the heart and its bag has occurred, the heart's action becomes hampered, trammelled, and obstructed; and that organ is continually making vain, struggling, and almost convulsive efforts to free itself from its entanglement.

It will be easy for every reader to conceive how greatly the due course of the circulation must be disturbed by this state of things, especially through the brain, the liver, and the lungs; and how mischievous must be its effects upon the whole system.

TREATMENT.

It is clear, from the very nature of the diseases I have described, that they are wholly beyond the reach of cure. But absolutely to cure disease is not the sole object of medical practice. Where a cure is out of the question, it becomes a most important object to palliate, and to put the general system into that state which shall enable it to bear up against the disorder for the longest possible period of time, and with the greatest possible amount of comfort. Heart-disease does not very often destroy life by its own direct agency, but by an indirect one. The whole circulation being obstructed by disease of the heart, other and more distant organs, as the brain, the lungs, the liver, the kidneys, soon begin to suffer. These become ill-nourished, congested, weakened; and finally, new diseases arise in these organs, out of this ill-nourished, weakened, and congested condition. And it is generally these new disorders, and not the original heart affection, which destroy life. Of these new morbid affections, dropsy is the most common.

In chronic heart-disease, therefore, the object of all treatment should be, not to cure the heart—for that is incurable—but to build up and strengthen all the other sound organs of the body, so as to enable them to withstand the debilitating influences to which the heart disease exposes them, without becoming diseased themselves. And this is the true secret of the proper treatment of all chronic diseases, which are themselves incurable; and in this way human life may often be prolonged, almost to its natural term, in spite of the existence of incurable disease. See the case of Mr. Greaves, under the head of "*dropsy*." It is for this reason that drugs, in such cases, are so injurious; for, while they are totally inadequate to remove the original malady, they add to the

deadly influence of that malady, by the additional weakness and disturbance which they inflict upon the system generally.

In chronic disease of the heart, the object should be to keep the system sufficiently filled, but not gorged, with blood; to support the digestive and assimilating energies; to perfect as much as possible the quality of the blood; to keep all the secreting organs, as the skin, the bowels, the kidneys, in a healthy and active condition—by which all such organs as may be suffering under congestion will be lightened and relieved; and, finally, to give the highest possible degree of tone to the nervous system.

Now, there is no treatment under the sun which can accomplish all these objects at once, except the hydropathic. Bleeding from the arm will lighten congested organs; but, then, at the same time, it weakens them so much that it only predisposes them to become congested again with greater readiness than before. A purgative will augment the secretion from the bowels; but it only augments it to-day, to be diminished to-morrow; for everybody knows that after a purge, the bowels are almost invariably constipated for the two or three following days. But this is to do nothing, or rather it is to do much worse than nothing; for the good that is done is but slight and temporary, while the mischief inflicted is important and permanent.

Wherever it is possible, the patient should have change of air; and he should begin by taking a wet friction every morning. After two or three days, he may take a second, at twelve o'clock. In a week or ten days, he may take a wet friction in the morning, and a wash-down at twelve o'clock. In another week, he may take two wash-downs daily. Having taken this last treatment for three weeks or a month, he may take the wet sheet every morning, for forty minutes, followed (if it be winter) by a tepid shallow bath, and a wash-down at five o'clock. But if the wet sheet appear to weaken him, it must be discontinued, and the tepid shallow bath taken without it. In any case, the wet sheet should not be continued for more than a month: and the whole treatment should be reduced to one shallow bath or wash-down every morning, as soon as it seems no longer to benefit the general health. No attempt should be made, by undue perseverance, to cure the heart-disease; and I advise no one to take the treatment, in these cases, until he has consulted some hydropathic physician, as to its safety and propriety in his particular case. I have never seen any ill consequences arise, however, from the use of the water treat-

ment in heart-disease, although I have treated a vast number of such; for the disorder is exceedingly common. But I have always been careful to pick my ca

DIET.

The patient should use a plain diet, and be careful not to load [illegible] at the [illegible]eal. He must take no stimulants.

EXERCISE.

No large amount of exercise can be taken. Whatever hurries the circulation or breathing, to any considerable extent, does mischief. The patient should take, therefore, only as much exercise as he can without embarrassing his breathing, or occasioning or aggravating palpitation of the heart.

CLOTHING.

In cold weather he should wear flannel, and should be, in all other respects, comfortably clothed. If he starve himself with cold, he will only increase that tendency to internal congestions which already exists, and which constitutes one of the most important features in his case.

HÆMOPTYSIS, OR HÆMORRHAGE FROM THE LUNGS:

OR, SPITTING OF BLOOD.

Under this name I shall speak of those forms of this affection only in which there is an exhalation of blood from the surface of the mucous membrane, which lines the windpipe and its branches. Moreover, before I advance farther, I will mention that streaks of blood frequently occur in the phlegm expectorated by invalids laboring under bronchitis, and that various modifications of the color of mucus are observed in inflammation of the lungs, owing to an intimate mixture with blood, in various proportions. None of these will be detailed in this place, but they will all be mentioned

under the head of the particular disease upon which each one depends. Putting aside, then, all cases of this class, hæmoptysis (which is the medical name for spitting of blood) may be conveniently divided into four heads, viz.—

1st, that depending on an actual consumptive state, or consumptive tendency of the lungs, and which I shall call phthisical, or consumptive hæmoptysis.

2, that depending on a diseased heart, which I shall call cardiac hæmoptysis.

3, that depending on the suppression of any customary discharge of blood elsewhere, and which is well known under the name of vicarious hæmoptysis.

And 4thly and lastly, that which does not obviously depend on any one of these, and which I shall call idiopathic hæmoptysis.

Before I describe the differences in the pathology of these four varieties, as the symptoms are for the most part alike in all, I will speak of these general symptoms now, reserving however those peculiar to each kind till I notice each species individually. In the first place, then, some kind of pain, or a feeling of weight, oppression, or some other uneasiness, warns those who are accustomed to hæmorrhage from the air tubes, that this event is about to take place. This uneasy sensation is succeeded by a tickling, pricking, or bubbling in the windpipe, indicative of the situation of the exuded blood. Almost immediately after this, cough is excited, and the irritating substance is expelled in the shape of bright scarlet frothy blood, sometimes mixed with mucus, sometimes un-

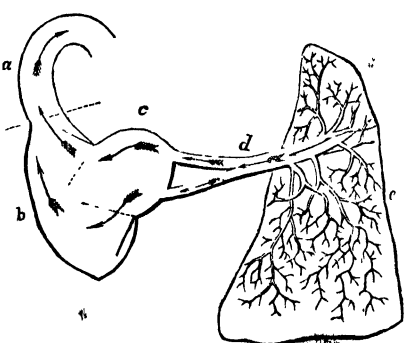
I will now briefly run over the four kinds of hæmoptysis I have mentioned, and their peculiarities, and the pathology of each. First on the list comes phthisical hæmoptysis. Now this species is caused in three ways. It most frequently arises from active congestion of the lung, which is excited by the presence of an extraneous body, viz, tubercular deposit. It is also sometimes induced by the foreign substance encroaching upon some blood-vessel, pressing upon it and blocking it up. In this way the onward course of the blood is checked. An accumulation occurs, and to afford a natural relief, it exhales through the mucus membrane, and is there expelled. Occasionally, though very rarely, a hole is eaten into a large blood-vessel by the progressive ulceration of a mass of tubercle and the contiguous tissue of the lung.

Now when hæmoptysis depends on consumptive disease of the

lungs, the period of its attack varies very much. Sometimes, it immediately precedes all the unequivocal symptoms of consumption. Sometimes, it precedes them by the space of many years. And occasionally, it only comes on when the other symptoms are far advanced. According to Andral, five out of every six consumptive patients spit blood.

The next kind of hæmoptysis depends upon some obstacle to the progress of the blood through the left side of the heart. The obstruction most frequently consists in a thickening and contraction of the valve which separates the first from the second chamber. (See diagram.) This contraction of course prevents the ready admision of the blood out of the first into the second chamber. The first chamber, therefore, becomes distended with blood, and so detains this fluid in the veins of the lungs.*

The blood, therefore, being stopped in its flow through the natural channel, seeks an unnatural, but nevertheless salutary,



* The annexed diagram, I think, will show how this happens. *c* represents the left lung, *d* the current of pure blood proceeding toward and into the first chamber of the left heart—that rounded pouch like cavity marked *c* which it enters in a divided current. The egg-shaped cavity marked *b*, and which terminates at the cross dotted line above, is the second chamber. *a* is the aorta—the great artery which carries the blood out of the left heart to be distributed throughout the body. The two short continuous lines springing from the two points of junction at which the first chamber *c*, opens into the second chamber, *b*, are the valves, or folding-doors which, when closed separate the second from the first chamber. These folding-doors are here represented thrown wide open, (pushed open by the blood) and falling back against the sides of the second chamber, which, while the blood is flowing out of the first into the second chamber, is their healthy position. But when these valves or doors, become thickened, stiff, and hard, they will not open fully, they will only open half way, assuming a position like that represented by the two short dotted lines springing from the same points of junction. The opening through which the blood has to pass into the second chamber being greatly diminished, its flow must necessarily be obstructed, and the blood detained and accumulated, not only in the first chamber of the heart, *c*, but also in the lung, *e*.

outlet through the coats of the vessels. In this way the patient's life is saved. Were it not for this capability of the blood passing through the sides of the capillaries in an emergency like this, suffocation would ensue, and the invalid's life would necessarily be sacrificed.

The third kind of hæmoptysis is called vicarious, and depends on the suppression of any habitual effusion of blood. Thus it occasionally happens that when piles, which have been accustomed to bleed, for some reason or other, cease to do so, hæmorrhage from the air-tubes is liable to ensue.

But the most common form of vicarious hæmoptysis is that which arises from suppressed menstruation. I have seen many instances where young women, from catching cold, have ceased to menstruate, and who, for some time after, every month, have been attacked by hæmoptysis. In this case, the bleeding lasts two or three days, and is preceded by aching pains and a feeling of weight about the loins, by dragging pain in the vicinity of the womb, and extending down the thighs, and occasionally by chilliness and a sensation of great languor and debility. These pains and sensations belonging to the womb prove, beyond a doubt, that that organ is making an effort to fulfil its proper function, but, for some reason or other, is unable to do so. What the cause is that makes its duty devolve upon the lungs is unknown. Sometimes this duty falls upon the nose, sometimes upon the stomach, and so on.

The last kind of hæmoptysis, which I have designated idiopathic, can be referred to no definite source or origin. It frequently happens, during the hot days of summer, that a person is attacked with a slight feverishness; and very soon afterwards a heat, and oppressive feeling in the chest, accompanied by considerable shortness of breath, supervene. When these symptoms have lasted a short time, a sudden and copious gush of blood takes place from the lungs. This naturally creates great alarm, but when the patient is put to bed, and the strictest quiet enjoined, it soon ceases, and perhaps never occurs again, or only under similar circumstances. In these cases, probably, the lungs merely become temporarily congested, and natural relief is afforded in the way above mentioned. Here there is no permanent disease of the lungs or heart; and as this kind of hæmoptysis is much more common in men than women, it can be no compensating action for the womb.

The quantity of blood spat up at a time varies exceedingly. Sometimes, it gushes out in one continuous stream, till the patient

faints. Sometimes, it appears as a minute red streak in a mass of phlegm. In consumption, it is much more common to find a small amount expectorated, at one time, than a large one. In heart-disease it depends very much upon the nature and extent of the mischief. In vicarious hæmoptysis, both the quantity of blood, and the duration of the attack, are modified according to the same conditions when the function is performed in the ordinary and natural manner.

EXCITING CAUSES.

Anything which tends to accelerate the circulation, must also tend to distress the lungs and so cause hæmoptysis in those liable to this disorder. Too much exertion of the lungs, as by playing on the flute, or other wind instrument; loud and rapid talking, shouting or singing; great exercise of the body, either too long continued or too violent, as in lifting heavy weights; all these are sufficient to induce an attack of hæmoptysis, when a person labors under any of the

PREDISPOSING CAUSES.

One very common remote cause exists in the form of that very general vice, tight stay-lacing. This baneful habit produces this effect by exerting a slight, but never-ceasing pressure on the chest, whereby the ribs become permanently compressed. The lungs, therefore, have less room to play in, and so the slightest cold, or anything calculated to disturb the equilibrium of the circulation, is sufficient to induce such an engorgement with blood that hæmoptysis must ensue, as the only means of preventing suffocation. If young females could only see, as I have seen, the interior of the chest and abdomen of tight-lacers, they would soon forsake this shocking practice. To see the unnatural displacement of organs performing the most important and vital functions, is truly distressing. The liver pushed out of its position to make way for the lungs, whose aspect is also disturbed by the pressure of the ribs; the ribs themselves, the bony ribs, absolutely bent out of their natural form; these are only some of the consequences of this ugly habit.

A crooked spine acts in the same way. Also large dropsical accumulations, and the constant and unnatural position assumed by tailors, may be reckoned among the remote causes.

The various modes in which consumption, heart-disease, and the suppression of a customary discharge of blood, render one liable to spitting of blood, have been already detailed.

Now, hæmoptysis, in whatever shape it may occur, and from whatever source it may be derived, being always calculated to excite considerable alarm, it is requisite for me to give a caution or two to spare unnecessary fear. It frequently happens that, after a debauch, and when a person the next morning wakes with a foul tongue and splitting headache, a little streak or patch of blood will appear on the tongue or in the throat. This has oozed from the contiguous mucous membrane, is very common, and not in the slightest degree dangerous.

So, again, some persons have generally a very relaxed and puffy state of the membrane covering the gums. Blood is apt to exude from this, and to wind round the necks of the teeth. This, like the last, is comparatively of no consequence whatever.

TREATMENT.

When the spitting of blood depends upon congestion of the lungs resulting from chronic heart-disease, the treatment recommended for that malady must be adopted; and I recommend the invalid not merely to read, but to study, all that has been said on that subject. If the quantity of blood spat up be considerable, the foot and hand bath, once or twice a-day, may be added. The diet should be farinaceous and somewhat sparing, and as little fluids as possible should be taken.

When it depends upon incipient consumption, I recommend him to study all that has been said on the whole subject of that disease, and to proceed accordingly. He must remember that, in these instances, spitting of blood is but a symptom; and it is in vain to tinker with a single symptom. The whole diseased condition which is the cause of this symptom must become the object of his attention.

When the hæmoptysis depends upon suppressed menstruation, the object must be to restore this secretion. For this purpose, a perspiration should be taken every morning, or every other morning, by means of the sweating cradle, the blanket pucking, or vapor bath, succeeded by a wash-down or shallow bath. The perspiration may endure for fifteen or twenty minutes.

When the spitting of blood is idiopathic, that is, not traceable

to any of the causes enumerated above, the treatment will be two sitz baths daily for fifteen minutes each, and a pail douche every morning on rising. A foot bath for seven minutes may also be taken at bed time.

For some time I did not consider the water treatment safe in spitting of blood. I have since used it, not only with perfect safety, but with marked benefit.

EXERCISE.

The exercise should be regular, systematic, but moderate, and taken in the open air. The

should be rather spare, and farinaceous chiefly. No stimulants.

HYSTERICS AND HYSTERIA.

A young woman in a fit of hysterics presents a singular spectacle. Her body and limbs are violently agitated. Her struggles resemble those of a person wrestling with an opponent. Sometimes, she arches her back, widely separates her legs, and makes the whole body as stiff and inflexible as a bar of iron. But very soon this state of rigidity is relaxed, and the arms are thrown wildly out, or she beats her breast, tears her hair, or pulls her throat with her hands, as though she were endeavoring to remove some inconvenience. She writhes her shoulders, bends her head forcibly backwards, rises into a half-sitting posture, and again sinks supine, or with a twisting serpentine movement she traverses the floor of the apartment. This wonderful pantomime is usually accompanied by the voice. The patient shrieks in a most distressing manner, or only utters at intervals a few low plaintive moans. The face is flushed, the eyelids closed and tremulous, or open, and the eyes staring, the nostrils widely apart, the jaws sometimes firmly shut. But the features remain tranquil. There is none of that facial convulsion, which renders epilepsy so revolting. The breathing is deep, labored, and irregular, and the heart throbs violently. Deep rumbling noises also are heard to proceed from the intestines.

This state of universal agitation, having lasted a certain period, subsides, and the patient is for the moment quiet. But after an interval the convulsions recommence, again to subside in the same manner. At length, however, a violent fit of crying, or sobbing, or spasmodic laughter, supervenes, followed by a flow of limpid urine, and the attack is over.

Such is the description of a fully-formed fit of hysterics. It is analogous to the "grand mal," or major fit, of epilepsy; but, as in epilepsy, there is also a "petit mal," or minor fit, in hysterics. This may consist in a fit of inextinguishable laughter, of immoderate crying, or any other excited spasmodic action.

Hysteria differs from hysterics. The former may be divided into two forms, of which we may name one, mimetic hysteria, and the other, true hysteria. Mimetic hysteria apes or mimics the symptoms of other diseases, and that so accurately, that a grave question of identity not unfrequently arises. Thus it mimics inflammation. A young woman is suddenly seized with a sharp pang in or below the breast, and the breathing is somewhat affected. A practitioner ignorant of the proteiform character of hysteria, would at once pronounce the disease to be pleurisy or inflammation of the chest, and proceed to combat it with the lancet and mercury. This treatment would aggravate the malady.

In like manner, hysterical pain of the abdomen is frequently mistaken for inflammation of the abdomen—peritonitis.

Hysteria sometimes simulates palsy, raising an unfounded apprehension of organic disease.

A young woman loses her voice—she is unable to utter the slightest sound. Inflammation of the organs of the voice is suspected—a most serious and frequently fatal disease; active measures, as they are called, are resorted to, with the most injurious consequences.

Or, a patient finds herself on a sudden unable to swallow her food. An incompetent surgeon, believing her to suffer from organic constriction of the gullet, pokes a long flexible instrument a foot or two down her throat in a vain search after a mechanical obstacle.

A girl is taken with a darting pain in the breast—perhaps at the same time this gland becomes a little tumid and tender. Her friends are alarmed lest it prove the commencement of cancer. It is, however, only another manifestation of hysteria.

Disease of the joints—of the knee joint especially—is frequently

mimicked by hysteria. A patient presents herself to the surgeon with one leg permanently half-bent upon the thigh. The knee joint is rigid and inflexible; any attempt to relax it puts the patient to great pain. Under these circumstances, organic disease is sometimes so confidently believed to exist, that amputation is performed. It is a notorious fact that an error of this kind was lately committed by an eminent surgeon, attached to a metropolitan hospital. He brought his patient into the amputating theatre, and amid a crowd of spectators, removed the limb. After the operation he cut into the joint, intending to explain to the students and comment upon the morbid appearances. To his intense mortification, however, not a vestige of disease could be detected.

Hysteria will occasionally simulate disease of the spine. Many young women, complaining of pain and tenderness in the back, and weakness of the lower extremities, have been confined in the horizontal position for months or even years—a method of treatment singularly inefficacious in the cure of the disease, and highly detrimental to the general health.

There is also a form of blindness, which belongs to the same category. A female, without anything manifestly wrong in the eyes, suddenly loses the power of vision. Great dismay is excited. Has a tumor formed in the brain? Is she about to have a fit of apoplexy? These and other similar questions are asked. After all, it may only be one of the fantastic deceptions of hysteria.

Cough, hiccup, eructation, vomiting, spitting of blood, occur also, separately or conjoined, as hysterical affections. The cough is peculiar. It is loud, harsh, dry, and partakes sometimes of the character of a bark.

There is a peculiar pain in the head, which, as it is likened by many patients to that which would be caused by driving in a nail, is called the clavus hystericus—the hysteric nail.

Globus hystericus—the hysteric ball—is a curious rising in the throat, frequently complained of.

Those females in whom this disorder manifests itself are usually highly impressionable. If any one tap them unexpectedly upon the shoulder, or any other part, they shrink as though from a very severe shock, and perhaps scream loudly.

One of the most distressing peculiarities of hysteria is, that moral or mental perversion by which its attack is not unfrequently signalized. Young ladies of good family, of good education, and originally of good disposition, are guilty of actions which fill their

friends with anguish. One person, for example, may, under the influence of this malady, acquire the character of a wanton and shameless liar. She will, without any object, and even where detection is inevitable, give utterance to the most ridiculous falsehoods.

Another, perhaps, from a semi-insane desire to excite sympathy, will feign to be afflicted with some disease.

A lecturer on Medicine at a London hospital related to me a case of this kind which he had himself witnessed. He was called to see a girl, said to labor under stone in the bladder. He found her lying in bed, and uttering cries expressive of severe pain. Several small fragments of stone were handed to him. It was affirmed that after many efforts, attended with excruciating pain, these fragments had been passed. A moment's scrutiny of the so-called stone sufficed to convince the physician that the girl was an impostor. He, therefore, requested the mother to quit the room, and then began seriously to remonstrate with his patient. He showed her the folly of her conduct, and the distress which her fictitious affliction caused her parents. But instead of yielding to his reproof, the girl replied with a volley of abuse, and called up her mother, who was equally indignant; and, in short, the disappointed preacher was glad to effect his escape from the house. To be perfectly certain that he had made no mistake, the relater of the anecdote sent one of the pieces of stone to Dr. Christison, of Edinburgh, for analysis, fully expecting to learn that it was an ordinary pebble. Greatly to his chagrin, the doctor replied that the stone which he had received was precisely similar in composition to that which is most frequently found in genuine cases of disease. Here was a dilemma. Was it possible that so great an error could have been committed—had an innocent girl been accused of a criminal deception? Not at all. About a month afterwards, Dr. Christison wrote again, apologizing for having sent by mistake the analysis of a stone different from that which had arrived from London. The second and true analysis showed clearly that the pretended stone had been originally picked up in the streets.

Some hysterical females take an unaccountable delight in frightening all those about them. A case is recorded of a young woman, a hospital patient, who vomited blood, and in such quantities, but without much effect upon the general health, that suspicion was excited. The girl was watched. It was then discovered that

she was in the habit of secretly swallowing the blood abstracted from other patients, which she afterwards, in the presence of the nurses and surgeons, regurgitated. Girls have been known to swallow their own urine, and afterwards vomit it before those whom they wished to persuade that they labored under a distressing and anomalous affection.

They will sometimes tear their bedclothes into strips, and having thus made a kind of cord, they will draw it so closely round their neck that the face turns blue, and the eye-balls become unnaturally prominent. They have the air of persons resolved to commit suicide. Nothing is further from their thoughts. Their sole objeect is to terrify the spectators.

Great surprise is every now and then excited in those who peruse the newspapers, when they come to an account of what at the police-courts is called lady-shoplifting. A female of respectability, sometimes even of rank, affluent, and one would imagine raised far above suspicion, is accused of purloining some article of trifling value. The fact is clearly proved. What line of defence is it possible to adopt? We must call into court that mischievous Puck, the genius of hysteria. A strict cross-examination will soon make it appear, that it was the malice of that mysterious and invisible tempter that suggested the crime.

I have seen mimetic hysteria mistaken for gout, for pregnancy, for consumption, for disease of the heart; and it freqnently requires great tact, and no little experience in the whimsical antics of this monkey disease, to unmask the impostor.

This disease rarely cuts short life. It may, however, and frequently does, continue for an indefinite number of years. I have only seen one fatal case. A young woman was brought from Guernsey to London, and conveyed to Guy's hospital. She had suffered more than seven years from a very eccentric complaint. Her first symptom had been vomiting, which became gradually so severe that she was unable to retain food, except in the smallest possible quantities, for a minute, in her stomach. She grew weaker and weaker, lost flesh, and was visibly less firm in mind from day to day. When I saw her in the hospital, she lay on her back in bed, perfectly tranquil and motionless. Her face was calm and smooth as that of a Greek statue; her nostrils slightly dilated; her blue eyes open, but fixed, and devoid of expression; her cheeks tinged with light carnation. Her breathing was inaudible, and the movements of respiration raised the chest in the gentlest manner

possible. Her pulse was a scarcely perceptible undulation. The slightest pressure stopped it at once. There and thus she lay, hour after hour, week after week. Visit her when you would, you found her always the same. The nurses fed her, moved her upon her side when they thought her position painful, washed her, and changed her night-robes. During this period she never uttered a word. If much harassed by any one loudly or violently addressing her, her eyelids would droop, or her lip move in sign of assent or negation. Beyond these mute tokens, she never went. If any person from curiosity, or any other motive, placed her limbs in a certain position, there she would suffer them to remain, till some one else moved them back. In this state she continued for a long time. But one day she got out of bed and began to speak. She told the nurse that she was about to die; and indeed she prophesied truly, for in less than half an hour from that time she expired. A concourse of medical men assembled round the corpse when it was anatomically examined. Organ after organ was minutely scrutinized; but nothing was discovered which threw the faintest light upon the disease. In the kidney a morsel of a stone was found; but this was all; and this must have been a mere coincidence, for how frequently is a small stone found where no analogous disease has existed? The whole thing remained, and remains to this present day, a mystery. Perhaps this case should rather be called catalepsy.

PREDISPOSING CAUSES.

There is a peculiar constitution, "for which," says Dr. Alison, "we have no more precise or definite expression than nervous irritability, or mobility; a condition which is more common in women and children than in men; and more common in all persons when in a state of weakness, than when in the full enjoyment of muscular strength; in women, particularly, more common about the monthly periods and immediately after delivery than at other times; more common likewise in those in whom the monthly discharge is habitually excessive: or altered, as in whites; or suddenly suppressed, or more gradually obstructed, than in others. In this condition of mobility, both sensations and emotions are intensely felt; and their agency on the body is stronger and more lasting than usual; continued voluntary efforts of mind, and steady or sustained exertion of the voluntary muscles, are difficult or impos-

sible; the muscular motions are usually rapid and irregular, and the 'animus nec sponte varius et mutabilis.'"

This is the constitution which predisposes to hysteria.

In addition, persons originally of a feeble frame, or worn by disease, or by intemperate or other vicious habits, are prone to this complaint.

Hysterical females are often pale. Their hands and feet and nose are cold. They are subject to chilblains. Their appetite is deficient or depraved. Sometimes, they take a liking to the most extraordinary articles, and will greedily devour slate pencil, tallow candles, and other equally indigestible matters.

EXCITING CAUSES.

Hysteria is usually set up in a person predisposed to the reception of the disease by a sudden mental impression. Thus, fright, anguish, or violent mirth, may produce the disease.

TREATMENT.

Before commencing the treatment for hysteria, whether in the form of the grand mal or petit mal, the greatest care should be taken to ascertain that there is no organic disease of the womb or of any of its appendages. Having had this point well ascertained, the patient may commence by taking a wet friction twice a-day for a week. For the next week, she may take a wash-down twice a-day. For the third week, the shallow bath may be taken twice a-day, and should be continued for a week. The wet sheet should now be taken every morning for twenty minutes, followed by the shallow bath; and a sitz bath for twenty minutes, twice a-day, at twelve and five o'clock; and this treatment may endure for a month. Then the sheet may be discontinued, and the shallow bath taken alone, every morning; and a dripping sheet twice a-day, at twelve and five o'clock. At the end of another week, (continuing the shallow bath,) the douche may be taken every day at twelve o'clock, for three minutes; and continued for a month or two.

If a plunge bath can be procured, this may be occasionally substituted for the second shallow bath.

During the actual existence of a fit of hysterics, the patient should be placed in an empty shallow bath, supported by attend-

ants, and three or four pailfuls of cold water should be dashed over her: the pail douche, in short, should be administered over head and face, as well as over the rest of the body.

If there be organic disorder of the womb, the above treatment must be considerably modified.

The patient should use the full mixed diet, and avoid all stimulants.

EXERCISE.

If it be certain that there is no organic disease of the womb or its appendages, the exercise, moderate at first, should be gradually increased; and should be taken with regularity and system. The patient should go out in all weathers before breakfast, well shod and well clothed; and protected, for the sake of the bonnet, by an umbrella or hood, when it happens to rain. She should go early and tired to bed, and rise very early in the morning.

If there be any organic affection of the womb or ovaries, however, the amount of exercise must be modified accordingly.

HERPES ZOSTER:

OR, SHINGLES.

I remember, when I was a student at Guy's hospital, seeing a patient there who complained of great pain on the right side, about the situation of the liver. She described it as being very acute, deep-seated, and of a darting, shooting character. So distressing was this pain, that sometimes it nearly took away her breath. She was ordered to bed, and every exertion was made to ascertain on what it depended. On being stripped, nothing abnormal was presented to the eye, and the stethoscope failed to detect anything wrong. The physicians were at fault; but the idea which most prevailed was that it was a case of pleurisy. Still there was not that amount of febrile disturbance which is usually attendant upon a severe attack of pleurisy, and the pain was certainly most severe. All was involved in the profoundest mystery

for two or three days. At the expiration of that time, over the spot where the pain was felt, a red patch showed itself on the skin, which red patch was quickly dotted over by the elevation of a cluster of small transparent vesicles. Thus was the mystery solved. This most doubtful and puzzling case was neither more nor less than an attack of that well-known disease, common shingles.

The eruption, which generally runs through a period of ten days or a fortnight, is very definite in its progress. It consists of a number of irregularly shaped, bright scarlet patches, on which the vesicles appear, and which are only seen on half the body. The vesicles either dry up and slightly scale off, or burst and leave a superficial scab, under which new cuticle is developed. The pain accompanying this affection is rarely so intense or so deep-seated as in the case I have just described. Nor does it generally precede the eruption. It is also of an intermitting character; and this, taken in connection with the very remarkable and constant direction which is pursued by the patches, make it, in my mind, quite conclusive that the source of the disease is to be looked for in the nervous system. The efflorescence is always to be found following the course of the spinal nerves, as they emanate from within the back-bone and proceed to their ultimate distribution. It does not begin at any one particular spot; but having commenced, it never deviates from this track. It is generally confined to the trunk of the body, being somewhat oblique and encircling half of it, so that it has been called "zona," and from the fiery redness and heat which attend it, "zona ignea." Sometimes, however, it commences at the nape of the neck, crosses the blade-bone and shoulder, and stretches down the arm. Or it may arise in the loins, traverse the flank, and reach the groin and thigh. But whatever direction it may take, the observation I have just made is always verified. It very rarely indeed completely encircles the body, and it is said to happen more frequently on the right side than on the left.

TREATMENT.

Wearing very loose clothes, so that there may be no pressure on the part affected; and powdering it frequently with dried flour; will constitute all the treatment that is usually necessary. If the attack be rather severe, and the eruption extensive, or the heat and

pain considerable, cloths dipped in goulard water may be frequently applied. If there be much fever, with hot skin, quick pulse, foul tongue, loss of appetite, &c., the wet sheet may be taken for forty minutes, followed by a pail douche, the water having a temperature of 75°, for two or three mornings.

DIET.

The diet should be light and farinaceous.

HAY FEVER:

OR, HAY ASTHMA.

The disease now under consideration is rarely attended with any febrile excitement. The term, therefore, of "hay fever" is inappropriate, and apt to mislead the general reader. Equally unhappy is its other name, "hay asthma;" for it in no way resembles that spasmodic disease. Whereas the latter is an affection of the nervous system; the complaint I am about to discuss attacks the mucous membrane, and should rather be denominated "hay-catarrh." The parts subject to its influence are the eyes, the nose, the throat, the wind-pipe, and the air-tubes in the lungs. In this respect, and in some others, it more resembles influenza than any other malady. The irritation and distress are sometimes excessive, but of course vary in amount in different individuals. The symptoms are tickling, itching, or some other uneasy sensation throughout the tract of the mucous membrane above mentioned, and an increased secretion therefrom. This, of course, gives rise to other symptoms which depend on the situation of the part affected. Thus, in the eyes, it causes crying, or an overflow of tears; in the nose, sneezing and a copious defluxion of mucus; in the air-tubes, coughing sometimes followed by expectoration; I say sometimes, because it is a common thing for the phlegm, after rising up to the throat, to descend again through the gullet into the stomach, instead of being evacuated through the mouth, as should always be the case. Besides these symptoms, there is sometimes an extreme difficulty of breathing. But this is only an accident, and depends on the very irritable state of the mucous membrane, communicating its excite-

ment to the muscles of the air-tubes, causing their spasmodic contraction. There is also frequently a great sense of exhaustion. This disease is not very common, and attacks persons indiscriminately, not showing any preference for those who are most susceptible to cold or catarrh. But when once a person has been seized by it, he generally suffers from it every year, till effectual means be employed to prevent its approach. It appears at no other period of the year but spring and summer.

It is a very prevalent notion, even amongst medical men, that this affection is produced by the odor of ripe grass or hay. And some very extraordinary anecdotes are related to establish this opinion. I have, however, seen several cases of hay fever which it was impossible to trace to the smell of hay.

TREATMENT.

The treatment which I have found most successful in this troublesome disorder is a wet linen cap, or bag, entirely enveloping the whole head, being drawn and secured round the throat. Over this is applied an oiled silk bag; and over this again a thick dry flannel bag. A proper aperture must be left in each of these bags for the patient to breath through. The patient wears this cap for one hour twice a-day; at the end of the hour, when the cap is removed, the head and face are to be well washed in cold water.

In addition to the cap, a pail douche should be taken twice a-day, the water being thrown full into the face as he sits in a large empty bath. This may be occasionally varied by the shallow bath, in which the patient devotes most of the time to rubbing his face with his hands, frequently dipped in the water.

If there be any feverishness of the system, the wet sheet may be taken, followed by the shallow bath. But the sheet must be used with great caution, for persons laboring under this malady do not bear lowering.

When the general health is pretty sound, and the nervous system not weakened, the douche may be also used with advantage, provided it be also used with caution.

I have had some experience in this disease, and I feel confident that it may be completely cured by a timely submission to a proper course of hydropathic treatment for three or four successive summers; the period of treatment embracing the whole

period during which the attack, in each particular case, usually occurs and lasts. The treatment should be commenced just previously to the time at which the onset of the disease is expected. I had a case in my house in the summer of last year (1847), which was completely warded off for that year. The patient came again this year (1848), but unfortunately was summoned away by his parliamentary duties after he had been with me only a few days. He took treatment, however, as well as he could, at home; and has suffered this summer but very slightly.

In this gentleman's case, the malady has been of twenty years' standing.

DIET.

If possible, a change of air should be obtained, a full mixed diet employed, and stimulants avoided.

INTERMITTING PULSE.

Invalids are generally very fond of feeling their own pulses, and are sometimes greatly alarmed to find it intermitting.

It is right, therefore, that they should know that this peculiar pulse is very frequently only a symptom of nervousness. See Nervousness and Indigestion.

There is scarcely any one denominated disease which can be proved by the presence of one single symptom. The existence of particular diseases is substantiated, not by single symptoms, but by groups of symptoms. And even these groups of symptoms frequently become insufficient evidence, and require to be supported by such collateral testimony as can be gathered from the history of the case, from constitutional peculiarities, &c.

INFLUENZA.

A sensation of chilliness, accompanied perhaps by some amount of shivering, and followed shortly by a dull pain in the head, especially just over the eye-brows; tender and watery eyes; stuff-

ing of the nose, succeeded by sneezing and a copious discharge of mucus; dryness and irritation of the throat, hoarseness, cough, and oppression of breathing: this chain of symptoms constitutes an ordinary cold or catarrh. If, however, to this you add a sudden, rapid, and extraordinary prostration of strength at the very outset of the disorder, a considerable depression of spirits, and an epidemic character, you have the genuine influenza.

This disease affects essentially the mucous membrane of the air-passages, but does not generally allow the alimentary canal to go untouched. Want of appetite, nausea, and vomiting, are frequently present, and sometimes diarrhœa. The tongue is for the most part hidden by a white, creamy fur. The pulse is soft and weak. Nor does the skin always escape; the patient frequently complaining of the sore and bruised feeling so common in fever. The skin is sometimes tender to an extraordinary degree. I remember casually placing my hand over the ribs and collar-bone of a man who was attacked by the late influenza. Instantly the patient shrunk away from my touch, and shrieked with pain. I was astonished. I thought that he possibly had some disease of the membrane covering the bones, which under inflammation is excessively tender. But beyond the pain I could find no evidence of such disease. I then touched him very lightly on his legs and several parts of his body, and at each touch he always shrank from my finger. So that the extremities of the cutaneous nerves are, in my opinion, much more sensitive and irritable in this epidemic disease than they are in any other complaint.

I have noticed the great rapidity with which the powers of a hitherto strong man are knocked down under the influence of this disease. Indeed, so universal and so remarkable is this physical prostration, that it is said to be a more indispensable part of influenza, than even the catarrhal symptoms.

Influenza is not infectious, nor contagious; that is to say, it cannot be produced in a healthy person by being in the presence of a patient who is afflicted with it; nor by coming in contact with him. Many instances, indeed, have happened of places becoming infected where travellers have just arrived from infected districts; but many, very many more have happened where travellers arrived from infected places without bringing the complaint with them. Besides, every one knows from experience, that he can communicate freely with those laboring under the disease without any fear of catching it himself. It is not contagious, but

it is epidemic; id est, it pervades immense tracts of country in an incredibly sudden manner, much too sudden for contagion to account for it. In one morning, at St. Petersburgh, 40,000 people were taken ill with the influenza. On the 2nd of May, 1782, Admiral Kempenfelt sailed from Spithead with a squadron. Twenty-seven days afterwards, having had no communication with the shore in the interim, this disease first appeared in the fleet; and at the beginning of the following month, so many seamen were on the sick list, that the squadron was obliged to return into port. I could enumerate many more such instances, but I have said enough to show that it is epidemic.

CAUSES.

It is proper to say something, as briefly as possible, about the cause of this epidemic catarrh. It is then, beyond a doubt, connected in some way with the state of the atmosphere. What this peculiar state is we do not know. It has been ascribed to sensible changes in the weather, and to electrical differences. The first hypothesis is controverted by statistical calculations, and the last has very few adherents. The most tenable theory is, in my opinion, that which attributes the disease to the presence of numberless invisible animalcules, generated in unusually great abundance, and floating about in the air. Their existence, or their wonderful increase, is considered to depend on some unknown state of the atmosphere. These taken into the mouth, stomach, and lungs, and thus pervading the whole of the mucous membrane of the respiratory and alimentary tracts, may easily be conceived to set up such disturbance as is witnessed in an attack of influenza. The plausibility of this theory is enhanced by many circumstances.

In the first place, it will account for the fact of the disease suddenly appearing and so largely disseminating itself in a single night; for we know the curious rapidity with which a host of flies will suddenly infest our windows after a warm day. How much more likely is this to be the case with the invisible and almost inappreciable animalcules to which I am alluding. In the second place, it will account for the migratory character of epidemics, though it will not account for its travelling always in the same direction; for it is a most remarkable fact that both cholera and influenza, I believe always, travel in a westerly direction, even in defiance of contrary winds. This is the course that the Asiatic

cholera, at the moment I am now writing, is pursuing. It is easy to imagine that these microscopic animals can be wafted along from place to place; but it is not easy to conceive that they can sail against the wind.

Although, however, this idea is exceedingly beautiful, and more plausible than any yet promulgated, to what does it lead us? Why, to this question: What is this peculiar state of the atmosphere, to which the generation or propagation of this world of animalcules is indebted? We do not know; so that we are very little more advanced than we were before.

When this affection is simple in its nature and uncomplicated, its violence usually subsides in a few days; and the end of a week witnesses the patient recovering. It is curious, too, to observe that the severity of its symptoms depends very much upon the age of the disease. Thus, when it first appears, they are most violent. They then abate considerably in intensity. And the disease itself generally takes wing at the expiration of about six weeks.

This uniform duration of its stay, also, adds weight to the animalcule theory, since most living creatures have a definite period allowed for their existence.

The real mortality from this malady is immense. I have been told that nearly one hundred corpses have been committed to the grave in Whitechapel churchyard on a single Sunday, during the epidemic that raged a few months ago. But if we consider the number of deaths in reference to the number attacked, the mortality is then very trivial, and will be found principally among the aged portion of the community. Influenza is more fatal than the cholera; but it is because it attacks such an infinitely greater number of people. Of course, the danger of this disease, as of all others, depends very much upon the constitution of the individual affected. Thus it is calculated to excite apprehension, when it lays hold of those who are of a very feeble frame, or whose viscera have been permanently damaged by previous illness; and when it attacks the very young and very old. As a general rule, however, it is a very innocent disorder.

But before I conclude my brief description of this most highly interesting disease, I must add, that the danger depends also very considerably upon what is aptly called the constitution of the existing epidemic. Thus it was a peculiarity in the last, that the inflammation attached itself with greater rapidity and energy than

usual to the more vital parts—the air-cells of the lungs, and the membrane covering those organs. For this reason, it is necessary to check its progress as quickly as possible. A friend of mine perished last winter from inflammation of the lungs, which came on in the course of an attack of influenza. And, judging from his youth, real muscular vigor, and apparent strength of constitution, his medical attendants declared that if he had been cautious in resisting the encroachments of the disease, his life would, in all human probability, have been spared.

TREATMENT.

A light tonic treatment is the remedy for this disease. Persons affected with influenza generally wake in the morning, oppressed and languid. They are not, at this juncture, in a fit condition to take a bath. On rising, they should be content to wash in the ordinary manner, extending the ablution, however, by means of a wet towel, over the chest; followed by a walk, out of doors, for about fifteen minutes. At eleven or twelve o'clock, a wash-down or pail douche should be taken at a temperature (in winter) of 70° or 75°. This may be repeated at five o'clock in the evening.

If the patient be affected with night sweats, as sometimes happens, he should sleep on a mattrass, and under very slight coverings.

EXERCISE.

Whatever the poison may be, it is quite clear that influenza is a disease in which the nervous system is depreciated, and its tone or tension lowered or weakened, by some kind of poison or other. The object of all treatment, therefore, should be to re-exalt the nervous tone. But this cannot be effected by any sudden or violent measures. It can only be achieved gradually and progressively. If you would strain a bow-string to its utmost tension, the process of stretching must be conducted gradually. If you strain it suddenly, and with violence, you will break the string. In like manner must the relaxed nervous system be restored to its healthy tension. The exercise, therefore, must be gradual, moderate, cautious, and systematic. All fatigue must be guardedly avoided. On this account, horse exercise is incomparably superior to exercise of any other kind. It should be taken, moreover, at intervals. The patient should not crowd all his exercise into one long walk or ride. He should take several short walks or rides, and be as

much in the open air as possible. He should go early to bed, and rise early.

The full mixed diet should be used, and all stimulants should be eschewed.

INFLAMMATIONS:

EXTERNAL LOCAL INFLAMMATIONS OF A TRIFLING NATURE, BRUISES, SCALDS, BURNS, LOCAL PAINS, ETC.

The hydropathic remedy for these minor affections is the wet compress. In making a compress, care should be taken that the cloth should be linen or lint. And, if linen, it should be old and soft. The common kind of damask table cloth, being very soft and spongy, makes an excellent compress.

In ordinary practice, it is well known that some of these slight superficial inflammations will be most speedily reduced by cold lotions, and others by warm poultices. In like manner, in the hydropathic practice, they will sometimes yield most readily to the cooling compress, and sometimes to the heating compress. The cooling compress is a wet cloth or bandage, covered with a dry cloth or bandage. The heating compress is a wet cloth covered with oiled silk; and then again, over the oiled silk, covered with flannel. In either case, both the wet cloth and dry covering (except the oiled silk) should be double or treble; if the cloth be thin, it should be treble; if thick, double may do. The oiled silk should be single.

In any of the above slight affections, then, a wet compress should be applied. The cooling compress may be tried first; then the heating compress. The cooling compress should be renewed four or five times a-day, or as often as it becomes dry or hot. The heating compress may be renewed about twice or thrice a-day; and both should be worn during the night, as well as all day.

If there should come on any feverishness of the system, a wash-down may be taken night and morning; or a wet sheet for thirty or forty minutes, followed by a shallow bath, may be taken once during the day for a day or two.

It is as well to remark here, that extensive scalds or burns are frequently very serious matters, especially with children.

DIET.

The diet should be light and farinaceous; and all stimulants should be eschewed.

ICTERUS:

OR, YELLOW JAUNDICE.

A patient affected with jaundice, presents the following appearance. The skin is universally yellow; generally harsh, and dry, and itching; and the irritation of the bile, which produces the yellow color, frequently causes an eruption of little pimples, either solid, or filled with fluid; or of raised stripes or wheals—a kind of nettle-rash in short; or of various blotches and discolorations. The whites of the eyes assume a deep golden hue; the urine is either deeply yellow or almost black; sometimes it contains a red coloring matter, which causes the patient, who supposes it to be blood, great alarm. It is not blood, however, but a peculiar product, termed purpurine. The motions are white.

In some forms of jaundice, however, the motions will at one time be perfectly white, and at another time more or less deeply colored by bile.

They are usually hard and lumpy—what medical men call scybalous. The bowels are generally constipated.

In a few rare cases, the patient sees all things yellow.

Sometimes the saliva, sometimes the perspiration, and sometimes, it is said, the milk of females, is colored by bile.

Jaundice does not always present the same hue. Sometimes, the yellowness resembles that of a new guinea. In swarthy persons, it exhibits a yet deeper tint: in fair individuals, it is lighter, and more nearly approaches the hue of a lemon. In pallid, bloodless patients,—in those who labor under severe affections of the lungs, which impede the arterialization of the blood—and in all in whom any peculiar cachexia is apparent, the jaundice undergoes a distinct and characteristic modification.

The following varieties of jaundice may be enumerated:

1. Febrile jaundice. The patient is suddenly attacked with the symptoms above described, but, in addition, he complains of some pain and tenderness on the right side over the lower ribs, and is feverish. He is affected with headache, heat of skin, restlessness, want of sleep, languor, accelerated pulse and respiration, and constipation. He has also a pain generally in the right shoulder.

This form of jaundice is usually unattended with organic mischief, and is readily curable.

2. Jaundice produced by gall stones. In this case, the jaundiced patient suffers most intolerable pain at the pit of the stomach, which is increased by eating, and only relieved when at last the impacted gall stone slips from the bileduct into the intestines. The pain produced by a gall stone, passing through the bile-duct, is indescribable. No pain to which the human frame is subject is more severe. It is not, however, constant, but comes and goes. At the same time, there is generally sickness at stomach and vomiting, and the matters brought up are sour. Sometimes, hiccup is present. The patient is dyspeptic, flatulent, languid, and depressed in spirits. When the gall stone escapes, all the symptoms vanish, and health returns.

An attack of this kind, however, is rarely solitary; but is repeated again and again at varying intervals.

When the cessation of pain and other symptoms indicate that the stone has escaped into the bowels, the motions should be carefully examined, in order to find the concretion and confirm the diagnosis. For this purpose they should be mixed with water, when the gall stone or stones, being specifically lighter than that fluid, will rise to the surface.

3. Spasmodic jaundice. Mere emotion will sometimes, in persons predisposed to the complaint, bring on an attack of jaundice. Dr. Watson relates the case of a young medical man, who had an attack of intense jaundice, which could be traced to nothing else than great anxiety about an approaching examination.

4. Jaundice supervening upon hepatitis, or inflammation of the liver.

5. Slow insidious jaundice, advancing gradually, without any violent symptom, and unattended with fever. This, the worst form of all, and the most generally fatal, is usually indicative of serious organic disease in the liver—as a slowly growing tumor, whether of a cancerous, hydatid, or other nature.

As the disease progresses, the liver may be felt, through the abdominal walls, greatly enlarged, and sometimes irregular in shape. In some cases, it grows to such an extent as almost to fill the whole belly. Dropsy now supervenes; but this may come on without any enlargement of the liver. Nay, this organ is not very unfrequently diminished in bulk. In the meantime, the patient's strength is gradually exhausted; he becomes emaciated almost to a skeleton, and at length dies. But death may be immediately produced in another way. The brain may become affected, and give evidence of its disturbance by delirium, convulsions, and at length, more or less prolonged lethargy, the precursor of dissolution.

EXCITING CAUSES.

The causes which determine an attack of the first variety—febrile jaundice—are not satisfactorily made out. The cause of the second variety is the impaction of a gall-stone in the passage, by which bile passes from the liver into the intestines. In this case, the bile first stagnates in the liver, and is then absorbed by the blood, which conveys it through the whole system.

The cause of the third form has been supposed to be spasms of the passage which conveys the bile from the liver.

The cause of the fourth form is inflammation.

And the cause of the fifth form is, generally, the formation of a tumor in the liver, or somewhere in its vicinity, which presses upon and obliterates the bile-passage.

TREATMENT.

In jaundice resulting from the impaction of gall-stones in the ducts which convey the bile into the bowels, the hydropathic treatment can be of little or no utility.

Acute inflammation of the liver is of so rare occurrence in this country, and therefore, the jaundice resulting from it of such rare occurrence also, that it is unnecessary to say more about it.

In jaundice of the first kind—that called febrile jaundice—the hydropathic treatment is of the greatest possible advantage. Three days a-week the patient should take the wet sheet in the morning before rising for thirty minutes, followed by the shallow bath. At twelve o'clock, he should take the dripping sheet, or wet friction; and this should be repeated at five o'clock. On the

other three days, he should take a wash-down on rising, and a dripping sheet at twelve, repeated at five o'clock.

The above treatment is equally applicable to the third species of jaundice, that called spasmodic. But in this form of the complaint, the sitz bath, for forty or fifty minutes, may be occasionally substituted for the dripping sheet; and even the douche may be employed when the disorder shows an unwillingness to yield, and where the constitution can bear it.

DIET.

In both the above forms of the malady, the diet should be light and entirely farinaceous; and no stimulants should be taken.

In the fifth kind of jaundice—that depending on cancer or other incurable chronic condition of the liver—as the hob-nail liver, the nutmeg or dram-drinker's liver—the object of all treatment should only be to palliate or temporize; that is, to protect life to the utmost, by such means as are best calculated to support the strength and general health, and so to retard the progress of the disease as much as possible. And it is surprising how many years may be added to human life, under the pressure of incurable disease, by the judicious application of hydropathic measures. I have the fullest and deepest conviction that, in every kind of chronic disease, thousands of human beings, suffering under that form of malady, are hurried out of the world many years before their time; not destroyed by the natural influence of disease, but killed by the remedies used to restore them. It is the inherent and inevitable curse of the drug treatment that, even when most successful, that success is always purchased at the expense of much, and frequently ineradicable mischief inflicted on the living machine. It is a malicious devil, who, though compelled, against his will, to do good, never fails to leave the hot print of his cloven hoof behind him. As the late Sidney Smith once said to me, "It is Beelzebub casting out devils." But in ninety-nine cases out of every hundred, it is utterly useless; and in these cases, the poor sufferer has to sustain all the injury (which is frequently more serious than the disease itself), without any good to counterbalance it. At the end of his course of treatment he finds himself in a much worse condition than when he first commenced it; his stomach ruined, his nervous system shattered, his constitution quite broken down. Under these circumstances, there is nothing

left to oppose the progress of his malady, which now hurries on to its termination. Whatever constitutional strength the patient might have had to act as a wall of defence against the onward march of the enemy, the drug treatment has quite battered down; and the unrestrained disease now walks through the breach to shake hands with death on the other side.

These are the considerations which make it so vitally important carefully to [redacted] every patient before submitting him to the water treatment, in order to ascertain that there is no lurking organic disorder which may be aggravated into deadly activity if the practitioner proceed to treat his patient, as too often happens, in ignorance of its existence. These are the considerations, too, which make it so imperative upon every hydropathic physician to acquire, by constant practice, that tact in detecting latent disease which nothing but the constant habit of examining can impart. The eye, the ear, and the hand of the medical man require to be educated by habit. That education should commence with his professional career, and should never cease until that career has closed. It is his only safeguard against the commission of perpetual blunders. It is the patient's only surety that his life will not be sacrificed to the mistakes of a mere routine practice. Of all those collateral sciences which minister to the correct and successful treatment of disease, there is none—no, not one—of half so much importance as that of diagnosis—that is, the detection and discrimination of the true nature of the malady in each particular case—the true cause on which the symptoms depend. And, I fear I may add, there is none to which the great bulk of medical men pay so little attention.

In chronic incurable disease of the liver producing jaundice, it is difficult to lay down any precise plan of treatment which shall be safe in all cases; so much depends upon the constitutional strength of the patient, the degree of advancement which the disease has made, and its complication, or otherwise, with other disorders. It is, however, with the affection of the liver that we have to deal, and not with the mere yellowness of the skin. For this latter is only a symptom of the former, and is, in these cases, a matter of quite a secondary consideration.

If the patient be so circumstanced that he cannot place himself in a hydropathic establishment, I advise him to rest content with well washing his head and chest every morning on rising, taking as much air as possible (well clad in the winter season), in an

open carriage, and some little exercise once or twice a-day on foot.

DIET.

His diet should be chiefly vegetable and farinaceous; but he may take a little animal food once a-day. He should take no stimulants.

CLOTHING.

When the weather is cold, he should be very warmly clad. In summer, his clothing should be light, both by day and by night.

CHRONIC INFLAMMATION OF THE LIVER.

The following is Cullen's description of chronic hepatitis. "Some fulness and some sense of weight in the right hypochondrium (that is to say, the parts immediately beneath the lower ribs); some shooting pains felt at times in that region; some uneasiness or pain felt on pressure in that part; some discomfort from lying upon the left side; perhaps some degree of jaundice; and, sometimes, a certain amount of fever combining itself with more or fewer of these symptoms." These are precisely the symptoms of the acute disease, but subdued and less violent. Sometimes, the liver is enlarged, and may be felt to extend far into the abdomen. At the commencement of the disease this is generally the case, but at a later period the gland becomes contracted, and occupies less space than naturally.

For more on this subject see Jaundice.

NERVOUSNESS.

There is a very painful condition of the health, not recognized by any technical name in our medical nomenclature, but extremely well and popularly known by the term nervousness. It is frequently depending on some organic disease of the heart, and often on organic or other important disease of the brain, or spinal

cord. But it also frequently exists independently of these affections.

The symptoms which characterize this distressing condition are (for the most part) mental, and depend upon an irritable, and too easily excitable, state of the brain. Sometimes, it seems to depend, however, upon an irritable state of a certain network of nervous filaments lying behind the stomach, and called the solar plexus. In women, it sometimes depends upon a disordered state of the nerves of the uterus, or its appendages. Fear, assuming an almost infinite variety of shapes, but still fear, in some form or other, often amounting to absolute terror, is the most prominent symptom. There is an exquisite sensibility of the most painful and distressing kind, perfectly unintelligible to persons in health; but, in the nervous invalid, stamping an overwhelming importance on the merest trifles; investing the ideal with the form and substance of the real; and giving to fiction all the force of fact. Not seldom, in these cases, the world becomes nothing but a dark solitude.

"I seem to see all things," once said a poor lady, "through a black crape curtain." The earth seems wrapped in a hideous gloom, as it were enveloped in a dark cloud, overshadowing and utterly putting out the light of the bright face of nature; while the murky air is peopled with shadowy horrors unspeakably appalling; and filled with the gibbering voices of invisible speakers, which come and go; and are sometimes heard to whisper suicidal suggestions, or the most awful denunciations, or terrific blasphemies into the very ear of the unhappy listener. I have seen them start and turn sharply round as if expecting to see who spoke to them.

Sometimes, these persons will hold imaginary conversations with invisible speakers; and, sometimes, the illusion is so strong and vivid, that the patient will stamp his foot in anger; his features will frown; and occasionally he will swear wrathfully at something which his illusory colloquist has said, or seemed to say.

At other times, a single voice will speak to him with the most perfect seeming distinctness; and he will accuse any one who may happen to be present of having spoken.

At another time, the nervous patient will seem to have a second self—two separate existences—an alter ego—and he will hold long, and (to him) very distinct and intelligible conversations with his second self.

There is another state of mind which should be noticed. The

patient becomes wearied and dissatisfied with everything connected with this world. He takes no interest in it, nor in the things thereof. There seems to be nothing worth living for. He sighs for something more ethereal; more intellectual; grander; and expresses himself as not caring how soon he may die.

This state of mind is very similar to that which is acquired by living perpetually in the world of dreamy Romance—by eternally reading novels, and other exciting fictions. By perpetually contemplating the piquant Ideal, the novel reader gradually loses all relish for the stupid humdrum of the Real. The effects, on the mind, of this moral poison, when taken habitually, are precisely similar to those of opium.

There are many romance readers, however, who never open a book of romance—persons who live exclusively among ideal creations. With the mental eye they are perpetually perusing unwritten romances of their own devising.

Some are morbidly disposed, by constitution, to this state of brain, in a greater or less degree. Such persons are conscious of an unsatisfied sense of *want* of something which they cannot find. There is a *void* in their hearts which craves to be filled; vague desires which they cannot gratify; a longing after indefinable objects. They are perpetually dreaming, yet dreaming of nothing. In their aspirations, there is nothing tangible—nothing definable—nothing that can be put into words. Are they happy? No. Are they *un*happy? No. Their life is a neutral one—a life of indifference. They are indifferent to everything Real; they live only for the Ideal. But of what nature is this Ideal? what shape does it assume? It has no nature, no shape. It is, like chaos, "without form and void." That it is a dreamy, mysterious indistinctness is all that can be said about it.

Many take refuge in religion, and find there the only consolation of which they are capable.

The state of mind which I have thus feebly endeavored to characterize, when it is constitutional, seems to be a sort of half-way stage between the ordinary human mind and what is called the poetical character. They only want the power to give distinctness to their imaginings—some form and substance—a "local habitation and a name"—to become true and genuine poets.

In these cases, the true *relation* between man and the globe which he is destined to inhabit, is lost; the *fitness* which should exist between the things wherewith he is surrounded and the ner-

vous system by which he takes cognizance of those things, is destroyed; so that the impressions which those things make upon that system are no longer pleasurable.

The fault is, not in the constitution of the world, but in the morbid condition of his own brain.

Frequently, however, the disease assumes a milder form; and fear takes the form of cowardice. The hitherto bold rider becomes a timid horseman; eschews hunting; discovers that a two-wheeled vehicle is an extremely dangerous affair; and wonders how any one can find pleasure in riding or driving a young horse.

He becomes wonderfully solicitous about his health; watches his minutest sensations; conceives strong opinions as to the great necessity of attention to diet; delights to live by rule; and is astonished how those who do not live by rule can manage to live at all. He is perpetually engaged in some new contrivances for the preservation of health; and in making experiments of various kinds on his own person. He becomes a diligent student of medical books; looks at his tongue every morning; and examines his pulse seven times a-day. With regard to the right and the wrong, in all matters relating to the health, he measures truth and falsehood by the standard of his own sensations—forgetting that, of the great ocean of living beings whose waves roll over the surface of the earth, he is himself but one insignificant drop—unmindful of the fact that his own sensations are morbid—and not seeing that his own case constitutes the exception, not the rule.

Sometimes, there is a morbid craving for sympathy; a sense of desertion; a saddening conviction that no one cares for them; and that their friends are indifferent how much and keenly their feelings may be wounded.

Sometimes, the poor sufferer is haunted by a perpetual dread of some impending and undefinable evil. He is unhappy, restless, wretched, without being able to assign any cause. Any sudden noise, or unexpected accident, however slight, startles him to trembling, and often throws the heart into great agitation. Often there is headache of that peculiar kind called nervous; and frequently a pain in the left side about the region of the heart; and sometimes palpitation. His sleep is often disturbed by vivid dreams of a distressing kind; and sometimes he can scarcely sleep at all. Occasionally he is overwhelmed with an indescribable terror, and dread of sudden death. The character becomes weak,

undecided, and infirm of purpose; the temper irritable. The spirits are depressed, and the bowels often constipated; and sometimes the pulse is intermitting. There is often a sense of constriction across the brow, and a sense of choking in the throat. The patient becomes entirely absorbed in his own feelings, and loses all interest in the ordinary affairs of the world. His whole attention is given to his own sensations, and this constitutes the business of his life. All other occupation is a wearisome and painful toil, and it is only by a laborious effort that he can compel himself to set about it. There is a disinclination often to go into society; and all ordinary amusements seem stale, flat, and unprofitable. He delights only in talking about his own sensations, and detailing his own symptoms. It will sometimes happen that, though generally sleeping very badly, he will now and then sleep soundly all night. But, instead of being benefited by this, he only feels all the worse for it.

In addition to all these miseries, the sight is frequently impaired. Dark specks are seen floating before the eyes. The stomach and bowels are flatulent; the urine copious, pale, and limpid; and he complains of giddiness, heartburn, and eructations, with a gnawing or sinking sensation at the stomach, which is relieved (but only for a short time) by eating a crust of bread. Sometimes, this sensation is so intolerable as to keep him awake at night, and compel him to have food placed by his bed-side.

The morning is often the period of the greatest suffering. He is frequently worse at the moment of waking. Towards evening, he becomes somewhat relieved, and improves as night approaches. Sometimes, a sense of exhaustion is experienced whenever the bowels are relieved, especially if they be so a little more copiously than usual. Not seldom, the act of eating dinner produces great heat in the head and flushing of the face, and sometimes a sense of constriction in the throat.

Sometimes, without any apparent cause, there is, what the patient calls, a rush of blood to the head. This, however, is not the fact. The sensation of rushing is produced by the sudden relaxation of the capillary blood-vessels of the brain, and, therefore, an enlargement of their calibres; in consequence of which, the blood immediately rushes into them from the neighboring larger vessels; and a sensation of heat and fulness is accordingly experienced. The phenomena which take place in the brain are precisely similar to those which happen in blushing; and the sensation of heat in

the head is produced in the same manner as that sensation of burning in the face which one feels when one blushes, and which has given rise to the expression "burning blushes." In blushing, the capillary blood-vessels of the face are suddenly relaxed, and their calibres increased. A larger current of red blood instantly rushes into them. In what is called a rush of blood to the head, the same thing happens. THE BRAIN BLUSHES.

But there is no more blood sent up into the head than was there before.

These sensations are too often mistaken to denote apoplectic fulness; and great mischief is done, and the disease much aggravated, by blood-letting, purging, and other depleting and debilitating measures.

It would be just as sensible, in the case of a timid, nervous girl, to bleed her for blushing.

This most distressing malady is entirely restricted to a highly cultivated state of society. It has no existence where man still abides in his primitive condition. It was utterly unknown to our ancestors and to the earlier physicians. It is the sickly offspring of civilization. Its immediate causes, therefore, are to be sought and found in our habits of life. Severe study, long-continued and close application to business and accounts; constant remembrance of some material loss or disappointment; anxiety of mind, sedentary employments; immoderate indulgence in any one species of sensual gratification; grief; hard drinking; late hours; all kinds of excessive excitement, whether physical or moral; the too frequent use of aperient medicines; mercurials; opiates; iodine, and other drugs; green tea, coffee, and tobacco. These are amongst the most common causes; but sometimes it is a superadded misery to those whose lot in this world is not a happy one—those most pitiable of all human wretches, whom fate has doomed through life to breakfast on disappointment, and sup on regret.

But there is yet another cause, which, from its especial nature and importance, I have reserved till the last. I mean our custom of inflicting one common punishment on little children for being little children, and on thieves and vagabonds for being thieves and vagabonds. For both these classes of society we have one common punishment, viz., confinement within the four walls of what, in the one case, is called a prison, and in the other a school-room; condemning both alike to daily drudgery; in the one case, the drudgery of picking oakum, and in the other, the far more painful

drudgery necessarily involved in the attempt to screw and grind, dibble and drill unideaed words into baby brains.

I repeat that it is the school-room—that little turbulent arena where infant ambition is spurred into contention for the gratification of parental pride—it is here, I say, that the foundation of that superstructure of mental suffering, which results from cerebral taxation, is too often laid—sufferings which none can estimate save those who have endured them.

All modern writers agree in describing this malady as peculiarly the disease of an advanced and highly artificial state of society. It is, in fact, the penalty which Nature exacts from Folly, for leave to play the fool within the precincts of her dominions.

I must be permitted here to put in a claim for somewhat more of sympathy than is usually accorded to the nervous invalid, at the hands of those from whom he has nature's right to expect it —his friends and relations. His sufferings are too often treated lightly. They are called mere fancies, to which he is exhorted not to give way. Sometimes, he is even scolded or ridiculed with the view of driving these fancies out of his head; and the man who subscribes his hundreds to free the African slave from the lash, inflicts ten times greater punishment upon his natural born brother without pity or remorse. It would be just as reasonable, just as sensible, just as humane, to ridicule the cripple for halting in his gait, or the victim of the shaking palsy for not holding his head still, as it is to deride the victim of these so-called fancies. Fancies! Is the perversion of sight, resulting from a blood-shotten eye, only a fancy? Does the sufferer under jaundice, who sees all things colored yellow, labor under a mere fancy? Does the madman, with his diseased brain, deserve no pity because his delusions are mere fancies? Then, why should perverted sensation, resulting from a blood-shotten brain, put its victims beyond the pale of sympathy?

But let it be mere fancy. Suffering is still suffering, whether it proceed from fancy or the blow of a stick.

Go, take a child by the hand—a child whose brain has been filled with all sorts of superstitious terrors by some old crone of an Irish nurse. Lead him, at the dead of night, into some lonesome church-yard; drag him down into the charnel-house; strap him the first coffin you happen to stumble over; then leave him with no more light than is just sufficient to reveal the grinning horrors of the dead men's skulls wherewith he is surrounded. It would

be no great matter of surprise, I think, if this poor child were found in the morning either dead or mad; not the less mad, not the less dead, because the life had been shook out of his body or the reason out of his brain, by groundless terrors and mere superstitious fancies.

We do not deride the mad for giving way to their madness; why should we ridicule the nervous for giving way to their nervousness? They both form but one color, of which the latter is but the lighter shade.

Surely, no one would continue to suffer if he possessed the power to will his sufferings away! If a man break his leg, or suffer from toothache, we do not expect him to set his broken bone, or draw the offending tooth by an act of his will! Why should we expect that he can, by any act of his will, unload a congested artery, or bid a quivering nerve lie still? Can he say to his disordered vision: "Thou shalt not see strange sights"?—to his disordered hearing: "Thou shalt not hear strange sounds"?—then why should he be expected to say to his disordered brain: "Thou shalt not have strange fancies"?

An unhappy gentleman fancied that an old hag, with her uplifted crutch, approached him every evening at a certain hour; he fancied that, with her crutch, she knocked him down; and down he always fell. He became reserved and melancholy, shunned society, and kept his fancies to himself. He did not choose that people should either laugh at him or preach to him about these fancies. At length, however, he divulged his secret to a medical friend (I think to Sir Philip Crampton), and gave him an opportunity of being present when the old hag made her approach. Sir Philip (if it were Sir Philip) saw the look of fear which stamped itself on the poor invalid's face the moment the spectre made itself visible; and marked his shrinking horror, and heard his suppressed cry, as the fancied blow of the crutch descended; and instantly beheld his friend dashed to the floor, convulsed and senseless. It then became apparent that he was suffering under epileptic fits, of which the morbid fancy of an old woman and a crutch was but the sign and symptom. The tooth of the tiger epilepsy had bitten into his brain. What wonder that the functions of that brain should have become disordered? What wonder that it should have fancies?

How senseless, how cruel it is to deride these nervous fancies, may be easily gathered from this poor gentleman's case. All

those nervous affections, those so-called fancied disorders, are strictly analogous with the case above detailed. They may and do differ in kind, in form, in degree; they are not all cases of epilepsy; but, in every instance, they are the morbid manifestations of some diseased action going on within the secret chambers of the brain, or el-ewhere. In principle, they are all alike—like, though not identical effects arising from like, though not identical causes.

To treat these cases with harshness is but a remnant of the old and barbarous practice which sought to cure madness by the stripes of the whip. I am quite sure that suicide sometimes results from the repulsed appeals for sympathy which nervous sufferers are too often allowed to make in vain. Thrown pitilessly back upon the world within themselves—that internal world peopled with Horrors—that very world from which they are so eager to escape—they are overwhelmed by a sense of desolation and despair. All wretchedness within—unkindness and derision from without—"how shall I escape?" cries the miserable invalid; "whither shall I go?" Then comes the answering voice of Desperation, and whispers in his ear, "*Out of the world.*" And now almost unconsciously begin the steps to wander round the neighboring pool, and wistful glances are thrown upon its quiet and slumbering waters. How peacefully and sweetly sleep the shadows of the trees upon its placid bosom! What delicious repose! How deeply, solemnly, mysteriously still! Such quiet—such peace! Oh! where shall I find it? Forsaken of God, an outcast from man—whither shall I turn? Whither, whither shall I fly? Then comes the wild look, and the mad bound, and the deep plunge, while the heart is yet echoing with the answer: "Anywhere, *anywhere out* of the world."

TREATMENT.

The moral treatment proper for nervous invalids may readily be gathered from what I have already said of the effects too often resulting from anything approaching to harshness. They should be treated with gentleness, patience, and good humor—not snubbed. Their cases should never be treatly lightly, nor their morbid sensations jestingly. However unreal and even ludicrous their complaints may sound in the ears of health, for themselves they possess a bitter reality and a deep importance.

These cases require a prolonged treatment. But they usually

stand it remarkably well, and derive from it the greatest advantage.

The first month of the treatment may be occupied with a wash-down twice a-day. Then the shallow bath may be taken every morning, and a sitz twice a-day for half an hour; the head douche being applied immediately after each sitz. This treatment may endure for about a month also. Then the half wet sheet for twenty minutes every morning may precede the shallow bath: the rest of the treatment remaining the same; and thus another month may be occupied.

If the patient's sleep be disturbed and his nights restless, the wet sheet may be taken, not in the morning, but immediately before going to bed, followed by the shallow bath. Or it may be taken night and morning too. This may last for one or two months. In the spring of the year, the patient should begin to take the douche, and should take it through the whole of the summer, till the commencement of winter. While taking the douche it will not be necessary to adopt any other treatment beyond a wash-down every morning on rising; unless it be occasionally, to meet some adventitious circumstances. The douche should be taken about mid-day. In very warm weather it may be repeated at five o'clock.

A change of air and scene in these cases is always of great advantage.

DIET.

This should be what I have called the full mixed diet. He should take no stimulants.

EXERCISE.

This also is of great importance—more so perhaps than in any other cases. The best possible kind of exercise, in summer, is exercise on horseback; in winter, skating. But exercise is good in any shape; rowing, walking, cricket, football, shooting, hunting, battledore, &c. The patient should go to bed early, and always a little fatigued with bodily exercise. His employment should never cease, from the time he rises (which should be early) until he goes to rest. He should amuse himself by the exercise of his hands and feet and bodily senses. He should not descend into himself to think. He should allow himself no time for this. The

external world should claim and occupy all his attention. The door to the ideal world within should be, by every possible means, closed and barred against him.

CLOTHING.

He should be, during cold weather, well and comfortably clothed during the day; but he should be exceedingly careful not to be loaded, during the night, with too many bed-clothes. He should sleep airily and cool.

In summer, during the day, he cannot be too lightly clad.

CAUTION.

Before submitting, however, to the treatment above recommended, it is of the most vital moment that he should be carefully examined, in order to ascertain that there exists no collateral disease which may make it dangerous. I was once consulted by a gentleman who wished to know whether I would advise him to continue a certain treatment, under which he had been placed, he having already used it for some weeks. He had grown gradually worse under it, but had been told that he must persevere, and that he would certainly get well. On making a careful examination, I found that he was the subject of aneurism, of the right iliac artery. A few weeks more of such treatment would, undoubtedly, have destroyed him. A timely operation saved him.

NEURALGIA:

OR, NERVOUS PAINS, COMPREHENDING FACE-ACHE, EAR-ACHE, TIC DOULOUREUX, SCIATICA, ETC.

Tic douloureux, affecting the face, is an affection of the nerve, called trifacial.

This nerve, divided into three branches, before it quits the interior of the head, ramifies most extensively over the skin of the face. Either division of the nerve may be implicated. When the upper division is affected—that division which pierces near the centre of the bony margin overhanging the socket of the eye—the parts over which the upper division is distributed suffer. The

pain shoots from the point of exit of the nerve over the forehead, the brow, the upper lid, &c., even over the eyeball itself. During the attack, the skin of the forehead of that side is contracted and thrown into furrows. The neighboring arteries pulsate vehemently, and a profuse flow of tears follows. Sometimes, the eye is blood-shotten at each attack; and if the attacks frequently occur, the eye becomes permanently inflamed.

When the middle division of the nerve is involved, the pain darts from near the centre of the inferior bony margin of the eye-orbit, over the middle of the face. The pain affects the lower eyelid, the nostril, and the upper lip of the side attacked. Sometimes it extends to the teeth, to the middle bone of the face, to the palate, to the roof of the tongue, and even causes spasmodic twitching of the neighboring muscles.

When the lower division of the nerve is affected, the pain starts about half an inch from the centre of the chin upon the right or left side. Thence it diverges over the chin, the lower lip, the lower jaw, and the teeth.

The terrible suffering attendant upon this complaint produces, not very unfrequently, extreme distortion of the countenance—distortion in some cases almost as great as that which characterizes tetanus. The attacks of tic may recur at intervals of a few seconds only; or they may recur once every day, or week, or month. Occasionally, the pain is constant, but at intervals it is intensely aggravated. The pain is said to be sharp, sudden, twinging, or of electric violence and rapidity. The torture inflicted by the disease is indescribable. Could it have been induced by art it would have been a prime favorite with the Holy Inquisition.

These phenomena, affecting the face, are called tic; affecting the hip, they are called sciatica. When they affect other parts of the body, they are called neuralgia.

Ear-ache and face-ache are so well known that it is needless to describe them. They are both of neuralgic origin.

Neuralgic pain in one part of the body is often produced by disease in another part; and thus the patient is misled as to the real seat of the disorder. Thus, in most cases of disease of the hip-joint, at an early period, the patient believes that the disease is in his knee; for the pain affects this joint, and not the hip. Sir Benjamin Brodie relates the case of a man who suffered severe pain on the inside of the knee. This depended upon disease in the artery of the thigh about its centre. In cases of diseased bladder, the pain is referred to

the extremity of the urethra. Irritation of the kidney produces pain in the thigh; disease of the heart, pain in the left arm; stricture of the urethra, pain in the feet; disease in the liver, pain in the shoulder. Dr. Wollaston relates that, one day, having eaten ice-cream at dinner, some time after, when he proceeded to the drawing-room, he found himself lamed by violent pain in one ankle. He became sick shortly after, vomited the ice-cream, and was instantly relieved from the pain. Sir B. Brodie mentions a gentleman who woke one night with a severe pain in one foot. At the same time, certain other sensations to which he was not unaccustomed, indicated the existence of an unusual quantity of acid in the stomach. He swallowed a dose of alkaline medicine, which neutralized the acid, and at once relieved the pain. Mr. John Scott quotes the case of a gentleman, who, having been copiously bled for an attack of apoplexy, was freed from an inveterate tic. A gentleman, whom I lately treated and cured by hydropathic remedies, labored under neuralgic pain of the heel. This pain disabled him from walking, for it was always greatly aggravated by pressure. He attributed it, and no doubt correctly, to the excessive use of tobacco. He had for years indulged in the habit of chewing this noxious drug. The case appeared to resemble those related by Dr. Wollaston and Sir B. Brodie.

EXCITING CAUSES.

Any cause of pressure upon a nerve—as tumors, splinters of bone, &c.—produce neuralgia. When foreign bodies have been lodged in any part of the economy, as a bullet from a gun, the continued irritation will frequently produce neuralgia, which can only be cured by extirpation of the offending substance. Disturbance of the functions of the stomach and bowels have the same effect. I have already illustrated this by several cases. Disease of the brain, of the spinal cord, are occasional causes of this malady. A continued blast of cold air upon the face or other will induce face-ache, tic, or other nervous pains; producing illary congestion, on which tic sometimes depends.

TREATMENT OF TIC AND OTHER NEURALGIC PAINS.

The fact that these affections sometimes depend upon causes which are removable, and sometimes upon causes which are not

removable, is sufficient to show that they are sometimes curable and sometimes not so. When the cause which produces them is a removable cause, as, for instance, inflammation, or congestion, or mere irritation, they are curable. But unhappily, there are no means of ascertaining beforehand the precise nature of the cause on which they depend. I remember the case of a sailor who had received a musket ball through his arm. The arm, however, got perfectly well. Some time afterwards, he was seized with tic in the arm which had been wounded. All sorts of remedies were tried in vain. The pain was so intensely severe, that the man requested that his arm might be amputated. The limb was accordingly removed. It was then ascertained that the bullet, in passing through the arm, had left a small fragment of lead adhering to the nerve which had been the seat of the pain. It is quite clear that nothing but an operation could have cured the tic in this case.

When the disease, however, depends on inflammation, congestion, or simple irritation, then it is curable by the water treatment.

If the patient be of tolerably strong constitution, he may take the sweating blanket, or cradle, or vapor bath, thrice a-week, and the wet sheet for half an hour thrice a-week also, each being followed by the shallow bath. To this should be added the douche for two, three, four, or five minutes, according to the season of the year and the strength of the patient, every day at twelve o'clock, or five. Before commencing this treatment, however, he had better, if the season be winter, initiate himself by the use of a couple of wash-downs daily; one on rising, and one at twelve or five o'clock, for a fortnight or three weeks. If the tic be so situated that a wet compress can be applied over the part, it should be constantly worn night and day.

TREATMENT OF SCIATICA.

A sitz bath at ten in the morning for forty minutes, gradually extended to sixty or even eighty minutes, the water being renewed about every twenty minutes, and having a temperature, in winter, not below 65° Fah., will be proper. This may be repeated in the evening. About one o'clock, the douche may be taken for three, four, or five minutes, according to the patient's strength, and the season of the year.

TREATMENT OF FACE-ACHE AND EAR-ACHE.

The head douche three or four times a day; the sitz bath for half an hour twice a day. Cold water should be frequently snuffed up the nose, and squirted into the ear, and held in the mouth.

CAUTION.

I cannot sufficiently impress upon the reader the indispensable necessity, before submitting to the treatment here recommended, or to any other active form of the hydropathic treatment, of ascertaining that he has no other disease, in addition to the one for which he is treated, which might make it necessary to modify the remedy. Many persons have heart-disease without knowing it, and long sitz baths in heart-disease are highly improper. Whenever the patient shivers after his bath, or does not recover his heat for a long time, or becomes purple about the face and lips, he should discontinue the treatment at once, and take advice.

OBESITY:

OR, GENERAL FULNESS AND FATNESS.

This is not a disease; but it is often a very great inconvenience; and, in proportion, a great advantage to get, in some measure, relieved of that inconvenience. It frequently interferes with a man's activity and capacity for business, and with his general comfort.

But, besides this, it constitutes a very dangerous predisposition. It predisposes a man to some very perilous diseases—to apoplexy, for instance.

Before commencing the treatment I am about to describe, the patient must satisfy himself that he has no heart-disease. This is important, because persons laboring under certain modes of heart-disease are remarkably prone to become fat.

After having accustomed the skin to the impression of cold, by taking a couple of tepid wash-downs every day for a fortnight; and it having been ascertained that there is no heart or brain disease, or other important affection of any of the other viscera, the patient may take the sweating blanket, followed by the shallow

bath, three mornings weekly, the duration of the actual sweating being twenty minutes; and the wet sheet for thirty minutes on the other three mornings, followed by the wash-down; and the douche every day at noon for two or three minutes. If he cannot get the douche, he may take the shower bath. This treatment may be continued as long as the patient's strength bears up well against it. When this begins to fail, the blanket should be discontinued, then the sheet; but the same with which immediately succeeded these is to be taken [illegible]

DIET.

FIRST WEEK.

BREAKFAST.	DINNER.	SUPPER
Brown bread, 3 oz. One small cup of tea.	Meat, 3 oz.: brown bread, 6 oz. One tumbler of water.	Brown bread, 3 oz One small cup of tea

SECOND WEEK.

BREAKFAST.	DINNER.	SUPPER.
Brown bread, 3 oz One cup of tea.	Meat, 2 oz . brown bread, 5 oz One tumbler of water.	Brown bread, 3 oz One cup of tea

THIRD WEEK.

BREAKFAST.	DINNER.	SUPPER
Bread, 3 oz. One cup of tea.	Meat, 2 oz bread, 4 oz. One tumbler of water.	Bread, 3 oz One cup of tea.

FOURTH WEEK.

BREAKFAST.	DINNER.	SUPPER
Bread, 2 oz. One cup of tea.	Meat, 3 oz : bread, 4 oz. Half a tumbler of water	Bread, 2 oz One cup of tea

FIFTH WEEK

BREAKFAST	DINNER	SUPPER.
Bread, 2 oz One cup of tea	Meat, 2 oz bread, 3 oz Half a tumbler of water	[illegible]ad, 2 oz One cup of tea.

SIXTH WEEK

BREAKFAST	DINNER	SUPPER
Bread, 2 oz One cup of tea.	Meat, 2 oz bread, 4 oz Half a tumbler of water	Bread, 3 oz One cup of tea

[illegible] WEEK

BREAKFAST.	DINNER	SUPPER
Bread, 3 oz. One cup of tea.	[illegible] oz. bread, 1 oz [illegible] a tumbler of water	Bread 3 oz One cup of tea.

EIGHTH WEEK.

BREAKFAST.	DINNER.	SUPPER.
Bread, 3 oz One cup of tea.	Meat, 3 oz.; bread, 6 oz. One tumbler of water.	Bread, 4 oz. One cup of tea.

WE

BREAKFAST.	DINNER.	SUPPER.
Bread, 4 oz. One cup of tea.	Meat, 4 oz · bread, 6 oz : vegetables. One tumbler of water.	Bread, 5 oz. One cup of tea.

TENTH WEEK.

BREAKFAST.	DINNER.	SUPPER.
Bread, 5 oz One cup of tea.	[redacted]z.. bread, 6 oz.: vegetables. [redacted]e tumbler of water.	Bread, 6 oz. One cup of tea.

Return now to fi

This is most important, and should be taken, either on foot or on horseback, or both, to the full extent of the patient's strength.

CLOTHING.

This should be as light as possible, consistently with some personal comfort; but not too much.

OBSTIPATIO:

OR, CONSTIPATION.

For every [redacted] relating to the nature and cause of this malady, and to the theory of fœcification, I must refer the reader to my little work, entitled "Results of Hydropathy;" or, "Indigestion *not* a disease of the Stomach; Constipation *not* a disease of the Bowels:" published by Simpkin, Marshall, and Co., London; in which I have treated the subject at very considerable length, and, I trust, thrown some new light upon it. I shall, therefore, content myself with describing its proper treatment.

The expelled intestinal contents are [redacted] secretions from the blood; and not, as is generally supposed by the public at large, and by the great bulk of medical men and physiologists, the mere

undigested residue of the food. I think I have shown this by a chain of circumstantial evidence, having the full force of demonstration, in my "Results of Hydropathy." I have never claimed, however, to be absolutely the first to whom this idea had occurred. On the contrary, I have declared, in the work above named, (in foot note to page 86) that it was quite possible the same idea might have occurred to others, and might even have been expressed by others. I have, moreover, expressly asserted that the whole of Liebig's great work proves that he, at all events, must have entertained the same notion. And I have since met with one work in which this same notion is slightly cursorily mentioned, but not at all as having any practical bearing. What I do claim, however, is the merit of having been the first and only one to bring this fact prominently before the medical and general public, and to invest it with significance and give it currency; the first to engrave it in strong relief and the first to paint it in visible colors; the first to print it in large characters; the first to give it a PRACTICAL importance, and point out the fatal consequences of the old and opposite doctrine. I find it necessary to be thus particular, definite, and precise; not that Truth requires it, or that Justice demands it; for Truth and Justice were both satisfied by the foot-note to page 86 of the "Results of Hydropathy."

Constipation, then, is not a *retained excretion*, but a *suppressed secretion*. The excretion is not expelled out of the bowels in sufficient quantity, simply because it has not been secreted into the bowels in sufficient quantity. The fault is not a deficiency of the expulsive power in the bowels, but a deficiency of secreting power in those blood-vessels and glands, whose office it is to separate the fœculent matters from the blood, and deposit them in the bowels, just as the kidneys separate the urine from the blood and deposit it in the bladder. Constipation is a disease exactly analogous with suppression of urine. In suppression of urine, the bladder expels no water simply because it contains none. The fault is not in the bladder, but in those urinary glands called kidneys, which have ceased to separate any urine from the blood, and therefore have ceased, of course, to deposit any in the bladder. The bladder is but the reservoir of the urine after it has been manufactured by the kidneys, and the blood is the raw material from which it is produced. So, in that suppression of stool called constipation of the bowels, the bowels expel none, or but little, because they contain none, or but little. The fault is not in the bowels, but in the

secreting vessels and glands which have ceased to separate a sufficient quantity from the blood; and have therefore ceased, of course, to deposit a sufficient quantity in the bowels.

The bowels are but the reservoir of the stool after it has been manufactured by the secreting blood-vessels and glands; the blood being here (as in the case of urine,) the raw material from which the stool is produced by the above-mentioned glands and secreting blood-vessels.

The object of treatment, therefore, in constipation, must be to remove that spasmodic nervous irritation, which has arrested the secreting function of those glands and secretory vessels, whose office it is to separate stool from the blood and deposit it in the bowels. The true indication, not to get it out of the bowels, but to get it into the bowels; for once got it deposited there in sufficient quantity, the bowels will not fail to expel it. Of course, I am here speaking of habitual constipation; and not of those comparatively rare cases where the expulsive office of the bowels is hindered by organic disease, mechanical obstruction, and such like.

With this view of the matter, it becomes at once manifest why purgative drugs can never cure constipation. For the very mode by which these operate is by communicating a high degree of irritation and excitement, which is the original sin producing the disease—the fons et origo mali. And, although their use is followed by the expulsion of whatever small and insufficient quantity of stool may have been deposited in the bowels, mixed with more or less of the water of the blood, sweated through the coats of the vessels, in their effort to get rid of the poisonous drug which has been introduced into the system and has become dissolved in the blood; yet, this forced action over, the exhaustion and soreness left behind only weaken and arrest the secreting function more forcibly than ever, and so increase the disease they were intended to cure or relieve.

TREATMENT.

All the treatment necessary for this disease, when not complicated with other affections, is a wash-down every morning, and a sitz bath for twenty or thirty minutes twice a-day; one at twelve o'clock, and one at five or six.

EXERCISE.

Steady, regular, daily, systematic exercise must be taken, on foot, or horseback, or in some other mode. And all stimulants and all drugs must be avoided. On first discontinuing the use of aperients and commencing the water treatment, and until that treatment has had time to produce its influence, four or five days may elapse before the bowels relieve themselves.

The full mi

The following [illegible], being very [illegible], I introduce, to show the miserab[illegible]itual constipation often produces; th[illegible]gs to remove it; the power which the syst[illegible] itself when this malady has been removed b[illegible]nt: and in order to expose that miserable shift that wr[illegible]ed and vulgar routine error, of attributing the blame, in these cases, to the liver or stomach. The liver and stomach are the scape-goats of professional ignorance, and the bugbears of invalid gullibility. They are the waste-pipes by which professional stupidity is carried away out of sight of the patient. They are the dernier resort of the puzzled doctor. They are the crutches upon which the weak, lame, and halting physician leans. They are the refuge of the destitute.

WITLEY, NEAR GODALMING,
Surrey, Oct 8th, 1848

My dear doctor,

It is now two years since I was at Umberslade Hall, where I remained nine weeks under your care and the water treatment; and I cannot sufficiently express to you my gratitude for the greatest of blessings I have since enjoyed, which has been good health. Amongst the many patients at your establishment at the time, I dare say you will be unable to bring my case to your recollection; however, it was one of obstinate constipation and general debility, brought on by continual drugging; and my inside was literally inundated with a variety of medicines, (for what all the doctors called a liver complaint) till I was visibly about to sink under it, and which I had suffered from, more or less, for six years.

From the time I first commenced your treatment to the present, I have not had recourse to any medicines or professional assistance whatever. I have been ever since, and still continue, perfectly well. I am a living specimen of the water cure; and my friends who knew me in my former state now look at me with perfect astonishment; for in October, two years ago, I did not weigh eight stone by a pound, and I now weigh ten stone four pounds. I feel stronger that at any time of my life; and have not taken wine or spirits since I [illegible] your establishment. I have sent you this account of my [illegible] you may make what use of it you please, and hope it may induce many others to try the merits of the same treatment.

With my best [illegible] to Mrs. Johnson and family,

I remain, yours truly,

JOHN DUNSTAN LEECH.

ODONTALGIA:

OR, TOOTH-ACHE.

The foot and hand baths will sometimes relieve the agony of tooth ache. If these fail, the head douche should be tried. Holding cold water in the mouth is sometimes effectual. Sometimes, a hot linseed meal poultice will succeed. Sometimes, a drop of creazote on cotton, introduced into the hollow of the tooth, will act like a charm. Occasionally, a leech applied to the gum will relieve the pain; and sometimes a cold sitz bath for half an hour.

OPHTHALMIA.

OR, COMMON INFLAMMATION OF THE EYE.

Redness of the surface of the eye, produced by a net-work of dilated congested blood-vessels, pain and uneasiness there; mucus or purulent discharge; agglutination of the eye lashes and lids: this is the group of symptoms which constitutes ophthalmia. The redness is of a bright scarlet color, is seated near the surface, and

is irregular, existing usually in patches. As the inflammation, however, increases in intensity, the whole surface becomes reddened. The dilated blood-vessels may be slipped and dragged about over the subjacent surface by moving the eyelids with the finger. Not uncommonly, one or more of the dilated vessels bursts, and pours out beneath the lining membrane of the eye, a small clot of blood. The pain of this complaint is, generally speaking, trivial. At first, the patient cannot bear the light, and requires the protection of a green shade; but afterwards it differs little in this respect from the sound fellow. There is generally, a sensation of stiffness and dryness in the eye, and a constant irritation, inducing the patient to believe that an insect, sand, or some other foreign body, has entered the eye. The discharge from the eye is not a flow of tears. It is a secretion, which soon becomes thick, opaque, yellow, purulent. But sometimes this character of discharge continues transparent and viscid altogether. Generally speaking, the discharge is copious. It may be seen at the corners of the eye, and in the folds of the lids, when it grows hard and concrete. The lining membrane is seldom much swollen. When it is so, the swelling results from the presence of a quantity of watery fluid between it and the eye itself. This inflammation may, but very rarely does, terminate in a natural cure; more commonly, when untreated, it becomes chronic, and lingers for a very long period, to the great discomfort of the sufferer. It often gives rise to inflammation of other tissues of the eye, which ultimately impair or even destroy vision.

EXCITING CAUSES.

Exposure to cold, more especially when the patient exhibits the original sin of a scrofulous constitution.

TREATMENT.

The treatment for common inflammation of the eye, cold in the eye, blight, or catarrhal ophthalmia, (all one form of disease,) should commence with one or two good sweats, by means of the blanket packing, vapor bath, or sweating cradle, immediately succeeded by the pail douche, the water being dashed quite into the face and over the head. The pail douche, thus taken over head

and face, may be continued every morning; in addition to this, the head douche twice a-day, at twelve and five o'clock. A cooling compress may be worn over the eye night and day, and frequently renewed.

DIET.

The diet should be entirely farinaceous; and no stimulants should be used.

TREATMENT.

This should be regular and systematic, and according to the patient's strength. The eye must be always well defended from the light. The patient should never sit near the fire.

SCROFULOUS OPHTHALMIA OF CHILDREN.

There is a variety of inflammation of the eye occurring in children who are stamped with the impress of the scrofulous habit, and therefore called scrofulous ophthalmia.

It begins with slight and partial redness, produced by one or more bundles of distended vessels, which proceed transversely over the white of the eye, as far as the rim of its colored centre. Near to this rim small prominences appear, which are sometimes absorbed, but which sometimes break and form minute ulcers, commonly called specks. Together with these symptoms, there is extreme intolerance of light. The pain which the child experiences on exposing the diseased eye to the light, gives a characteristic expression to the countenance. Tears run down the cheek and give rise to inflammation, and to the production of those peculiar scabs which, among nurses, are called "milk-crust."

TREATMENT.

Thrice a-day the child should be placed in a large tub, and have one or two pails of water poured over it. A cooling bandage should be worn constantly, night and day, over the inflamed eyes, and be frequently renewed. The patient should be as much as possible out in the open air.

Change of air is often of great service in these cases. Much, and almost magical, relief is sometimes derived from painting the inner edges of the eyelids with what is called the "golden ointment," once or twice a-day. It may be applied with a camel's hair pencil, and a little of the unguent should always be made to pass under the lids into the eye.

and milk [illegible] and morning [illegible] plenty of bread pudding at dinner, will form the appropriate diet. A little meat three times a-week may be given.

CHRONIC OPHTHALMIA.

Some persons are [illegible] a chronic form of inflammation of the eyes. These [illegible] always be benefited by the pail douche every morning, the water being dashed quite into the face, and over the head. In addition to this, the head douche should be taken twice a-day, at twelve and five o'clock. The eyes alone should also be frequently washed in cold water, and well protected from the light and dust by proper, colored spectacles. The "golden ointment" should also be used once or twice a-day, as ordered in the scrofulous ophthalmia of children.

DIET.

The full mixed diet will be proper.

EXERCISE.

As much exercise should be taken as the strength can well and conveniently bear.

PARALYSIS:

OR, PALSY, HEMIPLEGIA, PARAPLEGIA, PARALYSIS AGITANS, FACIAL PALSY.

Children during the process of dentition are liable to lose the use of one arm or of one leg. This affection may pass away as the child grows older, but very frequently it remains.

The palsied arm or leg gradually wastes to a mere shadow of its sound neighbor.

Paralysis is sometimes a mere freak of hysteria. A girl, otherwise in good health, will exhibit a dropt hand, a powerless arm, or a useless leg. But this is a mere mimic paralysis, carefully to be distinguished from its prototype.

Palsy presents two varieties; one we call hemiplegia, and the other paraplegia. Suppose the body of a Turkish criminal were divided by the scimitar of the executioner at the navel: for a very short space of time the upper half would remain under the influence of the will; the individual could bestir his arms, and would retain command of the muscles of the face; but the lower half of his body would be lifeless, and absolutely beyond his control. Now, a paraplegic patient is in a similar condition; an invisible scimitar, producing no wound nor disruption of continuity, has severed the lower from the upper man. The inferior members are useless; immovable by the will; the organic connection remains, it is true, and thus their nutrition is effected; but their psychical relation is destroyed. They continue to form part of the animal, but they have ceased to form part of the man. This is paraplegia.

If a man could be cloven *longitudinally* into two equal halves, whereof the one should continue to eat, speak, sleep, and gesticulate, while the other half maintained a tranquil immobility; one leg hopping along while the other hung heavily by its side; one arm flourishing about, while the other arm dropt like a plumb-line; one side of the face wrinkled with smiles, while the other slumbered in classic repose:—if, I say, such an anomaly could be exhibited, it would, after all, only represent the peculiarities of hemiplegia.

The first form of paralysis to be described is usually a variety of hemiplegia. It may be called primary hemiplegia. A person suddenly, and without previous warning through the ordeal of an apoplectic fit, loses the command of one side of his body, and sometimes also the power of speech. To any question put to him he replies by appropriate gestures. This condition gradually passes into a fully formed fit of apoplexy; or slowly subsides, the power of speech returning, and the paralyzed limbs recovering their pristine vigor; or it subsides imperfectly, and the patient continues to experience a weakness in one or more of his limbs. The hand of the affected side cannot clutch so tightly, nor the leg of the affected side stir so nimbly as the opposite hand and leg, or the patient

may betray his malady by a slovenly enunciation. He seems to mumble and slobber his words. In this state he may remain for weeks or months, bed-ridden, and a burthen to himself and to his relatives. Finally, however, by a gradual, easy decay, he sinks to rest.

Secondary hemiplegia is that variety of palsy with which, on awakening from an apoplectic fit, a person finds himself stricken. Such a person attempting to move the leg, say of the left side, finds that he no longer possesses any influence over it; his left arm is equally mutinous; the muscles of the left side of the chest have struck and left their work; they have ceased to co-operate in the business of respiration; the muscles of the left side of the face are also idlers: the right side, alternately smiling, frowning, crying, holds up to us a chart of the passions; the left side, on the contrary, remains phlegmatic, stolid, smooth "as waters be when no breath troubles them." The tongue, when protruded, veers to the left side of the mouth. If we look the hemiplegic patient in the face, when it is perfectly quiet and free from emotion, we find it strangely altered from the natural state. The right corner of the mouth is dragged down toward the jaw; or it may be dragged up toward the ear. The left eyelid drops, partially or completely veiling the eye. There is an appearance as though the left side of the face were partly pulled over to the right. Associated with these symptoms of palsy, we usually find a peculiar perversion of the senses or of sensation. There may be deafness of one ear; loss of vision in one eye; loss of taste by one half of the tongue; loss of smell by one nostril; or the whole, or only part, of one side of the face may be deprived of sensation; we may pinch and prick, and even burn it, without exciting pain.

When the hemiplegic condition endures for a length of time, the mind of the patient becomes affected. He loses his former moral and intellectual virility. He is easily moved to tears, and as sensitive as a child. A certain degree of stolidity, or even of imbecility, creeps over him, and is expressed by a peculiar vacant look, which gradually effaces from his countenance every trace of a once noble intellect. It is noticeable that the temperature of the palsied side is below that of the sound side.

Let us now pass to the consideration of paraplegia. Paraplegia, as a rule, commences slowly and insidiously, without marked or sudden pain. It begins with a sensation of tingling, or numbness, or pricking in the toes, which gradually extends up the foot and

leg. The sensation is frequently compared to that which might be excited by a swarm of ants creeping about the limb. The lower extremities become weak, and seem to their proprietor heavy and unmanageable. He straddles in his gait. Lifting his legs awkwardly and with effort, he throws them forward and outward, allowing them to plump down upon the ground in an abrupt, elephant fashion. His progress is tortuous and uncertain. Frequently, in moving his rebellious members, the toes reach the ground first; the patient inclines forward, and appears on the point of toppling on his nose; in fact, this calamity does sometimes overtake him. The patient has less command over his legs when they are bent, than when erect. In getting out of a boat, for example, where it is necessary to bend the knee in order to reach the rising bank, the paraplegic cripple scrambles to land on all fours, principally relying upon the assistance of his hands and arms.

When the case proceeds unfavorably, the sensation of numbness ascends to various parts higher up the body; and finally the palsy extends to the bladder and lower bowels, and incapacitates the patient from voluntarily evacuating these organs; presently, also, the arms themselves are affected, and ultimately the muscles of respiration; so that death quickly ensues.

Palsy sometimes affects a single leg or a single arm, sometimes even a single muscle. Thus, one eyelid, owing to paralysis of the levator palpebræ muscle, may drop and cover the eye. Or a single member may be affected with loss of sensation; an individual may find one leg or arm totally insensible to ordinary stimuli. He will sometimes allow the curious to pinch or run pins into the affected limb, and testifies no pain from the experiment. When this kind of insensibility is not accompanied by paralysis, more or less complete, it is usually very soon followed by it.

The next variety of this singular complaint is called paralysis agitans, or shaking palsy. It is the companion of extreme age, rarely affecting any other than the ancient dotard, whose faculties of mind and body are benumbed by the frost of many winters. The withered crone, with her nodding head and shaking hands, sits and warms herself by the blazing hearth; heedless of the cares of her daughters, of the prattle of the grand-children, she dreams of the days that are gone, and while every limb trembles with age, her silly brain recalls only the pleasures of youth. But the tremor advances; presently her memory itself trembles: the fair scenes, with their gay actors, dance and rock in her mind's

eye, like a holiday pageant at sea when the wind begins to rise. The confusion increases; distinctions of place and of outline vanish; darkness comes rapidly on. Then ensues a dead blank—an absolute void—a death in life.

This commences, and thus terminates, shaking palsy.

Sometimes, the early phase of the disease is more strongly marked. The hand of the paralytic is tremulous, his head wags, as before described; but, in addition, his legs partly fail. He cannot raise them so nimbly, nor so certainly, as he once could. He acquires a disposition to lean forward as he walks, stepping upon his toes and the forepart of the foot, and thus he frequently incurs the danger of falling. Sometimes, quite involuntarily, he proceeds with shorter and quicker steps than common, and gradually falls into a running pace. When the disease is far advanced, an attendant is obliged to walk backward before him and, by keeping his hands upon the patient's shoulders, prevent him from falling forwards.

The unhappy paralytic next becomes unable to feed himself; he loses the powers of speech and of swallowing; the saliva dribbles from his mouth; he no longer retains command over his bladder and bowels.

> 'Last scene of all that ends this strange eventful history,
> Is second childishness and mere oblivion
> Sans teeth sans eyes, sans taste, sans everything.'

Palsy of one side of the face has already been spoken of, as forming part of a general hemiplegia; but it requires notice as an independent affection. I quote the following case from Dr. Watson. "A housemaid, Jane Smith by name, twenty-eight years old, became one of my out-patients at the Middlesex hospital, with the following symptoms. She had lost all power of moving the right side of her face. When she endeavored to raise her eyebrows, the right side of the forehead remained smooth, and the left was wrinkled. When she attempted to close her eyes, the right eye was but partially covered; the eyeball rolling upwards, and carrying the cornea within the curtain of the upper lid, which descended a little to meet it. When she tried to snuff in air through the nose, not being able to keep the right nostril stiff and open, its sides came together, and no air passed up on that side. When she smiled, the right side of the face remained perfectly still like a mask; and it wore at all times a vacant and inanimate character.

When she was told to perform the action of blowing, her right cheek was puffed out like a loose bag, and the breath issued, whether she would or not, at the right angle of her mouth. The same happened with her food and drink; she could not prevent escaping at the right corner of her mouth: nor could she convey morsels of food from the right to the left jaw without the aid of her hand applied externally in support of the paralyzed cheek. The masseter and temporal muscles (muscles of mastication), however, acted as strongly on the one side as on the other; she could chew perfectly well on the palsied side, and the sensation of the palsied parts remained perfect; and there was no paralysis of any other part of the body."

Dr. Watson relates a second case, differing in some remarkable particulars from the former.

"When this patient, Ann Church, applied for admission into the hospital, she complained of intense pain, with some swelling in the right temple, and extending thence generally over the right side of the face and head. It was soon discovered, however, that, although she complained of most severe pain in these parts, they had entirely lost their ordinary sensibility to external impressions. She felt nothing when her forehead, or cheek, or nose, or chin was touched on that side. In short, there was complete anæsthesia of sensation) of the right half of the face, just as in Smith's there was complete palsy. The insensibility was very exactly limited to the right half, and terminated abruptly at the middle line. It was remarkably evident in a part in respect to which the bystanders could scarcely be deceived, even if there had been any reason (which there was not) for distrusting the patient's own statement. The surface of the eyeball is proverbially sensitive, even to slight impressions. But you might place your finger upon this woman's right eye, or you might touch it with a feather, without giving her the smallest pain or producing any sensation at all; whereas, on the left side the slightest touch caused involuntary shrinking and closure of the eyelids, and a gush of tears. She declared also that she had no feeling in the right half of her mouth; she neither tasted sapid substances, nor was she at all conscious, from any sensation produced by them, that they were placed there. Her lips, on the same side, were equally destitute of sensibility; so that when she drank, having no perception of the contact of the cup with her lips, beyond their middle point, she felt as if she were drinking from a vessel with a broken rim."

. . . . . Besides this defect of sensibility, the power of contracting the masseter and temporal muscles (the [illegible] muscles of mastication in the temple and side of the cheek, which visibly during the process of chewing) on the right side, was entirely abolished in this patient."

These two cases, thus graphically described, contain a complete history of the two kinds of palsy which affect the face: palsy of motion, and palsy of sensation.

EXCITING CAUSES.

This is, in every case, the result of an interruption of the communication (effected by the nerves) between the muscles and the brain or spinal marrow. This interruption may be produced by disorganization or disease of the brain, or spinal marrow; or by disorganization or disease of the nerves in any part of their course.

Where the paralysis is very limited, as in the case of a single eyelid, it is probably the nerve which is affected. It may be flattened by the pressure of some tumor, or otherwise injured.

When the paralysis is general, as in the case of hemiplegia, the disease is in the brain—in that side of the brain opposite to the side palsied. Where the left side of the body is affected with hemiplegia, the right side of the brain is in a state of disease.

Paraplegia is usually (though not always) the consequence of disease of the spinal marrow; it may be of inflammation; it may be of slow wasting decay; it may be of effusion of blood by the rupture of an artery; it may be a cancerous tumor; it may be a bony growth from the spine; it may be, after all, a mere functional disorder, that is to say, the result, not of disease, but of irritation.

Disease in a distant organ, as the kidneys or bladder, occasionally sets up in the brain or spinal marrow, by the medium of the nerves, great disturbance, not of disease, but mere disturbance, manifested by paralysis of the limbs, and removable on the removal of the distant disease. Thus paralysis, excited by the presence of a tape-worm in the intestines, may often be cured by a dose of turpentine sufficient to expel the parasite. This shows how necessary it is to *examine* carefully *all* the organs of the body, although the disease may only *seem* to be in *one*. The symptoms may be in one, while the disease which produces them may be in another. This is the case with stomach *symptoms* and brain *disease*.

Paraplegia and local paralysis more frequently depend upon temporary and removable causes than hemiplegia. Hemiplegia is rarely anything else than the external sign of dangerous inflammation; of a cancerous tumor; or some other almost certainly fatal disease in the brain. Sometimes, however, it depends on the pressure of a clot of blood, and is then often curable.

Paralysis agitans is evidently, from its very nature, an incurable complaint.

Facial palsy is sometimes an incurable disease; sometimes easily cured. When it depends upon a tumor in the brain it is necessarily fatal; when it depends upon a clot, give us time enough to renovate, by appropriate measures, the general health, and very frequently the clot will be absorbed and recovery take place. But occasionally it depends upon much slighter causes than these. A gentleman, having travelled all day on the outside of a coach, with one side of his face exposed to a keen wind, need not feel greatly alarmed if next day he discover the cheek, thus rudely visited, completely paralyzed. Under proper treatment, the paralysis will disappear.

PREMONITORY SIGNS OF APPROACHING PARALYSIS, OR OTHER BRAIN AFFECTIONS.

It will be gathered from what I have said under the head of "Indigestion (dyspepsia)" and elsewhere, that paralysis, as well as apoplexy, has its premonitory signs; and, as might be expected, many, and indeed most of them, are the same as those which are premonitory of this latter disease.

As the premonitory symptoms enumerated under the head of apoplexy may be said to indicate [illegible] each of that malady or of paralysis; so functional [illegible] the stomach, manifested by what are called [illegible] symptoms, and designated in the lump by the one word [illegible] or indigestion, may be said to pre-admonish us of the [illegible] approach of those diseases, or [illegible] some other brain affection; as, for instance, epilepsy, congestion, etc. And this admonition will be still more likely to be verified, if, with these stomach-symptoms there be associated some obscure symptoms in the head; as heat, fulness, or any other uneasy sensation at the top or back part of the skull, or about the temples; soreness and heat in the eyes; dreamy state; inability to read with comfort; dilated or contracted pupil, of one or both

sides; giddiness; confusion of thought; buzzing in the ears; great susceptibility to be distressed or perplexed by noise and bustle.

The ordinary course of matters is as follows: First, stomach-symptoms. At this period the brain is only distressed and uneasy; and this distress and uneasiness is propagated along pneumogastric nerve to the stomach.

After a few years, some two or three or more of the above head-symptoms are added to the stomach-symptoms—marking the spread of the distress and uneasiness over a large portion of the [redacted]. These head-symptoms, however, are at first very obscure, and apt to be overlooked; especially as at this time, the stomach-symptoms have become more aggravated, and therefore distract attention from the obscurer head-symptoms.

A few more years roll away. The head-symptoms now become more loudly pronounced. Obscure before, they are now decided and unmistakable, and begin to attract attention. The patient who, hitherto, talked of nothing but his *stomach*, now begins to talk about his *head*. And now the medical man begins to talk about the head too. "Sir," says he, "you are threatened with a fit of paralysis." "And what the dickens is the reason you did not tell me this before, sir?" "Oh! sir, it was only indigestion before, but now it is *turning into paralysis*."

From the whole history and morbid anatomy of paralysis, it will be immediately perceived that paralysis is but a symptom; the true disease being inflammation, or pressure of some kind or other, interfering with the function of the spinal marrow or brain. The object of all treatment, therefore, must be the *removal of the interfering cause*, whatever that may be.

Apoplexy and paralysis are essentially the same disease. The same causes which produce apoplexy in one instance, produce paralysis in another. Very commonly paralysis is but the foot-print which apoplexy leaves behind in his passage. Apoplexy strikes down his victim, and then passes away, leaving him crippled by paralysis. Paralysis is, in these cases, the sign, not that apoplexy is coming, but that he has come and gone. Apoplexy and paralysis are, strictly speaking, only two different names given to designate two different phases of the same disorder. But the term apoplexy is properly applied only to that peculiar kind of *fit*, which is chiefly characterized by sudden insensibility and deprivation of all voluntary motion, the patient lying as though he were in a deep snoring sleep, from which no effort can rouse him. Sometimes, however,

paralysis is but the herald which precedes, for a short time, the advent of an apoplectic stroke.

There are two circumstances under which paralysis is curable, viz., when it depends (as it unquestionably not infrequently does) upon congestion or other irritation; and when it depends on a small effusion or clot of blood, or a small effusion of water.

Unhappily there are no means by which we can certainly judge beforehand whether any individual case do or do not depend upon one of these two circumstances. But no case of p *properly* treated, can ever fail of being benefited to a great less extent by the hydropathic treatment; and certainly no can fail of being aggravated if treated *improperly*. In most cases, life may be greatly prolonged. For the disease only destroys life by gradually wearing away and undermining the foundation of life —the living principle. Whatever, therefore, has the power of strengthening this foundation—this living principle—has clearly the direct tendency to oppose the inroads of the malady, and to lengthen life. And I have already pointed out the very remarkable influence which the hydropathic treatment exerts in this respect.

For some time after I had adopted the hydropathic method of treating diseases, I failed in every case of paralysis; probably because, for some time after that treatment had been introduced into England, we got nothing but the oldest and most inveterate cases to deal with. I have since been more successful; probably because the latter cases have been of a more favorable kind. The same observation applies to some other diseases; as epilepsy, tic, spitting of blood, valvular disease of the heart, &c.

TREATMENT.

The treatment of paralytic cases should be light and tonic. A wash-do every morning continued at twelve o'clock, will be very sui This may be, after a few weeks, varied by the pail dou , and occasionally the shallow bath.

The wet sheet and douche may be occas y required. But these are not easily borne by paralytics, and ld never be used except under medical superintendence and advice.

If the bowels be constipated, the wet compress may be worn over them night and day, and renewed at each bathing, and on going to bed.

Change of air, especially if the patient live in a town, should be had if possible; and rest from mental labor.

DIET.

The plain, or the mixed diet should be used, and no stimulants be taken.

EXERCISE.

Exercise in the open air, in some shape or other, should be regularly obtained. If this be impossible, on account of the crippled state of the limbs, still the patient should be exposed to the influence of the open air in some way or other; as, for instance, in an open carriage.

CLOTHING.

This should be light in summer; warm and sufficiently comfortable in winter; and the patient should sleep cool, and on a mattrass. Flannel should be worn in winter; not in summer; and, in winter, only during the day.

PERITONITIS:

OR, INFLAMMATION OF THE MEMBRANE LINING THE WALLS OF THE BELLY;

Commences with more well-defined fits of shivering succeeded by heat of the surface. The pulse is hard, strong, and frequent; [illegible] and characteristic symptom is an acute pain in [illegible] called a sharp, cutting, stabbing, or lancinating pain. This pain is greatly aggravated by pressure, and herein it is distinguished from the pain of colic, which is relieved by pressure. If you touch the abdomen in the gentlest manner you may observe the patient's features contract as though from severe suffering; even if he utter no complaint. In order to protect the abdomen from pressure and motion of every kind, the patient, as he lies in bed, draws up his knees, by which he keeps off the weight of the bed clothes, and breathes solely by

his chest, relieving the diaphragm from its accustomed duty. His breathing is very short and hurried. The number of respirations is sometimes increased from 18, the healthy average, to 60 per minute. The skin, and most particularly that of the abdomen, is hot, and often sweating; the tongue is coated; and there is frequently great thirst. The countenance manifests a peculiar anxiety, and the upper lip is usually retracted, exposing to view the upper row of teeth. The abdomen becomes prominent; and, when lightly tapped, emits a resonant sound, similar to that produced by tapping a drum. These signs indicate the accumulation of gas in the intestines. Sickness and vomiting are generally present, and causes the patient great distress. Difficulty of micturition (evacuating the bladder) sometimes also occurs. The bowels are sometimes extremely relaxed, but sometimes they are obstinately constipated. As the disease advances, the abdomen, when tapped, ceases to emit a hollow sound. The sound on the contrary is dull, resembling that produced by stricking a log of wood. At the same time, the swelling of the abdomen increases.

These signs indicate the supervention of watery or purulent dropsy. The latter is generally preceded by fits of shivering. In the meantime the progress of the disorder is equally registered by the countenance, which becomes wan and ghastly; and by the pulse, which becomes small and hard. Presently cold sweats break out, and the patient soon dies. It is remarkable that the brain, in this disease, retains its full vigor to the very last. No confusion of ideas—no disturbance of intellect of any sort—arises during its whole course.

Acute peritonitis is by no means a certainly fatal disease, although it cannot be denied that the majority of those attacked by it perish. But sometimes recovery takes place, and that in various ways. The matter or pus, collected in the abdomen, may eat its way into the intestines; and thus pass out of the body. Or the matter or pus may be evacuated by an opening, whether affected by nature or the surgeon's trocar, through the walls of the abdomen.

Acute peritonitis may sometimes be cured before it has had time to pour out water or pus into the abdomen; and this, of course, is the most desirable termination of the disease, and that which the medical attendant must always endeavor to bring about.

The phenomena which mark the invasion and progress of *scrofulous* peritonitis vary considerably from those just enumerated.

Scrofulous peritonitis is a slow and insidious complaint. It begins with obscure pains in the belly, which the patient calls belly-ache, and attributes, perhaps, to some indigestible article which he may have taken. The griping sensation, however, continues, and begins to affect the general health. The sufferer becomes pale and thin, and is confined to bed. His pulse is frequent, especially in the evening, when he is also subject to flushes of heat, attended with restlessness and febrile excitement. The appetite is destroyed. Thirst is not an uncommon symptom. The patient's sleep is broken by intermittent pain; he is not unfrequently sick at stomach, and vomits. The abdomen is hot—considerably hotter than other parts of the body—and distended by wind; but, as the malady makes head, the swelling and tension of the belly increase; and the dull sound, produced by percussion, and the sensation of fluctuation, acquired by tapping the walls of the abdomen, announce that this cavity is full of fluid. The bowels are sometimes relaxed, but sometimes also natural.

This affection is most generally fatal. It destroys its victim by utterly exhausting muscular strength, that of the heart included, and depressing nervous energy.

There is a third variety of this disease—contagious—that form of peritonitis which attacks lying-in women, or puerperal peritonitis. It is a most malignant disease, and is almost invariably fatal.

EXCITING CAUSES.

Acute peritonitis results from exposure to cold and damp; but it is also produced occasionally by an ulcer in the stomach or intestines, which gradually perforates the viscus, and allows its contents, half-digested food, &c., to escape into the general cavity of the belly. This is invariably followed by intense inflammation.

Scrofulous peritonitis occurs in those in whom the peritoneum, or membrane lining the general cavity of the abdomen, is studded with scrofulous tubercles.

The causes of puerperal peritonitis are still a bone of contention to medical polemics. Thus much, however, is certain; that if an accoucheur, having attended a woman laboring under puerperal peritonitis, neglect to perform due ablutions, to change his clothes, and to take other requisite precautions, but at once proceed to render assistance to a second lying-in woman, such accoucheur is

morally guilty of murder, if the second woman, as in all probability she will, fall a victim to puerperal peritonitis.

TREATMENT.

Concerning the treatment of scrofulous and puerperal peritonitis I have nothing to say. The treatment of cases so nearly hopeless does not fall within the scope of such a work as this.

But in acute peritonitis, whatever other treatment be adopted, the water treatment should never be neglected. A wet cloth or towel should be spread over the entire surface of the belly, and rewetted and replaced every quarter of an hour; and immediately before each renewal, the belly should be lightly sponged with water at 65°. And this should be kept up till the symptoms have abated.

There should be no covering on the belly excepting the wet towel; and the patient should be allowed to drink as freely as he chooses of cold water.

I cannot conceive on what possible grounds, or by virtue of what possible reasoning, any sensible medical man can object to the employment of the means above recommended. Stupidity may shake his heavy head at it; blear-eyed Prejudice may exclaim against it; solemn Ignorance may open his mouth in gaping astonishment; winking Conceit may writhe his mouth into smiling incredulity; hypocritical Self-interest, while affecting to treat it with courtesy, may argue seriously against it; but common Honesty will give it a trial.

And here I cannot refrain from once more exclaiming against that bold and brazen-faced charlatanry, which affects to see some mysterious incompatibility between the use of cold water and the ordinary medical appliances, wherever it is desirable to resort to both. He who, being well and professionally educated, and not naturally of deficient intellect, maintains this false doctrine, merely to play upon that human weakness which so fondly weds the multitude to exclusive dogmas and extreme generalization—to universal panaceas and miraculous cure-alls—is a contemptible trickster, who deserves to be flogged out of the profession with the word "dishonest" branded on his forehead. And those medical men who, for the purpose of throwing discredit on hydropathy, assert that it pretends to be a "cure for everything," stand in one of two predicaments: if they have made themselves acquainted with the

many works which have now been written on the subject, both at home and abroad, they assert what they *know to be a falsehood;* and if they have *not* so made themselves acquainted with the subject, on which they nevertheless presume to give opinions, then they stand in the predicament of men who assert that to be true which they know, at the time they make the assertion, *may* be false. Men who are not ashamed thus to pronounce strong opinions on a subject of which they are totally ignorant, are not trustworthy persons; and their opinions are mere empty sounds, like the crackling of thorns under a pot: or else they are governed by sinister motives in order to affect sinister objects. I trust there are no longer any such. The published opinions of such men as Dr. Carpenter and Dr. Pereira, (quoted in another part of this work,) and of Professor Forbes, (as contained in the British and Foreign Medical Quarterly Review,) will soon make all senseless clamor against hydropathy *dangerous to the reputation* of those who raise it.

PERTUSSIS,

OR, HOOPING-COUGH,

Is a spasmodic affection of the muscles of the larynx, depending on some irritation of the nerve which directs the movement of those muscles.

In what the irritation depends is as yet undiscovered; but the most generally received theory is that of Dr. Ley. He imagines that the existence of some animal poison causes the lymphatic glands of the neck and chest to enlarge. These, by their growth, press upon and excite the nerve above mentioned, and so impart a spasmodic action to the laryngeal muscles.

It is a disease which spreads by contagion, and which, if undisturbed in its progress by the complication of other disorders, pursues a very definite course. Moreover, it is one of those affections which, having once attacked an individual and left him, leave behind a mysterious safeguard which protects him from its future invasions. It is for this reason that it is seen so rarely in the adult population.

Hooping-cough is commonly ushered in by the symptoms of a

mere ordinary cold, and very trivial cough, unattended by any notable amount of general constitutional disturbance. This stage, which is not to be distinguished from ordinary catarrh, may endure for a week, or a fortnight, before the characteristic cough makes its appearance. When, however, this cough is once heard, there is no confounding it with any other. It is so peculiar and unique that every old nurse recognizes it at once. It consists, first, of a series of very short coughs, that is, *ex*piratory movements; succeeded, as soon as the lungs appear to be completely evacuated of their air, by a protracted and loud *in*spiratory movement of a crowing or whooping sound. Hence the designation of the disease, whooping-cough.

As soon as this noisy inspiration has proceeded long enough to refill the lungs, the short, expiratory sounds re-occur, to be again succeeded by the whoop. The cough comes on in paroxysms, and generally lasts till the child expectorates a considerable quantity of rather tough phlegm. Sometimes, instead of spitting, the little patient vomits up the contents of its stomach. As soon as either or both of these occurrences have taken place, the paroxysm is for the most part terminated; and the patient returns to his play as if nothing uncommon had happened. This is the case if the fit has been slight; but if it have been severe, if the expiratory cough have been very prolonged, so as to impede the circulation of the blood through the lungs, then there are signs of congestion of the head. The face becomes livid, the veins swell out from the forehead, the eyes start forward, and the little sufferer grasps his head tight, as though it were going to split. And this is very frequently followed, after the paroxysm is over, by a great deal of headache.

The number of paroxysms, during a day, is indefinite; but as the disease declines, they become both fewer in number and lighter in intensity. The phlegm which, at the commencement of the complaint, is tenacious, scanty, and evacuated with difficulty, becomes, towards the termination, thicker, of a deeper color, less tough, and more copious. During the period of intermission between the fits, the child experiences no trouble in its breathing; nor is he harassed by any cough. And as long as no complication intrudes to interrupt the process of recovery, there is no danger to be apprehended.

But it too frequently happens that some other disease supervenes upon it. When there occurs a high degree of febrile excite-

ment; and, after the paroxysm, permanent shortness of breath remains; inflammation of the air-tubes, or of the tissue of the lungs, or perhaps of the pleura, or, as is frequently the case, of all three, is lighted up. And if these complications do not prove fatal at once, they leave behind so much permanent organic mischief in the lungs, that upon the accession of any trivial cold, the patient's life will always be in danger. Besides these pulmonary diseases, which are likely to be consequent upon an attack of hooping-cough, the head also is liable to become implicated.

I have before observed that, during the violent and protracted fits of coughing, the blood is detained in the head, as proved by the lividity of the countenance, the prominence of the superficial veins, and the sense of constriction across the forehead. Now, the the vessels of the head, surcharged as they thus are with blood, and dilated to the utmost by the presence of the fluid column, must find relief in some way. If at this moment the spasm of the laryngeal muscles is overcome, and the coughing ceases, their tension is taken off by the onward progress of the blood. If, however, the lock is still fast on the muscles, and the spasm continues, the vital fluid seeks some hitherto unexplored channel by which to effect an escape. Sometimes, there is a rush of blood into the brain, and the child falls down in a fit of apoplexy. Sometimes, it finds an outlet through the nose and ears. At others, the watery part only of the blood permeates the coats of the veins, and epileptic convulsions seize upon the patient. If the child be young and of a scrofulous habit, it is probable that none of these violent results will happen, but that a slow fire will be lighted in his brain, which may reduce him to the state of an idiot, and kill him at some future period.

For my own part, I believe hooping-cough to be one of that curious family of *eruptive* diseases peculiar to infancy, as measles, scarlet fever, &c.; the eruption, in this instance, falling on the tissues of the larynx, trachea, and bronchi, instead of the skin; and only producing a less amount of febrile disturbance because a less extent of surface is occupied by the eruption. But, in truth, when measles and scarlet fever are mild—that is, when not aggravated by the accident of a bad or enfeebled constitution, or by injudicious treatment, or by previous improper diet and habits of the child—the constitutional disturbance is probably not greater than in hooping-cough.

The analogies between hooping-cough and measles, scarlatina,

&c., are many, and very striking. Both the former and the latter possess certain remarkable peculiarities; and these peculiarities are the *same* in both. They are both alike almost restricted (yet neither of them absolutely so) to infancy. They are both alike propagated by contagion. They both alike occur but once in a life-time. They both alike run through a definite course, when no accidental circumstances occur to interfere with their progress.

THE EXCITING CAUSE

of this disease is, generally, contagion. Yet, undoubtedly, like all other infantile disorders, it frequently arises quite independently of all contagion.

TREATMENT.

The whole wet sheet twice a-day for an hour, followed by a wash-down, constitutes the treatment for hooping-cough. A heating compress should also be constantly worn round the throat, night and day, and also cover the chest.

DIET.

This should be, with the exception of milk, entirely farinaceous —bread and butter, bread and milk, bread pudding, tapioca, rice, sago, &c. If the child be not already weaned, it should *not* be weaned till the disease has ceased.

On no account should the child be ever allowed to overload its stomach.

PHTHISIS:

OR, CONSUMPTION.

Persons interested in the study of consumption, should first read what I have said on the subject of scrofula.

I have there said that the most curious and important of the phenomena characteristic of scrofula—that phenomenon, indeed, which, not exclusively, but chiefly constitutes scrofulous disease—is the deposition, from the blood, of multitudes of small specks or

granules of a cheesy matter, into the various tissues of the body, giving a speckled appearance to parts which, in health, should present only one uniform color; and that each of these specks or granules is technically called a tubercle.

I have also observed that when once one of these granules or tubercles has been laid down in any organ, it is apt to grow continually larger and larger by the superaddition of fresh tubercular substance upon the original granule, until, having attained a considerable size, it becomes softened down into a peculiar matter resembling that which is discharged from a scrofulous abscess; and that, when this matter is discharged or dislodged, it leaves behind it a scrofulous ulcer.

I have also observed, that these tubercles, when numerous, which they generally are, produce inflammation of the organ which they occupy; which inflammation is of the scrofulous kind, and constitutes certain particular diseases, called by particular names, according to the several parts of the body in which the tubercular deposit, and consequent inflammation occur. For instance, when these occur in the brain, they constitute that terrible malady of children called hydrocephalus, or water in the brain; when they occur in the knee-joint, the disease is called white swelling; when they happen to fall on certain glands in the alimentary track, the malady takes the names of marasmus, or mesenteric wasting—tabes mesenterica.

Well, but there is another organ in which these tubercles are extremely apt to form, viz. the lungs; and when they fall on the lungs, the disease is called consumption. Consumption, decline, pulmonary consumption, tubercular disease of the lungs, are all of them only so many different names for one disease—scrofulous tubercles inhabiting the lungs; scrofula of the lungs.

I have also observed that scrofula, in all its forms, occurs almost exclusively in certain constitutions; and that there are certain physical signs by which these constitutions are marked, branded, as it were; so that we can often tell beforehand that such and such persons will, almost to a certainty, sooner or later, become the subjects of consumption, or some other form of scrofula, if the attack be not prevented by timely precautionary measures. And, since we have seen that the exciting causes of scrofula are those causes which are calculated to weaken the body, it is clear that the only preventive measures must be such as are calculated to strengthen the body.

In early childhood the scrofulous or consumptive tendency is often marked by a pale and pasty complexion, large head, narrow chest, protuberant belly, soft and flabby muscles, with a languid and feeble circulation and irritable temper. In youth, the same tendency is frequently indicated by soft, light, or reddish hair; gray or blue eyes; long silky eye-lashes; a large sluggish pupil; fair transparent skin, easily irritated; rosy cheeks, the rosy tint being easily changed to purple by cold; pearly whiteness of the white of the eye; great liability to chilblains; a clubbed state of the ends of the fingers; and very convex and hooked nails. The moral characteristics which help to distinguish this constitution are, great cleverness, quickness of apprehension, eagerness of temper, warmth of affection. The subjects of it are "lively, ardent, imaginative, and susceptible."

I also mentioned that the predisposition to scrofula, or consumption, is sometimes manifested by a duskiness and muddiness of complexion, harshness of skin, and by dark coarse hair. Both the bodily and mental energies of this class of persons are more sluggish. They belong rather to the bilious and melancholic temperament.

F. SYMPTOMS OF CONSUMPTION.

These are in general well known, and may be thus enumerated. Cough; difficulty of breathing, or rather, shortness of breath; expectoration; spitting of blood; great wasting of the body; hectic fever; hoarseness, or loss of voice; diarrhœa. Each one of these symptoms deserves a separate short notice.

Cough.

This is usually the first symptom which attracts the attention of the patient, or the patient's friends. At first, it is slight and dry; little more than a mere clearing of the throat. It is most apt to occur on getting out of bed in the morning; or after any unusual exertion; and the cough is usually described by the patient himself as being produced by a tickling or irritation about the throat. Sometimes, it will cease during the warm weather of summer, and recur in the winter. Gradually, it begins to be troublesome in the night, and to be accompanied by more or less of mucous expectoration. Whenever such a cough as this is ob-

served to creep and steal upon a patient in this quiet manner, slowly, gradually, surreptitiously, this is quite enough to excite a suspicion that consumption is menaced.

Cough, however, of one kind or other may, and often does, exist where there is no reason to apprehend tubercular disease. It may depend upon chronic catarrh; it may be the consequence of disease of the heart; in girls, it may be the short barking cough of an hysterical condition of the system. In estimating the importance of cough as an evidence of consumption, therefore, care must be taken to ascertain its precise nature, and to see that it do not depend upon chronic catarrh, heart-disease, or hysteria. And this will be pretty easily ascertained by observing whether the other symptoms of these latter diseases be present. For, diseases are evidenced, not by a single symptom (except in very rare cases), but by a group of symptoms.

More or less of cough generally attends consumption through all its stages; and harasses the patient more than any other symptom. Occasionally, however, it has happened that persons have died of this fatal malady where no cough has been present, or at least not enough to attract attention.

Expectoration.

Formerly, the sort of expectoration was supposed to have much to do in deciding the question, for or against the presence of consumption. It was thought that if matter (not mucus) were expectorated, the patient was certainly consumptive. It is now known, however, that the presence or absence of matter (that is, pus) in the expectoration, is no test at all as to the presence or absence of tubercular disease in the lungs; for purulent matter is constantly secreted and spat up, in common inflammation of the lining membrane of the bronchial tubes.

There is a kind of sputa, however, which, when it occurs, is a criterion which scarcely ever errs, and which is indicative of the existence of consumption. I mean those globular flocculent masses that look like fragments of wool. The French call these nummular sputa, because they somewhat resemble pieces of money, when spat into an empty vessel, assuming a circular and flattened form, and remaining distinct from each other. If they be spat into a glass of water, some will subside to the bottom, some float on the top, and some will remain suspended at different depths. When agitated, the water becomes slightly milky.

But there is no kind of sputa which is not liable to fallacy. That which I have just described is the least so of any.

Spitting of Blood.

This is a fearfully decisive sign of tubercular disease of the lungs. Nevertheless, even this is not absolutely conclusive. It may arise from injury to the chest, from suppressed monthly periods, and from disease of the heart. But, if there have been no injury; if the heart be sound; and if the uterine functions be healthy; then this symptom may be considered as pretty conclusive evidence of scrofulous disease of the lungs.

Shortness of Breath.

Consumptive patients do not generally suffer in any very great degree from this affection. But the breath is most commonly in some degree short or hurried, especially on slight exertion.

Pain.

It very frequently happens that there is no pain at all in pulmonary consumption; and there is often pain in various parts of the chest when there is no consumption. No reliance, therefore, can be placed on this symptom.

Hectic Fever.

This is a symptom of great importance, and makes its advances very stealthily. The patient complains of some little chilliness towards evening; and that his hands and feet are hot and dry in the night; and he generally wakes in the morning perspiring. If he remain awake, the perspiration subsides; but, if he go to sleep again when he wakes the second time, he finds himself again in a perspiration. The sweating is sometimes very profuse, especially over the chest and head, and tends greatly to exhaust the patient's strength.

The Pulse.

Generally speaking, the pulse is quick (between 90 and 100); but, not unfrequently, it does not exceed the ordinary standard.

An ordinary pulse, therefore, is no very conclusive proof of the non-existence of tubercles. But a quick hurried pulse, without any apparent cause, is always a suspicious circumstance.

Diarrhœa.

When diarrhœa occurs early and suddenly, and becomes habitual, in a person who had habitually costive bowels before; and when, from some other, perhaps obscure, circumstances, you are inclined to suspect the existence of tubercles, this state of the bowels may be considered as possessing a high degree of confirmative importance. Most commonly, however, this symptom does not manifest itself to any great extent until the disease is too far advanced to leave any doubt about its true nature. When, however, it does occur, it harasses the patient much, and melts away his strength with great rapidity.

Emaciation

is another symptom of great importance. The wasting is sometimes extreme. It is frequently one of the earliest signs, and is always of alarming portent. If a person gradually waste and grow weak; if his pulse be quick, and his breath at all short; and if there be no other manifest cause to account for this state of things; these are tokens of sufficient credit to excite the most lively alarm.

Swelling of the Ankles, Thrush, and Puffiness of the Hands and Face.

betoken that the last scene of the tragedy is rapidly drawing to a close.

EXCITING CAUSES.

These are, every cause which has a tendency to debilitate Whatever tends to lower the vital tone, to relax the system, tends also to engender or light up this fearful malady, wherever there exists a predisposition to it; and there are few families indeed which are altogether free from some constitutional taint of it.

Consumption is not contagious. Nevertheless, there are several reasons why a second person should not occupy the same bed with one known to be suffering under the disease; or the same sleeping apartment; nor be in too close attendance on the sufferer.

Watching the varying symptoms of a sick person, broken rest, confinement in a sick room, whose air is never wholesome, want of exercise, protracted mental anxiety, are all causes of debility, and calculated to kindle into a flame the smouldering consumptive spark, in those in whom it is latent: and we can scarcely ever be quite sure that this latent predisposition does not exist.

THE TREATMENT

of consumption resolves itself into preventive measures, when the tendency is evident, but when the disorder has not yet commenced; measures for arresting its progress when the disease is only slight; and finally, measures for alleviating its most distressing symptoms, when recovery is hopeless.

Notwithstanding that the symptoms of this disease are so well marked, yet there are other affections of the lungs, comparatively unimportant, which sometimes exhibit symptoms so nearly resembling those of consumption, (see "*Chronic bronchitis*") that the most practised skill of the physician is, not seldom, at fault; and it is beyond doubt that patients do, now and then, get well under the most unpromising appearances. For these reasons, we are seldom warranted in giving over any case as hopeless, until the very last.

Preventive Measures.

We have already seen that consumption occurs, almost exclusively, in a certain peculiar constitution, called the scrofulous constitution; that, whenever it does occur, to any notable extent, it is invariably fatal. We have seen that this scrofulous constitution exhibits certain well marked physical signs, by which we can tell beforehand, with something approaching to certainty, that such and such persons will die of consumption, and that such and such others will not. It becomes, therefore, matter of great moment to ascertain: first, in what particular defect the scrofulous constitution consists; and secondly, whether that defect, whatever it be, be a curable one. In short, since we cannot cure consumption, can we cure the consumptive *constitution*, and so prevent that which we cannot cure?

We certainly cannot remodel the constitution. But it is equally certain that it may be so much improved, by judicious manage-

ment and treatment, as to make it, in many instances, actually proof against the disease; and, in almost all cases, to diminish very considerably the chances of its occurrence.

Surely, if one has a very tender plant in one's garden, that plant will be much more likely to grow into a strong and healthy tree if it be properly treated and managed, than if it be treated and managed improperly. A proper treatment will convert its weakness into strength; an improper treatment will weaken it still further.

Nothing is more certain than that persons, having the scrofulous constitution, do sometimes pass through a long life without developing any scrofulous disease.

What then is the nature of that defect in which the scrofulous or consumptive constitution consists? It consists in a weakness of the vital principle, (and a vitiated state of the blood in consequence of that weakness)—that principle which binds up and holds the living organs together in a state of integrity, and preserves to the blood its healthy constitution. The vital principle is to the organism what the hoops are to a cask. To weaken the vital principle, is to produce an effect upon the organs which is virtually the same as that produced on the cask by loosening its hoops. If the hoops be loosened, the water will leak out of the cask. If we give the name of disease to that leakage, then, to cure that disease, there needs no more than to tighten the hoops. So, in many cases, to cure disease in the living animal, there needs no more than to strengthen the living principle. While the hoops are firmly tightened up, you may kick the cask from Dan to Beersheba, and it will still remain perfectly sound. But if the hoops be loosened, every kick you give it will loosen them still further, and the cask will tumble all to pieces long before it reaches Beersheba. So, if the vital principle be strong, the living machine will stand much knocking about without injury; it will withstand the operation of morbid causes; it will resist the aggression of disease; it will repel the attacks of noxious influences. But, if the vital principle be weak, then the resistance which it is able to offer against the aggression of noxious influences, is proportionably feeble, and disease easily effects a lodgment.

What are called the CELL-FORCES constitute the foundation-law or principle of all life whatever. We have already seen that the word life is a short-hand sign by which is indicated an almost infinite number of living actions. The cell-force is the fundamental

agency out of which all these living actions spring, and on which they all depend; just as all the almost infinite movements and actions of all kinds and denominations of steam-machinery spring from, and solely depend upon, one single law or principle—the expansibility of steam. The cell-force is to all denominations of living things, what this expansibility—this STEAM-FORCE—is to all denominations of steam machines. It lies at the BOTTOM of every series, group, and combination of all living actions. As, when the steam-force is weak, the mechanical actions of the machine will be performed weaklily, and will be easily disordered or arrested altogether: so, when the cell-force is weak, the living actions of the living machine will be easily disordered also, or altogether arrested.

I wish the design of this work would permit me to explain, to the general reader, the operations and manifestations of this wonderful law. But it will not.

That the peculiar defect of the scrofulous constitution is vital weakness, is proved by many circumstances. There are strong physiological proofs of this, which (since this is essentially a practical work) I shall pass over. But there is other evidence of a practical nature.

In certain workhouses and prisons, it has been observed, that cases of consumption have become frequent in proportion as (from some cause or other) the diet has become too meagre, the confinement too strict, and the air, consequently, impure. And it has been further observed, that the cases of consumption have become notably less frequent in proportion as the diet and air have been improved, and a larger allowance of exercise permitted. Again: if a healthy animal be exposed to the operation of certain causes which are known to have the effect of weakening the vital principle—if a rabbit, for instance, be shut up in a damp, dark cellar, and fed on an innutritious diet—scrofulous tubercles will be found deposited within the tissues of its organs. The animal will die of consumption thus artificially produced.

I think these facts are conclusive of two things: first, that the peculiar characteristic of the consumptive constitution is a low or weakened condition of the vital principle; and secondly, that this principle is capable of being strengthened, so as to prevent deposition of tubercular matter; since we find, in the prisons and other places of confinement above mentioned, that cases of consumption become less frequent in proportion as the constitutions of the confined persons become strengthened by a better diet,

better air, and more exercise. I think it will be allowed to be matter of fact, then, that the vital principle is capable of being strengthened.

The next question is: how far the hydropathic treatment, by strengthening the vital principle and purifying the blood, is capable of preventing consumption, in those cases which exhibit the well-known signs of the consumptive diathesis, or when consumption has already attacked other branches of the family. This consideration is really a matter of great moment—of national importance. When we are threatened with a visit from the blue cholera, the whole nation rings with preparations to prevent or diminish its ravages. Yet, in England, for every ten persons killed by the cholera, consumption kills at least ten thousand. On the continent, consumption is called the "English disease."

I am anxious to confine myself as much as possible to practice; otherwise it would be easy to bring forward good physiological reasons why the hydropathic treatment, from its very nature, is remarkably calculated to exalt and invigorate the powers of life. I beg the reader to peruse what has been said on this subject at p. 85 to 91 and 129 to 133. The following case, however, selected from several others, will probably have more weight than any kind of reasoning. A lady, twenty-five years of age, and exhibiting well-defined marks of the scrofulous diathesis, applied to me under the following circumstances. She had suffered much mental distress, and undergone much mental exertion. She had become extremely thin; her appetite was capricious; her sleep much disturbed; her pulse quick and feeble. She had a short, hacking, worrying cough; expectorated mucus, occasionally streaked with blood; her breath was short; and she complained of much physical weakness. The stethoscope did not indicate, to my ear, the presence of tubercles, nor was there any dulness under the clavicles. Nevertheless, I was so forcibly struck with the consumptive character of the constitutional symptoms that, when her father applied to me for my opinion, as to the probability of her recovery, I expressed an unfavorable one. The symptoms, however, gradually subsided under the treatment, and eventually she perfectly recovered her health. But I am convinced that tubercles would soon have been formed in her lungs, had she not been brought out of the state of debility into which she had fallen.

There is something in the very nature of the water treatment which makes it singularly applicable to a weak or delicate state

of the lungs. The lungs are, as everybody knows, the respiratory apparatus. But it may not be so well known that the skin, also, is a respiratory apparatus; that it takes in and gives out the same matters which are taken in and given out by the lungs. It is the *assistant* apparatus of the lungs. It diminishes the labor of the lungs by sharing it. Now, the expiring organs of the skin are a number of small tubes, a quarter of an inch in length. These are called the pores of the skin. The number of these little tubes contained in a superficial square inch of skin has lately been counted, by Erasmus Wilson, under a powerful microscope. He found, by multiplying the number of square inches of skin on the whole body, by the number of tubes contained in one square inch, that, if they were joined end to end, they would make one tube 28 miles in length. The office performed by the skin, therefore, must be a most important one; and since that office is the same as that of the lungs, the assistance which the lungs derive from it in purifying the blood must be very great indeed; and, consequently, the additional labor and distress which they are compelled to undergo, when the functions of the skin are obstructed, must also be very considerable.

Now, I suppose its worst enemies will not deny to the water treatment the merit of exercising a beneficial influence on the skin. No one will deny that it cleanses it; that it increases the vigor of the circulation through it; frees the mouths of the breathing pores from all obstructions; and exalts the functions of the skin in every respect. In doing this, it is obvious that it cannot fail, in a corresponding degree, to lighten the labor of the lungs, to relieve them from oppression; and thus indirectly to strengthen them.

But the functions of the skin, when well performed, not only lighten the labor of the lungs, but they also purify the whole mass of blood, by depurating it of certain noxious matters which, being retained in it, adulterate and spoil it, and render it unfit perfectly and fully to nourish the body.

When the functions of the skin are imperfectly performed, therefore, the whole body suffers. The heart, the lungs, the liver, the stomach, the brain, the nerves, the bowels, are imperfectly nourished; and their vitality is moreover oppressed and weakened by the noxious matters with which the blood is loaded. Thus a weight is placed upon the springs of life. By restoring the functions of the skin, this weight is taken off.

But the hydropathic treatment also restores the functions of the

bowels. And thus another weight is removed. In like manner, it restores all the other secretions, and thus frees all the springs of life from oppression. It moreover wonderfully increases the powers of digestion, and makes the appetite of jaded men keen as that of a school-boy.

It must be remembered that the scrofulous taint is not always equal. Some are tainted beyond all hope of redemption. But others are tainted less deeply. In these latter cases, it is probable that they may go through life without the development of any scrofulous disease; provided they escape the attacks of other disorders. But, if they be constantly taking cold; if they get influenza; if they become the subject of indigestion, rheumatism, diarrhœa, nervous disease, &c.; then the additional weakness resulting to the constitution from these affections will be almost certain to light up scrofulous disease in such constitutions. Here, the important thing is to protect those persons from what may be called the minor diseases of life; to harden their frames, and strengthen their powers of resistance against those ordinary noxious influences and causes of disease with which all are more or less surrounded. In these cases, whatever form disease may assume in the first instance, it is pretty certain eventually to fall upon the lungs, and settle there. It is of great moment, therefore, that the skin should be always made to perform its share of work in purifying the blood, and thus lighten the labor of the lungs as much as possible.

There are two things which the water treatment can do—no other treatment in the world can do these two things. I speak advisedly when I say this. I speak with a full knowledge of all that the drug treatment can and cannot do. I speak with a willing disposition to allow to all other modes of treatment their full share of credit. Mesmerism has its merits; homœopathy has its claims to regard: the drug treatment, in its proper place, can do much in certain cases; all can do something; but none of them can do these two things. But hydropathy can do these two things—two, if it can do nothing else. No one, who thinks on the subject for half an hour, can doubt that the water treatment can do these two things. Thousands may deny it, but no one can disprove it. No fact in the universe is more certainly a fact than that the water treatment can strengthen the vital principle and purify the blood.

On this principle alone, it can cure more diseases than any other treatment can cure; and prevent more than any other can

prevent. And it can certainly, in many instances, prevent consumption.

CURATIVE MEASURES.

On examining the lungs of persons who have died of other diseases, the following appearances have been sometimes found. It has been found that at some previous period of their lives they have had, in their lungs, one, two, or three consumptive, that is, scrofulous tubercles. (It must be constantly borne in mind that consumption consists in the formation of scrofulous tubercles in the lungs.) It has been observed, that these tubercles had undergone the usual softening; that the softened matter had been discharged or coughed up; and that the excavation or ulcer left by the discharge of this matter had healed by the unassisted efforts of nature; and that life had gone on healthily and well afterwards, until cut short by the disease of which the patient subsequently died.

In other cases, it has been observed that one or two pretty large tubercles, instead of becoming soft, as most commonly happens, have become hard—almost like chalk. The more watery parts of the cheesy substance constituting tubercle have been absorbed, leaving a hard chalky substance behind; this chalky substance has made, as it were, a nest for itself in the lungs, the parts of the healthy lung in contact with it having become accustomed to its presence; no inflammation has been set up; no disturbance has followed; but life has gone on healthily and well, taking, as it were, no notice of the presence of this foreign body.

It is perfectly well known that other foreign bodies—as needles, bullets, &c.—will frequently thus embed themselves in the tissues, and lie there for years, without producing any further mischief. In Guy's hospital museum, there is a preparation of a soldier's lungs in which a bullet is lodged and embedded. The soldier lived twenty-five years after this bullet first entered his lungs. In these cases, nature pours out a kind of glue or mortar all around the foreign body, which glue afterwards becomes solid, and thus protects the surrounding tissue from that irritation which the foreign substance would otherwise set up.

These observed facts are of great importance; because they prove that, in slight cases of consumption, where there have not been more than one or two tubercles deposited, and where the

scrofulous taint is not very deep, nature can and will sometimes effect a cure by her own unassisted efforts. It is reasonable to suppose that these cases of spontaneous cure would occur much more frequently than they do, if the efforts of nature were judiciously assisted; if her hands were strengthened; if a more rational mode of strengthening the living principle, and exalting all the living healthy actions, were adopted.

No kind of treatment can effect this object, but the hydropathic.

PALLIATIVE MEASURES

in those cases which

The object here is, as far as possible, to alleviate some of the most distressing symptoms, in order to smooth, in some degree, the ruggedness of the road to death.

The apartment in which the patient lies should be large, airy, and cool. He should be covered lightly with bed-clothes, and should lie in the semi-erect position, both of which contribute to diminish the amount of the night-sweats. The hips and points of the backbone should be protected from chafing by strips of lead plaster, procured, ready spread, from the chemist. It is called technically, emplastrum plumbi, spread. The diet should be light and nutritious—farinaceous puddings; and a mutton chop, if the patient can take meat. His drink may be thin barley water, or rice water, or simple water. When the skin is hot and dry, the face flushed, and the head painful, the hands, face and chest may be sponged frequently with tepid water. Sleep must be procured by one grain of solid opium, or more if this prove insufficient, every night, in the form of pill. The cough must be allayed, during the day, by some cough mixture. The following is a very good one:

℞—Tinct. Opii, 1 dram; Liq. Ammon. Acet., 3 ounces; Spt. Æther. Nit. 3 drams; Aquæ Destillatæ, 2½ ounces; fiat mistura, cujus cochleare amplum ter die sumendum est.

If the diarrhœa be distressing, it will be relieved by the use of starch injections, once or twice a-day, with laudanum. Half a pint of common starch, containing fifteen or twenty drops of laudanum, may be thrown up the bowels twice or thrice a-day. If it still continue, then, instead of the cough mixture ordered above,

the following may be substituted, which will tend to allay both the cough and diarrhœa:

Rj—Tinct. Opii, 1 dram; Mist. Cretæ, 11½ ounces; Confect. Aromat. ½ ounce; fiat mistura, cujus cochlearia ampla duo ter die sumat.

In case spitting of blood should occur, then the following mixture should be substituted for the above:

Rj—Plumbi Superacet, 24 grains; Aceti Destill. 1 ounce; Tinct. Opii, 1 dram; Aquæ Destill. 5 ounces; fiat mistura, cujus cap. cochleare amplum ter die; and all food and drink should be taken cold.

TREATMENT

of the Scrofulous Constitution, with the view to prevent the development of Consumption, or other Scrofulous Affections.

In these cases, where a beneficial change is sought to be impressed upon the very foundation of life, all possible healthful influences ought to be accumulated and brought to bear at once upon the patient's system. When several of these influences can be directed at one time upon the body, each separate influence acquires an increased power. Each influence removes some obstacle; which obstacle, not being removed, would hinder and diminish the beneficial effects of some *other* influence. Thus, exercise always does some good, let the diet be what it may. But it does ten-fold *more* good if the diet be a proper one. So, the water treatment will always do some good, but it will do ten times *more* good when joined with other healthful influences. In these cases, therefore, where we cannot afford to dispense with anything which can contribute to the great object we have in view—viz., the strengthening of the fundamental principles of life—a change of air and constant medical supervision should always be had, wherever it is possible.

The treatment may begin with a light wash-down of one towel every morning; and a sitz bath, for fifteen minutes, at twelve o'clock. In a week or two, the sitz may be repeated at five o'clock. In a little time this treatment may be changed for two wash-downs daily, these being occasionally varied by the pail douche. After awhile, as the patient's constitution acquires firmness, the shallow bath may be taken every morning, and a sitz for fifteen minutes at twelve, repeated at five. In a fortnight or three weeks, two shallow

baths may be taken daily; then one shallow bath and one plunge bath; and so gradually on, up to the douche, noting carefully the effects produced.

CLOTHING.

This should be warm in winter; and flannel should be worn from head to foot; but not during the night. It cannot be too light and airy in summer; during which season flannel should not be worn.

The patient should sleep on a mattrass—in a bed by himself—lightly covered in summer, more comfortably in winter—but always he should sleep on a mattrass and go early to bed.

EXERCISE.

The patient should live in the open air. The best possible kind of exercise is that taken on horseback. But every form of exercise is useful and proper, so it be not too violent. The object here is not to sweat the patient particularly, though a little gentle perspiration will do no harm, but to give a sustained accelerated motion to the blood. To do to the whole body what the blacksmith's labor does to the blacksmith's right arm.

No kind of weather should keep the patient in the house. To make bad weather a plea for remaining in-doors is an idle and senseless excuse. I say emphatically, it is a senseless excuse. For we have shoes which will not admit water if they swim in it, and coats that will defy any amount of wet; and a man may walk for hours through the pouring rain, and come home with his skin as dry as a bone—as dry as though he had been sitting by the fire the whole time—excepting that the wind may blow some little wet against his face.

But it is so miserable to walk in the rain. The roads are so muddy! One's boots get so besmirched! One's clothes so bedrabbled! And then, it looks so, to see a lady traping and trailing and trampling through the rain, and the mud and the mire! True—I had quite forgotten all this—these are indeed very serious evils. Upon the whole, therefore, it would be better perhaps that the lady should stay at home, and die of consumption.

"Well, but," says one, "I don't mind either the cold or the rain. But perhaps the wind is from the east, and I have a dread of an easterly wind. It is unwholesome. There is something in

an easterly wind, quite independent of the cold, which is hostile to health." Granted; but when the wind blows from the east in the field, does it blow from the west in the drawing-room? When we sit by the fire-side we breathe the air of an easterly wind, just as certainly as though we were out in the field. Whatever noxious properties it may bear on its wing, therefore, independent of its mere coldness, are wafted to us, and inhaled by us, wherever we may be.

The same argument applies equally to night air. Most people have a horror of night air—not because it is damp or cold—for these they do not so much mind in the daytime—but they fancy there is something especially pernicious in *night* air. Let it be granted that there is—not that there really is, but let it be assumed. What, then? When it is night on the heath, is it *day* in the house? Do a lamp and a fire convert night into day? Of course not; and when night comes, whether we be abroad or at home, we equally breathe the night air. The difference is only this; abroad, it is cool and moist, which all air *ought* to be; at home, by the fire, it is hot and dry, which the air respired by living beings ought NEVER to be.

DIET.

The diet should be light, plentiful, and farinaceous. Plenty of bread and butter twice a day; a little lean meat at dinner, with bread, potato and other vegetables; and bread pudding or rice pudding. But bread pudding is best. The rice may be taken for a change.

MORAL MANAGEMENT.

It is always important that the brains of young persons should not be overtaxed by study, nor the free use of their limbs hindered by confinement. This is most especially so in the case of those who are affected with the scrofulous taint—the scrofulous or consumptive constitution; for scrofula and consumption are but one disease. Unhappily these young persons usually manifest great cleverness and quickness of intellect. And this circumstance too often induces their parents, and those on whom devolves the duty of educating them, to urge them on to greater mental efforts than their delicate physical organization can bear. These children, too, are naturally high-spirited and ambitious, and answer but too

readily to the spur of emulation. Yearly, thousands fall eventual victims to this circumstance. A general weakness and delicacy of organization—feebleness of the cell-forces—is the soil in which the seeds of consumption, paralysis, St. Vitus' dance, indigestion, nervousness, and numerous other diseases, lie hid. In the school-room these seeds are made to sprout; and our counting-houses, our inns of court, our universities, &c., are the hot-houses in which they are rapidly urged towards maturity.

The business of the child's life is to play and to grow, in order that he may become a healthy man; that so he may be able to discharge a man's duties healthily. The child is father to the man. Childhood is the foundation on which manhood is built. The duration of childhood is the period which nature requires in order to build up the foundation which is destined to support the superstructure of manhood. But if we place the superstructure upon the foundation before that foundation is half built, what wonder that the whole fabric should totter, and often crumble away and fall to the ground. In civilized life, the great business of manhood is THOUGHT—at all events, among the middle and upper classes. But if we lay this heavy burden of thought upon the back of childhood, what wonder that the back of childhood should become crooked? We place the heavy superstructure upon the foundation of clay before that clay has had time to become hard enough to support its weight.

We begin to skate upon the ice before it will bear; and too often bury our hopes in the dark waters beneath.

I repeat, that the great business of a child's life, if it be intended that he shall become a healthy man, having a sound mind in a sound body, is to *play and to grow.*

PLEURITIS:

OR, PLEURISY.

This disease is usually ushered in by shivering and considerable fever. The skin is hot. The patient complains of much thirst. The tongue is covered with a white fur; and the pulse is frequent, full, and hard. There is a severe stabbing pain in some part of the chest, which is exaggerated by breathing deeply or coughing; by

striking, or lying on the part affected; and by any motion of the body implicating the painful part.

Shortness of breath, or hurried breathing, anxiety, or a catch in inspiration, are very significant symptoms. Cough, without (necessarily) any expectoration, and a caprice in the assumption of postures, will complete the list of phenomena indicating an acute attack, and one which generally ends quickly and favorably. The cough is short, and sometimes suddenly suppressed. It does not occur in paroxysms, nor is it accompanied by expectoration, unless the lining membrane of the air-tubes be affected also.

As far as the disease has been already described, the patient lies on the side which is healthy; or, in technical language, the *decubitus* (that is, the manner of lying in bed) is on the healthy side; since the pain induced by the necessary pressure consequent upon lying on the inflamed side, generally precludes that position. I say generally, because there is a great deal of caprice manifested in the choice of position. Sometimes, a patient lies best on one side, sometimes on the other. But the rule is as I have said, unless he prefer lying on his back.

A short time after the commencement of the attack, fluid begins to exude in abundance from the sides of the pleura into the cavity of the chest; and then a different chain of symptoms ensues; and those already mentioned are considerably modified. The stabbing pain has probably passed away altogether, and is succeeded by a feeling of oppression. On the other hand, the difficulty of breathing has increased. Indeed, the respiration sometimes appears to be carried on only by dint of powerful muscular exertion. There is none or only a little tenderness manifested on striking the chest; nor does the invalid now feel pain on moving the body. The posture has also changed. The patient now prefers lying on the affected side; because, if he were to assume the contrary position, the weight of the fluid would press upon, and therefore embarrass, the action of the sound lung. It frequently, perhaps generally, however, happens that the patient looks with his face upwards.

When the fluid, thus poured into the pleural cavity, continues flowing in till it will hold no more, there ensue a number of unmistakeable symptoms, which prove to a certainty the existence of pleurisy. These consist in the physical appearances of the chest, and are precisely what one would, à priori, argue must occur from such an irruption of liquid, even if he were hitherto a stranger to them. First, then, the affected side becomes larger, rounder, and

smoother. The smoothness consists in the obliteration of the hollow spaces that naturally exist between the ribs. These are pushed out, by the pressure of the confined fluid, to a level with the bones just mentioned. The dilation may be easily proved by measuring the affected side with a string, and comparing the admeasurement with that of the opposite one. The same steady pressure of the fluid within, as it goes on increasing, causes various dislocations of the contiguous viscera.

If the pleurisy be on the left side, the stomach and spleen are thrust downwards; there is a prominence over the small ribs of the same side; and the heart is pushed over to the right. Beneath the right nipple it may be felt and heard to pulsate. If it be the right side that is diseased, the heart is sometimes pressed too far to the left; and the liver, sinking down, appears below the border of the ribs, where it can be distinctly recognized by the finger. In this case, too, there is a protuberance of the right side of the chest, extending down into the flank. Moreover, the lung being incapacitated for dilatation, and therefore, for discharging its function, by the compression to which it is subjected; and the ribs being held immoveable by the distending force of the contained fluid; another phenomenon is witnessed. While the sound moiety of the chest is seen to rise and fall in harmony with the expansion and collapse of the healthy lung, the diseased half is observed to be perfectly motionless.

Now, this fluid, which thus intrudes between the two layers of the pleura, may be of two kinds. It may either be what is called coagulable lymph, or it may be pus or matter.

When the pleurisy has taken this turn, the patient's life is in great jeopardy. But in the former case, the secretion may be reabsorbed.

When the fluid has gone, it may either leave the chest in its original and natural state, or a new phase may be presented, displaying physical appearances hitherto unnoticed.

During the accumulation of the fluid, the lung has, of course, been compressed, being a very light, spongy, elastic tissue, into a much smaller compass than natural, and the coagulable lymph may have been converted into strong membranous bands, binding it firmly down in its new and confined position. Now, it is absolutely necessary, according to a well known law of nature, that, as the fluid is being absorbed, the lung and the wall of the chest, which had been separated by the interposed liquid, should once

more approach each other. It being impossible, therefore, for the lung, on account of its shackled condition, to expand and fill the cavity of the chest, a vacuum is obviated by the ribs falling in and adapting themselves to the diminished proportions of the lung. The visible consequence of all this is that the side affected becomes narrower than the sound side. It has a contracted, shrunken appearance, and now measures less in circumference than the other. The ribs, being drawn close together, present to the eye an unsightly distortion. The same cause which draws in the ribs, drags over the heart also; so that, if the right side have been the part attacked, this organ, even perhaps after having been pushed over too much to the left by the pressure of the superabundant fluid, when that fluid is dispersed, may be dragged quite under the right nipple, and there take up its permanent abode.

Of those who are attacked by pleurisy, by far the greater number recover. Sometimes, the inflammation may leave the pleura perfectly scathless: this, however, is very rare. Sometimes, every part of the lung is firmly glued to the wall of the chest. But the most common condition of all, as recognized after death, is the existence of a number of firm, glistening membranous bridges or bands, which do not interfere with the action of the lung, except during labored respiration, when they are necessarily put upon the stretch, and thus harass the lungs.

Of those who die, some perish from an inability to aërate the blood, owing to the great extent of the fluid effusion; and this is generally the case when both sides are affected: and some die from hectic fever and exhaustion. This latter takes place when, instead of healthy lymph, the cavity of the chest is occupied with pus or matter; which most frequently occurs in those whose constitutions have been worn out by disease, drugs, or debauchery.

PREDISPOSING CAUSE.

There is, as far as I am aware, only one predisposing cause of pleurisy, and that is, Bright's disease of the kidney. This disease appears to render its victims subject to inflammation of any serous membrane, and therefore, among others, of the pleura.

EXCITING CAUSES.

Cold is generally considered the most frequent excitant of pleu-

thing to cut short a smart inflammation by a severe bleeding; but is that a reason for bleeding again whenever the pain returns? I think not. If the inflammation threatens to run high and endanger life, then depletion becomes a reasonable alternative, but not so if it resumes merely its normal or regular course. If regard were had to the nature of the disease, I am convinced that in many cases in which blood is very freely drawn, would do well and better by much milder means; and that in many where blood-letting is really needed, a great deal might be spared in point of quantity, with much future advantage to the constitution. Take, again, the beginning of a severe cold, or influenza. We know that, *de facto*, it will increase for several days, after which the feverish state will decline. If, to force it away, we begin with hot drinks and sudorifics, we invariably increase the fever by adding to the excitement."

The particular danger in pleurisy has reference to the fluid which is poured out of the blood-vessels into the cavity of the chest. The danger will generally be in proportion to the amount of fluid so poured out. When this is excessive, we have already seen that distortion of the chest, irreparable mischief to one or both lungs, and dislocation of the heart, are apt to ensue.

We cannot prevent some fluid from being given out; but the *quantity* will be, generally, in proportion to the intensity of the inflammation. To moderate the violence of the inflammatory action, therefore, is the first object in the treatment. This is generally sought to be accomplished by repeated bleedings and by mercury. But few facts are better substantiated than this: viz., that these remedies frequently produce *after* mischief, fully as severe and irremediable as that which would, in most instances, be occasioned by the pleurisy itself, if left to run its own unrestrained course.

What we want, therefore, is some remedy capable of bridling the inflammation, but which is itself incapable of inflicting any subsequent injury. Such a remedy we possess in the hydropathic method.

In the first stage of pleurisy—the inflammatory stage—the same treatment as that recommended for inflammation of the lungs should be adopted.

When the inflammatory stage has subsided, and the fibrin-albuminous liquor of the blood has been deposited in the cavity of the chest, the wet sheet packing, as described under the head

of "General Directions," should be taken every day at twelve o'clock, for thirty or forty minutes, followed by a pail douche; and the pail douche alone may be taken at six, seven, or eight o'clock in the evening.

The bowels may be relieved by an occasional dose of castor oil.

Should the practitioner be determined to administer calomel, from want of sufficient confidence in the water method alone, I repeat that the administration of this drug is no objection to the treatment I have recommended. But it is important to remember that, under the hydropathic treatment, a much smaller dose will influence the system than is ordinarily required. About one-fourth of the usual doses will be sufficient. And I conceive that this fact alone is enough to give value to the treatment I am advocating.

DIET.

During the inflammatory stage, nothing but cold barley water, and copious draughts of cold water, should be taken.

When fluid has accumulated in the chest, as little liquid as possible of any kind should be taken.

When the patient's appetite begins to return, if the fluid be not all absorbed, his diet should be very spare—a little farinaceous pudding, and dry toast. "The more the patient eats," says Broussais, "the sooner he will die."

PNEUMONIA:

OR, INFLAMMATION OF THE LUNGS.

Inflammation of the substance of the lungs is a most formidable disorder; attended with much more peril to the life of the patient than either bronchitis or pleurisy. It rarely, however, occurs perfectly pure; being generally accompanied by both the last-named diseases. It is common to all ages; and is said to arise either from taking cold, or from some cause unknown.

The symptomatic fever, for the most part, runs high; and generally commences with a distinct attack of shivering. This is soon succeeded by cough; a hot and dry skin; a rapid pulse; an oppression, heat, or tightness over the chest.

If there be, as there most frequently is, inflammation of the pleura too, then a sudden lancinating pain, or stich in the side, is felt; this being excited and aggravated by a deep inspiration, or by coughing. There is also present difficulty of breathing, perhaps only trivial at the commencement of the attack, but becoming most intense in the progress of the malady; and expectoration of a peculiar kind.

The state of the skin is remarkable. In the height of the inflammation it is so hot that, on applying the ear to the chest, or on laying the flat palm on the skin, it strikes the physician at once that there is pneumonia there. It is called the caloa mordax, or biting heat.

The difficulty of breathing is increased, if the patient lie on the sound side; that is, of course, supposing that only one lung is affected. Generally, however, he lies on his back. The shortness of breath is exaggerated or diminished according, both to the amount or extent of lung that is inflamed, and to the constitution of the individual. The breathing of some persons is more easily affected than that of others. When both lungs are diseased, or one is very extensively affected, delirium is very apt to supervene. This symptom, when present, foretells considerable danger.

The expectorated matter peculiar to, and characteristic of, pneumonia, consists of an intimate admixture of blood with transparent and extremely tenacious mucus. So viscid is it, that the vessel containing it may be turned upside down without dislodging it. The blood combined with it may be in any proportion; the color depending upon the quantity. So that the matter expectorated may be yellow, rusty, tawny, or of a blood-red color. The most common, however, is tawny or rusty. This is the character of the sputa when the inflammation rages; but, as the latter subsides, the former become less viscid; more opaque; and either resemble the sputa of ordinary catarrh, or take the appearance and color of plum juice or liquorice water.

Sometimes, though rarely, the inflammation burns with such intensity, that the lung mortifies. The symptom which marks the presence of this condition, is the exhalation of a most foul and horrible odor from the lungs. Sometimes the stench is so offensive that one can scarcely enter the room of the invalid. The expectorated matter also gives out the same smell.

This disease is very frequently fatal. The result, of course, is

modified by contingent circumstances. Thus, if the person attacked be young, of temperate habits, and hitherto in the enjoyment of good health, his chance of escaping will be much greater than under the contrary circumstances. The average duration of the disorder is about ten days.

TREATMENT.

No person, in his senses, would think of relying on self-treatment in so fatal a malady as inflammation of the lungs, or, indeed, in any acute and dangerous disease. As, however, the usefulness of the hydropathic treatment in acute diseases, either alone or as an auxiliary remedy, is beginning to be more widely acknowledged amongst medical men, I shall make some observations upon it, for the guidance of such of them as have not given any attention to the subject, either theoretically or practically, but who may nevertheless be inclined to give it a trial.

The three great remedies on which medical men principally rely, in cases of pneumonia, are bleeding, antimony and calomel—the last, either with or without opium. Of these, the first is considered the chief and most important, to which the other two, antimony and calomel, are merely subsidiary.

It is hardly to be expected that those gentlemen who have given no attention to the treatment of disease by water, and who have seen nothing of its practice, should have sufficient faith in its efficacy to prefer it, in toto, to that in favor of which they have been educated—supported as it is by custom and the sanction of the schools. But, a very large amount of benefit may be derived from the water treatment, in acute disease, though it be only adopted as an adjunct and auxiliary to that in more general use.

There is nothing whatever, in the nature of the two modes of practice, to forbid their simultaneous adoption. There is nothing whatever, in the use of mercury or of the lancet, which is, in the smallest degree, incompatible with the simultaneous employment of cold water.

To assert that there is anything in the nature of the two treatments to make them incompatible, is a mere trick of the charlatan to give an air of mystery, for his own interested purposes, to that which is, in itself, perfectly simple and perfectly intelligible by all men—an assertion, too, which has been flatly contradicted by all experience in all ages.

Whatever other treatment, therefore, the medical practitioner may feel himself called on to adopt, I entreat him, for humanity's sake, not wholly to reject the great assistance which his treatment, whatever it be, may certainly derive from the free external and internal use of cold water; and that, if he do not make it a substitute for bleeding altogether, he will, at all events, substitute it in place of repeated abstractions of blood.

The object, in the treatment of this most dangerous affection, is to diminish the frequency of the heart's action, to abstract morbid heat, and to lessen the intensity and retard the activity of those morbid actions (which, be it remembered, though morbid, are still living actions) which are raging in the afflicted organs.

If these actions be allowed to proceed unchecked, the event to which they tend is suppuration—the infiltration of the lung with pus or matter. The spongy texture of the lungs becomes filled with matter, precisely in the same way that a sponge dipped in water becomes filled with that fluid. Inevitable death results from this condition of the lungs. The progress of inflammation of the lungs is marked by three successive and distinct stages: the first is one of engorgement; the second is one in which the lung becomes more or less solid—losing, in some measure, its spongy texture, and somewhat resembling liver, rather than lung; the third stage is that in which suppuration takes place, and the lungs become infiltered with matter.

In the second stage, there is but little hope of recovery; in the third, none at all. It is in the first stage, therefore, to which our chances of successful treatment are principally limited; and this is the stage of engorgement. Now, what are the objects which medical men have in view, in their treatment of this stage of the malady? They are, first, to weaken the force and diminish the frequency of the heart's action—to weaken its contractile power—so that it may not be able to pump the blood towards the engorged capillaries with so much force; and secondly, to unload the congested capillary vessels themselves. But those who so constantly and repeatedly resort to bleeding, for this purpose, and so frequently fail in their object, seem to forget that the same remedy (blood-letting) which has power to weaken the contractile force of the heart, has an equal power to weaken the contractile force of the capillary vessels also. Whatever weakens the one, cannot fail to weaken the other, in an equal degree. Whatever renders the heart too feeble to send the blood *to* the capillaries

with its customary force, also renders the capillaries themselves too feeble to *expel* it with their customary force. Whatever diminishes the tone of the heart, diminishes, in an equal degree, the tone of the capillaries. These vessels, therefore, are weakened and relaxed by repeated blood-letting. Their coats yield to the pressure of the current which is flowing through them. Their calibre becomes enlarged; they bulge, and therefore they admit an increased quantity of blood, precisely at a time when their power of contracting upon and expelling it is diminished. Thus, the same weakness (produced by bleeding) which *enables* them to *receive* a larger quantity of blood than usual, *disables* them from *expelling* it with their usual force and velocity. And thus, repeated blood-letting, while it weakens the heart beneficially, weakens the capillaries injuriously; and ungorges them one hour, only to increase their capacity for engorgement the next; thus increasing the mischief it was intended to relieve.

Now, the continued application of cold diminishes the frequency of the heart's pulsation, in a remarkable manner, and thus fulfils the grand object which all medical men have in view in repeated bleeding—viz., of retarding the supply of blood to the capillaries of the inflamed part; while it weakens neither the heart nor the capillaries, and, instead of relaxing these latter, its direct tendency is to constringe and strengthen them, and thus enable them to ungorge themselves; while it removes that accumulation of morbid heat, whose presence acts upon the inflamed part as a perpetual and powerful irritant.

In all Dr. Currie's experiments, though the pulse was never below 85, and often as high as 100, at the commencement of each experiment, it *invariably fell to* 65 *or* 68, or to some point between these two numbers.

Surely a remedy which can thus bridle the circulation, without even temporarily weakening the system, and, in inflammatory cases, without one particle of danger—for the inflammation and fever are themselves a protection against all danger—surely, I say, a remedy which can thus, in half an hour, reduce the pulse from 100 to 65, in all those cases in which such reduction of the pulse is of so much importance, which is sought to be obtained with so much anxiety, and which is indeed the one thing needful—surely, I repeat, such a remedy, in such cases, cannot be destitute of value.

Let us suppose, now, that a practitioner has been called to see a patient laboring under inflammation of the lungs; that the dis-

case is yet in its first stage; and let us further suppose that he has drawn as much blood from the arm as he considers prudent. As soon as the patient has recovered from the faintness produced by loss of blood, he should be enveloped in a wet sheet, covered only by a single blanket, and the sheet should be renewed every ten or fifteen minutes, or as often as it becomes at all warm; and this practice should be steadily pursued for an hour. Two sheets should be used for this purpose—one on, and one soaking in cold water ready to be applied when the other is removed. A large square of mackintosh, or a couple of old sheets doubled, may be laid on the bed to protect it from wet. If the pulse do not fall considerably within an hour, he should be placed in the half-bath, and there rubbed by two persons for ten, fifteen, twenty, or even thirty or forty minutes; while, from time to time, a pitcher of water should be poured upon his head. All this time the medical man should be near him, and should have him removed from the bath as soon as the pulse has fallen to the natural standard. When the pulse rises again, either the wet sheet process, as before mentioned, or the half-bath, or both, should be repeated. The object should be to *quench the fire*. When the patient comes out of the half-bath, a large dry sheet should instantly be thrown over him. In this sheet he should be dried as rapidly as possible. This is important; and therefore time should not be wasted in drying him too accurately; if the skin remain damp, here and there, it is of no consequence. If the patient be too weak to stand, the drying sheet may be spread upon his bed. In this he may be enveloped, and so dried. This sheet being removed, he should be covered up with the ordinary amount of bed-clothes, or accordingly to his sensations. If he get soon warm, the bed-clothes should be immediately lightened.

The medical attendant is not to be alarmed at the smallness of the pulse. It will become extremely small, thready, and sometimes scarcely perceptible, while in the bath; but, if the hand be laid over the heart, that organ will be found to be pulsating regularly, steadily, and with sufficient force. The temperature of the water may be 55° or 60°.

Were I *myself* to become the subject of inflammation of the lungs, I would at once be placed in a cold bath up to the throat, properly supported by some contrivance; and there I would remain till my pulse fell.

I will here detail some experiments performed by Dr. Currie,

of Liverpool, to ascertain the effect of cold water on the pulse, and on the animal temperature. They are related by himself in his "Medical Reports." The subjects of these experiments were Richard Edwards, a healthy man, twenty-eight years of age, with black hair, and a ruddy complexion; and R. Sutton, aged nineteen, of a pale complexion and a feeble frame. The temperature of the air and of the water varied from 42° to 44° of Fahrenheit.

Experiment I. "I placed a large vessel," says Dr. Currie, "containing one hundred and seventy gallons of salt water, in the open air. The atmosphere was damp and what is called raw. The thermometer stood at 44° in the air, and this also was the temperature of the water. The subject of the experiment was Richard Edwards. His heat was 98° before undressing, and his pulse 100 in the minute." [This rapid pulse, as Dr. Currie elsewhere states, was the effect of fear.] "He was undressed in a room where the mercury was at 56°; and afterwards stood naked before the fire till his heat and pulse were examined again and found as before. He then walked pretty briskly through a passage, paved with stone, into an open court, where the north-east wind blew sharply upon him. He was exposed to it for on minute, and then plunged suddenly into the water, up to tl shoulders. The thermometer was introduced with the bulb under his tongue, as soon as the convulsive sobbings, occasioned by the shock, were over. The mercury fell rapidly; and a minute and half after immersion it stood at 87°. He remained motionless in the water, and the mercury rose gradually. At the end of twelve minutes it stood at 93½°. I kept him exposed, naked, to the wind, two minutes after taking him out of the bath. To my surprise, although the attendants were rubbing him dry with towels during this time the mercury fell rapidly. He was put into a warm bed, and his heat was 87°, when examined under the tongue; at the axilla (the arm-pit) it was 89°. Frictions were used, and brandy, mixed with water, administered; but I found on this, as on all future occasions, the best mode of counteracting the cold was to apply a bladder, with hot water, to the pit of the stomach; a fact which I think important; this being done, his shiverings, which before were severe, soon ceased, and he became more comfortable, Three hours afterwards, however, he had not entirely recovered his former heat; but by eight at night he was, in all respects, as usual." The experiment began at four o'clock in the afternoon.

Experiment II. The next day at the same hour, the same per-

son was again immersed. His pulse previously was 85, and his heat 100° : the temperature of the air and of the water was 44°, the wind north-east, and strong. The following table will save words :—

	THERM.		THERM.
2 minutes after immersion	89½°	9 minutes after immersion	95½°
3 - - - -	90½	10 - - - -	94½
4 - - - -	92½	11 - - - -	95
5 - - - -	94½	12 - - - -	95
6 - - - -	95	13 - - - -	95¼
7 - - - -	95¼	14 - - - -	95
8 - - - -	95¼		

Experiment III. On the following day, at the same hour, the same person was again immersed. His heat was 98°, his pulse 100 : the air and water 44°.

	THERM.		THERM.
2 minutes after immersion	88°	10 minutes after immersion	94½°
3 - - - -	88	11 - - - -	94¼
4 - - - -	88½	12 - - - -	95
5 - - - -	90½	13 - - - -	96
6 - - - -	92	14 - - - -	96
7 - - - -	92	15 - - - -	96
8 - - - -	94	16 - - - -	96
9 - - - -	94		

Experiment IV. At the same hour of another day, the same person was again immersed; his heat being 97½° : water 42° : wind north-east.

		THERM.
1 minute after immersion	90°	12 minutes after immersion
2 - - - -	92	13 - - - -
3 - - - -	92	14 - - - - 94½°
4 - - - -	92¼	15 to 24 - - - 94½
5 - - - -	92	25 - - - - 94
6 - - - -	92½	26, 27 - - -
7 - - - -	94	28 - - - - 94¼
8, 9, 10, 11 - - -	94	29, 30 - - - 94

Experiment V. R. Sutton, aged 19, of a pale complexion and feeble frame, was next immersed. The temperature of the air and water were the same as in the last experiment, viz., 42° : his heat was 96½°.

	THERM.		THERM.
a minute after immersion	92°	18 minutes after immersion	93¼°
1 - - - -	90	19 - - - -	93½
2 - - - -	88½	20, 21 - - - -	91
3 - - - -	89	22 - - - -	92
4 - - - -	90	23 - - - -	92¼
5 - - - -	92	24 - - - -	92¾
6 - - - -	92½	25 - - - -	94
7 to 10 - - -	92	26 - - - -	94
11 - - - -		27 - - - -	92½
12 to 15 - - -	92	28 - - - -	92¾
16 - - - -	92½	29 - - - -	94
17 - - - -	93	30 - - - -	94

"One general remark," says Dr. Currie, "will serve for the pulse in all these experiments. The natural pulse of Edwards was about 70 in the minute: but, it may be observed, it never was below 85 before immersion, and generally above it. However that might be, it *invariably sank to* 65, *or from that to* 68, in the water; became firm, regular, and small. After being long in the bath, it could hardly be felt at the wrist, but the heart pulsated with great steadiness and due force."

I have quoted these experiments chiefly to show how greatly both the pulse and the animal heat are under the control of the cold bath.

Here, then, is an innocent remedy, capable of reducing the pulse (excited by fear) from 100 to 65, within the short space of half an hour. And, since all parties agree that, in acute inflammations, to reduce the pulse is the one thing needful, surely this remedy must, in such cases, be of great use.

As soon as the inflammation is thoroughly subdued, the patient may take a pail douche twice a-day, and this may be continued during the whole period of his convalescence. The bowels may be evacuated, from time to time, by a dose of castor oil.

DIET.

The diet should consist of cold barley water, and the patient should be allowed to drink as freely of pure cold water as he pleases.

EFFECTS OF COLD WATER ON THE ANIMAL HEAT AND ON THE PULSE.

I cannot quit this subject without making one or two observa-

tions, suggested by the experiments of Dr. Currie, as above detailed in a tabular form. First, it will be observed that the pulse was invariably depressed from 85 or 100 to about 66 or 67 in the minute. I shall now show that, while the circulation was thus depressed, and rendered slower, certain other living actions were, at the same moment, wonderfully raised, and rendered quicker. Everybody understands that law of nature by which, if a heated body be placed in juxtaposition with a cold one, the former will keep giving out its heat to the latter, until both have acquired the same temperature.

In examining the above tables, showing the number of degrees of heat which was lost during submersion—take, for instance, experiments 4 and 5—we find that, after half an hour's submersion in cold water, at a temperature of 42°, (only ten degrees above freezing point) only 2½°, in one instance, and 3½° in the other, were lost; or, more correctly, the mercury in the thermometer fell, in one instance, only 2½°, and 3½° in the other; the heat of the subjects of the experiment being severally 97½° and 96½° before immersion. In both cases the mercury stood at 94° at the end of the experiment.

Now, if a stone, whose temperature had been previously raised to 96½°, which was the temperature of Sutton's body, before immersion, had been plunged into water of the same temperature as that in which Sutton was placed, and had remained there for the same time as Sutton did (half an hour), it would have lost at least twenty degrees of heat; whereas Sutton's body only lost two degrees and a half, or, more correctly speaking, the mercury only fell 2½°. The reason of this is, that by a compensating power in nature, when the living body has been immersed for a certain time, those internal chemical actions, by which heat is generated within it, are enormously quickened in activity, so that fresh heat is produced nearly as fast as it is carried off by the water. But yet the pulse was always depressed to 66 or 67 beats in the minute.

These curious facts prove how the same remedy, at the same time, and in the same person, may produce totally opposite effects—depressing some of the vital actions while it exalts others.

PODAGRA:

OR, GOUT.

The shortest description of a paroxysm of gout which I ever remember to have seen is that given by a Frenchman: "Place the joint of your great toe in a vice, and screw up the vice till the torture becomes intolerable. That 's *rheumatism*. Now give the screw one turn more. That 's *gout*."

Sydenham, who himself suffered from gout for thirty-four years, has left behind him an admirable portrait of that disease. But nothing can be more accurate than the following, given by Dr. Watson. "The attack begins, most commonly, an hour or two after midnight. The patient, who had gone to bed and to sleep in his usual health, and without suspecting what was about to happen, is awakened by a pain in one of his feet, mostly in the first joint or ball of the great toe; but sometimes in the other parts of the foot—the heel, the instep, the ankle. With the coming on of this pain, there is generally more or less of a cold shivering, which gradually ceases as the pain gets worse, and is succeeded by heat. The pain grows more and more violent and intolerable; and is spoken of by those who suffer it as amounting to torture. It is a grinding, crushing, wrenching pain; or a burning sensation, as if a hot iron were pressed into the joint. The pain is attended with great restlessness and misery, and exquisite tenderness. The patient cannot bear the weight of the bedclothes upon the affected limb; nor the jar of a heavy foot-fall in his chamber. In a vain search after comfort, he is perpetually shifting his foot from place to place, and from posture to posture. At length, about the ensuing midnight, the pain remits; sometimes gradually, sometimes so suddenly, that the patient attributes the relief to his having at last found an easy position. He falls asleep in a gentle perspiration, and when he wakes the next morning, he finds the part, which had been so painful, to be red, swollen, tense, and shiny, surrounded by more or less œdema (puffiness) and by turgid veins. The same series of symptoms recurs, in a mitigated degree, for some days and nights; and then the disease often goes entirely off, not to return till after a long interval.

As the œdema (puffiness) subsides, and the redness fades, the

cuticle of the part that has been inflamed peels off; and this process of desquamation is generally attended with a troublesome itching.

Such is a picture of an attack of gout, occurring in an adult subject, for the first time, and in its most regular and genuine form.

Attacks of this kind are preceded, in most instances, by some marked disorder of the functions of the stomach; diminished appetite, flatulence, heart-burn, nausea perhaps. And during the paroxysm, the urine is very high colored, acid, and turbid; depositing a copious pink, or brick-dust sediment. The stools also are unnatural; pale, or dark green, and very offensive.

But the disorder, which has thus departed, is very apt—nay, unless extreme care be taken to prevent it, and even in spite of all care, it is almost sure—to return. At first perhaps it recurs not oftener than once in three or four years; but, after some time, the intervals are shorter, and the attacks become annual, happening about the same time of the year: afterwards they come twice every year; and at length they return several times during the autumn, winter, and spring. And as the fits are more frequent, so also are they more protracted; till, in the advanced state of the disease, the patient is hardly ever free from it, except perhaps for two or three months in summer. I do not mean that all this occurs invariably in all cases alike; but this is a sketch of the general course of the complaint.

At first, I say, it commonly appears in one foot only; afterwards every fit includes both feet, one after the other: and as the disease continues to recur, it not only attacks both feet in succession, but after having ceased in the foot which was secondly visited, it will return again into the foot first affected; and perhaps a second time also into the other. It passes, too, into other joints, both of the upper and lower extremities, large as well as small; so that there is scarcely a joint that may not, at one time or another, be seized upon. But as the disease proceeds, and the fits get to be more numerous, the pains are commonly less violent than they were at first; the patient is, however, more affected with sickness, and suffers more in his general health.

Also, in many gouty persons, but not in all, after the disease has frequently recurred, what are called chalk-stones form; concretions that look exactly like chalk take place around and outside the joint, filling up the areolar tissue, and lying, in general, immediately beneath the skin.

Gout is an hereditary disease. I do not mean to say that the disposition to it is always a transmitted disposition; but that the complaint is much more likely to occur to persons in whose pedigree it can be traced, than to other persons. It may, I believe, be generated by certain habits of life; and, on the other hand, in spite of an inherited predisposition, the disease may be staved off and averted. Let the son of a rich and gouty nobleman change places with the son of a farm-servant, and earn his temperate meal by the daily sweat of his brow, and the chance of his being visited by gout will be very small."

Gouty persons are very liable to have the functions of the stomach disturbed. There is often impaired appetite, sickness, vomiting, flatulence, heart-burn, acid eructations, pains in the stomach, cramps, &c. The bowels are sometimes loose, sometimes costive.

Sometimes, when the disease falls upon the heart, there are present, palpitations, difficulty of breathing, faintings, and sudden pangs like those of angina pectoris.

Sometimes, the patient is affected with giddiness, and symptoms threatening palsy or apoplexy.

Sometimes, the complaint, commencing in the toe or foot, recedes, not gradually and slowly, but suddenly and abruptly, and attacks the stomach. The patient now becomes affected with a sense of anxiety and distress; with sickness, vomiting, or spasm.

Sometimes, the disease will fall upon the eye, constituting gouty ophthalmia.

PREDISPOSING CAUSES.

These are inheritance, and luxurious living united to indolent habits.

EXCITING CAUSES.

An unusually severe debauch; strong mental emotion; excessive fatigue; or any slight external injury, as a bruise or sprain; or indeed any debilitating influence.

PATHOLOGY OF GOUT.

Gout is universally admitted to depend on the presence of lithic acid in the blood. A fit of the gout is an attempt, on the part of

nature, to get rid of this acid through the skin. All acids change the color of litmus paper from blue to red. Litmus paper is the test used by chemists to detect the presence of an acid. The chemist, Berthollet, found that the blue color of this paper was instantly changed to deep red the moment it was applied to the surface of a part affected with gouty inflammation; proving that a quantity of acid was passing off through the skin.

TREATMENT.

Where gout is not excessively severe in its attacks; where it is confined to one or two joints only; where it is not of very long standing; or where the inbred proclivity of gouty habit of body is not particularly strong; but most especially where that habit has been generated, not inherited; I believe it to be a curable disease, under the age of fifty, by the hydropathic treatment; the time necessary for its permanent cure varying from one to two or three years.

All cases of gout, however, are capable of being much modified and relieved by it. The attacks may be rendered much milder; the intervals between them may be much, very much indeed, prolonged; and their injurious influence upon the constitution very considerably diminished.

The skin and lungs are the organs through which the gouty matter must be expelled from the blood, partly by perspiration, partly by accelerated breathing, and partly by heterogeneous attraction.*

He who shall discover some artificial method by which the pulse and the breathing may, at one and the same time, be raised in an equal proportion, and maintained together at that accelerated speed for any given time, will have discovered a permanent artificial cure for gout. That is to say, suppose a man's natural pulse to be 74 beats in the minute, and his natural breathing to be 16 inspirations in the minute, then I say that he who shall discover a method by which the speed of that man's pulse may be accelerated half, (that is, raised to 111) while, by the same means, and at the same time, the speed of the breathing is also accelerated half, (that is, raised to 24) will have discovered a certain and permanent cure for gout.

But little can be done during the actual presence of an attack,

* See mode of operation of the wet sheet, p. 64—70.

beyond keeping the inflamed joint constantly covered with a cooling compress, frequently renewed. It is in the intervals that the cure must chiefly proceed. Three mornings in the week he should perspire, not in the blanket, but in the wet sheet; lying in the wet sheet packing until he perspires, and then remaining for half an hour longer. To this should immediately succeed the shallow bath. On the other three mornings he may take a wash-down.

At twelve o'clock every day he should take the shallow bath. And for this second shallow bath, in the course of a month the douche may be substituted.

If this treatment weaken him too much, he may take only two, or only one sweating, in each week.

DIET.

The diet should be chiefly vegetable and farinaceous. Meat should only be taken once a day, and then the quantity should not exceed three ounces.

EXERCISE.

This also is of great importance; and, if the patient's strength will permit, should always be taken to the extent of free and full perspiration, and should be kept up till the patient begins to be sensible of fatigue. It should be repeated two or three times a-day.

If we find it difficult to excite perspiration, this evil may always be remedied by a heavy great coat or two.

He should go early to bed, and be up very early in the morning.

RHEUMATITIS:

ACUTE RHEUMATISM; OR, RHEUMATIC FEVER.

This disease comes on with pain and tenderness of some one or more of the larger joints; the hips, the knees, the shoulders, elbows, ankles, and wrists. There is commonly some swelling, and sometimes redness, of the affected joints; and a disposition, in the malady, to shift from one joint to another. There is great heat in

the parts attacked, and the pain and tenderness are of the most exquisite kind. It is perfectly impossible to move the joints; and the weight of the bed-clothes can, sometimes, scarcely be borne. The attending fever is of the high inflammatory kind. The pulse is bounding and full; the face is flushed; the head aches; and the patient is drenched in sour-smelling perspirations. The tongue is coated with a whitish fur, but is red at the tip and edges. The urine is turbid and acid.

The means employed, by medical men, for the cure of acute rheumatism are extremely different, and even quite opposite. One man bleeds freely; while another does not bleed at all, but relies on tonics; a third trusts to hemlock; a fourth to very large doses of calomel, ten or twenty grains; a fifth, to opium; a sixth, to colchicum; a seventh, to small doses of calomel, frequently repeated; an eighth, to guaiacum and other stimulant drugs. Some treat the disease by the tonic and exciting plan; some by the lowering method.

Now, the only conclusion that can be drawn from this extreme diversity of practice is, that the drug-treatment is not applicable to the cure of acute rheumatism. Some practitioners think they are more likely to be right, by combining all the various remedies I have enumerated, into one treatment, and administering them all to the same patient; hoping that, of the multitude, some one or other of them may be lucky enough to hit the mark. Thus, according to Dr. Watson, the plan which is now very frequently pursued in London is this: the first step is a full bleeding, or even two; the next is eight or ten grains of calomel, with a grain and half of opium, every night; the third, a strong black dose every morning: the fourth is fifteen or twenty drops of wine of colchicum and five grains of Dover's powder, three times a-day. This plan of treatment was published and recommended by Dr. Hope, in 1837. The treatment, however, was to be somewhat modified, according to the age and strength of the patient.

Some physicians candidly acknowledge that all drugs are useless in this disease; and surely, if they be useless, they must also be much worse than useless. When the first Dr. Warren was asked what was good for acute rheumatism, he answered, "six weeks."

The great danger, in acute rheumatism, arises from the fact that the rheumatic inflammation often attacks the heart—constituting that terrible disease called rheumatic carditis, or rheumatic inflam-

mation of the membrane enveloping the heart and that lining its cavities. According to the opinion of Dr. Watson, who, being physician to a large hospital, as well as enjoying a most entensive metropolitan practice, has had the most ample experience, this fatal affection of the heart occurs, under the drug treatment, in fully one half of all those who labor under acute rheumatism.

The enfeebling of the vital principle by bleeding, and the determination inwards produced by strong purging and by calomel, seem to me (and, indeed, all experience proves the fact) to be peculiarly calculated to cause a translation of the rheumatic inflammation from the joints to the heart. That bleeding and other debilitating modes of treatment have the direct effect of determining inwards—or, in common language, of causing an external disease to strike inwards—is not only known, but openly acknowledged by the heads of the profession. "In small-pox, for example," says Dr. Andrew Combe, "or measles, the excitement often runs very high in the first or eruptive stage; and means are required to moderate it. But, if we bleed too freely, it is well known that the eruption will generally disappear, and increased danger to life ensue."

This danger (which however will always exist under any treatment, or under no treatment at all,) I believe to be much less in the hydropathic treatment than in any other, if practised with a full knowledge, on the part of the practitioner, of the peculiar danger to be apprehended. The danger of a translation of the rheumatic inflammation from the joints to the heart is very much greater in young persons than in those more advanced in life. Indeed, in the *former*, the rheumatic inflammation sometimes begins in the heart.*

PREDISPOSING CAUSES.

The predisposing cause of acute rheumatism seems to be, the presence of an acid in the blood—probably lithic acid.

EXCITING CAUSES.

Long exposure to wet and cold, without exercise; and when the nervous system has been exhausted by fatigue.

* For the symptoms which indicate that the rheumatic inflammation has fallen on the heart, see "Acute Heart-Disease."

TREATMENT.

Bearing in mind that the peculiar danger, in this affection, is the translation of the inflammation to the heart, it will be proper, in its treatment, to avoid, as much as possible, all sudden shocks in the application of water. For the same reason, all strong purging should be avoided. Nature herself seems clearly to point out, by the violent and drenching perspirations which usually accompany the disorder, that the skin is the organ through which the morbific matter is to be expelled. The haste and violence with which she determines towards the surface, seems to express a terror lest the morbid matters should fall upon the internal organs—an effect very likely to be brought about by such purgatives as calomel, colchicum, &c.; for all strong purgatives necessarily determine powerfully towards the central organs. Should the bowels, therefore, absolutely require to be unloaded, it should be done by six drams of castor oil, or an injection of warm water.

The treatment of acute rheumatism should commence with tepid sponging. The temperature of the water should not be below 80° of Fahrenheit. As the patient lies in bed, the entire body should be sponged three times a-day; and the joints affected, if there be not more than one or two, should be sponged almost continually, the rest of the patient's body being covered; and the bed-clothes should be light, and supported on half-hoops. The times selected for sponging should be those when there is no perspiration. But, if the perspiration be always present, the sponging may be used in spite of it. It will not stop the perspiration, but will generally promote it, when the patient is again covered by the bed-clothes.

If the patient experience marked comfort from the tepid sponging, it may be used four times a-day; and each sponging may endure for a somewhat longer time. The third or fourth sponging should be performed about ten o'clock at night, in the hope that it may conduce to sleep; and may be repeated during the night, two or three times. Should the pain, however, banish sleep in spite of it, the patient may take ten, or fifteen, or twenty grains of Dover's powder in a little gruel. In the case of children, however, the dose must be greatly diminished. A child of ten years should not take more than three grains, without medical advice. A child of fifteen years may take ten grains. So also for children, the dose

of castor oil must be reduced in proportion to the age of the patient.

As the skin becomes accustomed to the sponging, the temperature of the water may be reduced to 75°; then to 70°; and finally to 65°.

The reduction of the temperature must be governed, in some degree, by the patient's feelings. In conducting the sponging process, the sponge should be squeezed in the hand first, so that it may not yield to the patient's body enough water to trickle down and so wet the bed-clothes; and it should be very frequently dipped into the water, and reapplied to the patient.

After the sponging has been steadily prosecuted every day for a week, the patient may take the wet sheet morning and evening for one hour, immediately followed by tepid sponging—that is, with water at 65°. I do not, however, advise the sheet for persons under the age of fourteen. But all the other baths may be taken as here directed. When the patient has lost all pain and can stand, he may discontinue the sheet and take a tepid shallow bath or wash-down twice a-day. As soon as he is able, he should take a drive in an open carriage, if the weather be fine; or a gentle walk out of doors. If the weather be unsuitable, he should open all the windows of his room, and walk gently up and down.

Under the drug treatment, the patient seldom gets well in less than six weeks. After this comes a slow and lengthened convalescence.

Many years ago I was myself the subject of a most severe attack of acute rheumatism. I was bled in the arm three times, and dosed with colchicum and calomel to a very great extent. At the end of several weeks (I think six), my sufferings were still undiminished; and my strength was so much exhausted, that I was ordered to take brandy and water, notwithstanding the inflammatory nature of the disease. I, however, resisted the brandy and water and all further drugs, and resorted to sponging. The relief I experienced was most marked; and at the expiration of a week I was up and comparatively well. But I suffered long afterwards from the effects of the calomel and colchicum.

While there is appetite, the patient may take any of the ordinary farinaceous slops, as barley water, gruel, tapioca, sago, arrow-

root, &c., but no stimulants. When his appetite returns, he should avoid meat, and live, for a week or two, on a plentiful diet of bread, bread pudding, batter pudding, rice pudding, &c.

DRINK.

The patient may drink plentifully of water, but (in winter time) it should not be intensely cold—not colder than 58° or 60° Fahrenheit.

CLOTHING.

During convalescence, the patient should be well clothed, when out of doors, if the weather be cold; but he should be lightly clothed when in-doors. Flannel in winter; not in summer.

SUB-ACUTE RHEUMATISM.

There is a form of rheumatism which is neither acute nor chronic, but seems to hold a middle place between the two. There is much less fever and excitement, and the pain is less intense, than in acute rheumatism. Still, there is some fever, and the skin is hot and dry, with some degree of thirst. The joints, too, one or more of them, are hot and painful, but not intensely so.

To this form of the complaint the term sub-acute has been applied.

TREATMENT.

After having taken a tepid wash-down twice a-day, for a week, the wet sheet should be used every morning for thirty or forty minutes, succeeded by the shallow bath, in which the patient should be well rubbed for three or five minutes.

In the afternoon, a wash-down should be added.

There is much less danger of transference to the heart in this than in the acute form.

The patient should wear flannel if the weather be cold; but, in hot weather, not so.

DIET.

Full mixed diet.

EXERCISE.

According to the patient's strength.

RHEUMATISMUS.

OR, CHRONIC RHEUMATISM.

are two forms of acute rheumatism, viz., acute and sub-acute, so there are two forms of chronic rheumatism.

There is one form in which there is more or less of heat and pain, and sometimes swelling in one or more of the joints; but with little or no constitutional disturbance—no fever. The appetite may be good; and the patient feels that he would, indeed, be quite well if he could only get rid of the pain and heat which is troubling one or more of his joints—perhaps the foot or ankle; perhaps the knee; perhaps the point of one shoulder; or the hip. In these cases, the pain is increased by pressure, by motion of the affected joint, and by warmth—as the heat of the bed. This has been sometimes called hot rheumatism.

In the other form of chronic rheumatism, there is, in the painful joints, a sense of coldness and stiffness; and this form of the complaint is sometimes called cold rheumatism.

TREATMENT.

The wet sheet and the douche are the remedies here. But when the douche cannot be procured, the shallow bath may be substituted.

The wet sheet may be taken every morning for thirty or forty minutes, succeeded by the shallow bath for three or five minutes, as advised for sub-acute rheumatism. At noon, the douche should be administered for two minutes. If the douche cannot be procured, then the shallow should be used for five minutes; or the plunge bath may be alternated with it.

In cold rheumatism, the sweating blanket, instead of the sheet, will sometimes agree best, succeeded by the shallow bath, as after the sheet. In cold weather, flannel should be worn. The shoulders, arms, hips, and legs, especially, should be well and warmly clothed.

DIET.

A full mixed diet will be proper.

EXERCISE.

Regular, systematic exercise two or three times a-day, stopping always short of fatigue, is indispensable.

SCROFULA.

There are few persons who have any sort of conception of the universality of this disease, in one or other of its numerous forms; or of the amount of the yearly mortality which it inflicts upon mankind. There is scarcely one single family throughout broad England, probably, which has not lost one or more of its members from this terrible disorder. Consumption is one of its forms; and this one form of it alone—this mere fragment, as it were, of the one gigantic disease which we call scrofula—carries off no fewer than one entire fifth of all who die.* And consumption is, as I have already observed, only one of the many forms under which scrofula manifests itself. Water in the head; white swelling; mesenteric disease; scrofulous abscess of the hip-joint; lumbar abscess; scrofulous hypertrophy of the liver; scrofulous inflammation of the lining membrane of the belly; scrofulous ulcers, popularly known as king's evil; rickets; crooked spine; consumption—these are but so many fragmentary portions which go to make up the frightful sum of that monster disease, scrofula.

I shall first speak of the scrofulous CONSTITUTION, the scrofulous habit of body; or, as it is sometimes called, the scrofulous diathesis. It has been familiarly known for ages, that there are certain constitutions which are more prone to scrofula than others; and that there are certain physical signs or marks, by which these constitutions may be recognized; by which we can tell beforehand that such and such persons are almost sure to become affected by scrofulous disease, in some form or other.

Those who are so unfortunate as to inherit this habit of body—for it is hereditary—are usually divided into two classes, the dark and the fair.

In the latter class, the scrofulous habit is denoted by light or red, and very soft, hair, or red whiskers; grey or blue eyes; long, silky, or very light colored eyelashes; and the pupil of the eye being large, and not so readily dilated and contracted, as it ought to be. The pupil is sluggish in its motions; when it contracts, it contracts slowly; and when it dilates, it dilates slowly. The skin is fair and transparent; thin, and easily irritated; and the cheeks

* Not merely of disease—but of all who die—whether naturally, of old age, or of whatever cause.

exposed to cold air, however, this rosy color is very changed into bluish or purple; the white of the eye is of a pearly whiteness; and the fingers and feet are very plains. The ends of the fingers are frequently clubbed, and the nails long, thin, and hooked. Those of this constitution are usually clever, quick of apprehension, of an eager temper and warm affections; they are, moreover, "lively, ardent, imaginative, and susceptible. This precocity of mind and intellect, while it delights the fondness of the parent, awakens the fears of the more far-seeing physician."

In the former class, it is marked by a dark muddy complexion, harsh skin, and dark coarse hair. In these persons, too, both the bodily and mental energies are more sluggish and dull. In children, the scrofulous constitution is indicated by pale and pasty complexions, large heads, narrow chests, protuberant bellies, soft and flabby muscles; with a languid and feeble circulation, and irritable temper.

These are the classes of persons in whom scrofulous disease, in some form or other, may be predicted almost to a certainty.

There are some other marks which are usually enumerated as signs of the scrofulous diathesis; but which, in reality, are instances of actual scrofulous disease. One of these is that state of the eye called blear-eye; another is chronic inflammation of the surface of the eye, without much heat or redness, but accompanied by great intolerance of light; specks upon the eye; swollen and chapped upper lip; redness and swelling of the partition between the nostrils, and of the lower parts of the nostrils themselves; to which children are particularly liable, especially in winter; rickets; moist eruptions behind the ears; enlargement of the glands of the neck; slow, eating ulcerations of the parts near where the corners of the nostrils join the upper lip;—these are all instances of scrofulous disease; and are not signs merely, but actual proofs of the scrofulous constitution. Certain itching eruptions, too, occurring in patches about the body or limbs, are of very notable frequency in the scrofulous habit of body.

And it is important that the reader should clearly distinguish, in his mind, between the scrofulous, or, as it is sometimes called, strumous constitution, and scrofulous or strumous disease.

One of the forms of scrofulous DISEASE is inflammation. But this inflammation has several characteristics which distinguish it from common inflammation. It is very slow in its progress; it is

not attended by much pain, or heat, or (at first) by mu[illegible] of color; and the redness which does accompany it is da[illegible] sometimes livid. After a long time, however, suppuration does occur. But the matter formed is extremely unlike wha[illegible]lled good or healthy matter. It is not thick and creamy, but consists of a kind of whey, in which may be seen small fragments of a substance resembling little bits of cheese-curd. The ulcers thus formed are indolent; show little disposition to heal; and have altogether an unkindly look. Such are the principal characteristics of scrofulous inflammation.

Inflammation of a common kind, however, may, and frequently does, occur, even in one of scrofulous habit. But there is always great danger that common inflammation, occurring in scrofulous constitutions, may take on, during its progress, the nature of scrofulous inflammation.

This species of inflammation, occurring in various parts of the body, constitutes particular kinds of scrofulous disease. Thus, occurring in the knee joint, it constitutes white swelling; when it happens amongst certain internal structures near the bottom of the back, and runs on to suppuration, it constitutes lumbar abscess; when it appears on the surface of the body, and runs into open sores, it constitutes what is vulgarly called king's evil. It frequently attacks the elbow, and then very commonly destroys its structure, and ends in stiff-joint. It also frequently fastens itself on the heads of bones, and on the bones of the spine, causing them to become preternaturally large, distorted, and sometimes very painful. There is no part of the body that may not become the seat of scrofulous inflammation.

Scrofulous Tubercle; or, Tubercular Disease.

But the most curious, as well as the most important, peculiarity of scrofula is the formation, in the various organs of the body, of what are called tubercles.

These tubercles are little masses—small nodules—little knobs—of unorganized matter, somewhat resembling curd or new cheese, varying in shape and size, and deposited upon the organs from the blood. Dr. Carswell describes a tubercle as being a "pale yellow, or yellowish grey, opaque, unorganized substance." They are sometimes round, sometimes cylindrical, and sometimes shaped irregularly. They are little specks or morsels of cheese curd, so

scattered generally upon the surface of membranes, and deposited in the little interspaces which abound in all the living tissues. When one of these morsels has been deposited, it gradually becomes larger and larger, by the continual deposition of more tubercular matter upon it. They thus acquire very frequently the size of a hazel nut, and sometimes of a walnut, or even a middle-sized apple.

It is very easy to conceive how a number of these tubercles, even of the smaller size, when existing among the tissues of any of our organs, will produce irritation and inflammation by their pressure, and interfere greatly with the functions of the organ in which they are situated, by the room which they occupy. There is no part of the body which they do not infest; the brain, the liver, the bowels, the spinal cord, the bones, the muscles, the spleen, the kidney, the urinary organs, the lungs; and they are sometimes found in the organs of infants, even before birth. They are observed, too, to undergo certain changes. They grow larger, as I have already observed, by the slow and gradual addition of more and more of that cheesy matter of which they are composed. When they have attained a certain size, as of a hazel nut or larger, they begin to soften—to melt, as it were; and the matter, into which the tubercle is thus converted, has the appearance of that discharged by a scrofulous sore or abscess; and when the solid tubercle has thus melted down into liquid matter, if it be situated in any part from whence it can escape, it is then expelled from the body. If it be in the lungs, for instance, it is discharged by coughing.

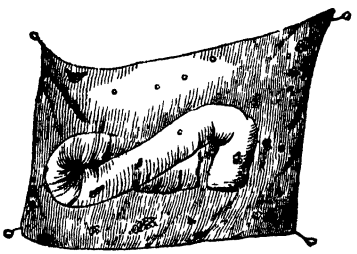
The matter of tubercle—the cheesy substance of which all tubercles are composed—is not always the result of inflammation. It is separated from the blood, and deposited from it, into the organs. When tubercles are numerous, however, or large, they excite inflammation, by the pressure which they exert upon the surrounding parts, just as any other foreign body might do.

Sometimes, a part—as, for instance, the lining membrane of the belly—will become studded with myriads of very minute tubercles indeed, not larger than millet seeds. Sometimes, they are vastly larger, and exist singly, or in patches of several together.

When a tubercle has become softened down into matter, and that matter has been discharged, the cavity which it occupied, of course, remains and now becomes an ulcer. This ulcer heals with

great difficulty and unwillingness; but nevertheless it sometimes heal.

TUBERCLES.



The plate represents a square piece of the membrane which lines the *walls* of the belly, with a small portion of bowel resting against it. The small spots, and clusters of spots, scattered over the plate, represent very small, young tubercles. There are four very visible on the white portion of the plate at its upper side. There is a cluster of five or six near the upper left-hand corner; and two or three clusters near the upper right-hand corner. There is a cluster of three near the pin at the lower left-hand corner; and two confused clusters near the middle of the lower edge of the plate; and one or two near the lower right-hand corner. There are two very distinct about the middle of the right-hand edge. There is a cluster near the right-hand extremity of the bowel; a cluster of three near the bottom of the obliquely descending, or middle portion, of the bowel; and two or three single ones.

In the plate they are few, small, and scattered; but they are frequently much larger and much more numerous. The lungs and brain are frequently found stuffed full of these cheesy tubercles, so that a pin's point can scarcely be put in between them.

PREDISPOSING CAUSES.

The chief of these is inheritance. A predisposition to scrofula, or the scrofulous constitution, is inherited from the parent.

It is as well to mention here that scrofula, like all other hereditary disorders, may, in its descent from the parent, skip over one or two generations and appear in the next. The same is equally true of the scrofulous constitution. Whether a scrofulous habit of body which has not been inherited can be acquired is, I believe, a matter still in dispute.

EXCITING CAUSES.

"These," says Dr. Alison, "may be ranked together as causes of debility, acting permanently or habitually for a length of time,

although not so powerfully as to produce sudden or violent effects." Those persons, therefore, in whom the scrofulous diathesis is exhibited, should not only be studious to avoid all causes which can lower the tone of the system, but should endeavor, in early life, before the deposition of tubercular matter has commenced, to surround themselves with all the causes of health—wholesome influences. They should remember that consumption can very rarely indeed be cured, although it can very often indeed be prevented. They should remember that, in ninety-nine cases out of every hundred of consumption, the alternative is not between prevention and cure, but between prevention and death.

Such of the scrofulous affections as I have thought it advisable to introduce into this work, will be found noticed under their respective names, as "Consumption," "Spinal Weakness," "Glandular Swellings," &c.

SPINAL WEAKNESS;

WITH A DISPOSITION TO CURVATURE.

, is another member of that large family of diseases of which scrofula is the parent. It is, like those disfiguring glandular swellings about the neck, another of the numerous manifestations of the scrofulous or consumptive constitution. It is a disease of weakness, not merely of the spine, but of the whole constitution. It is of great practical importance to remember this. Because, remembering this, it will be easy to see how worse than useless, in these cases, are all mere local and mechanical appliances. The spine, in most of these instances, is not weaker than all the rest of the system. But the spine has to support the whole weight of the body; and, being ill nourished, it yields to the burthen. The ankles and knees will often be found to yield in the same manner; and sometimes, in young children, even the long bones of the legs and thighs.

The practice which keeps young persons, with weak spines, lying on their backs for a year or two together, is detestible. For, this total absence of all exercise only adds tenfold to that original sin of constitutional weakness, which has been the cause of all. Constitutional weakness has made the spine grow crooked. Strengthen the constitution, and it will grow straight again. There

is the same natural tendency in the spine, as there is in the poplar tree, to grow straight. Nothing can destroy that tendency. Weakness does not destroy it, but only overpowers it. If a weight be placed on the top of a young poplar tree, it will grow bent; take off the weight, and it will recover its perpendicularity—it will grow straight again. It is the same with the spine.

No ingenuity, no philosophical reasoning, could possibly devise a remedy more harmoniously fitted to relieve spinal weakness than the hydropathic treatment. There is a direct relation between the *nature* of the treatment, and the *nature* of the malady. It is to the weak and drooping spine, what the oak is to the flexible and trailing ivy. It lends it strength to support the perpendicular position.

For everything concerning the principle and nature of the treatment proper for those having weak spines, see "Preventive Measures," and "Treatment" of those who, having the scrofulous habit, are threatened with "Consumption."

If those parents who have delicate children could be persuaded, and could be made to see the advantage, in every point of view, which would result, both to themselves and to their children, from sending them for a year or two to a hydropathic establishment, instead of sending them so soon to school, consumption and other confirmed scrofulous diseases would be much less rife among us. The expense to the parent, in the end, would be no greater, the advantages to the poor child would be incalculable—to him, in many instances, it would make all the difference which exists between life and death.

But let us suppose that, in either case, the child is destined to live and to become a man—that is, whether he go to a hydropathic establishment before he goes to school or not. (Be it remembered that we are speaking now of delicate children, and those known to possess weakly or scrofulous constitutions.) If he go to school at once, the strong probability is that, by the time he has finished his education, he has become a confirmed invalid; and totally unable to enter upon those scenes of life with a view to which he has been expressly educated. The parent has now to make sacrifices in his favor, which greatly overbalance the expense which would have been incurred, had he sent him, for a year or two, to a hydropathic establishment before he was sent out to school; and he has upon his hands a sickly youth; instead of a healthy son, ready and able to go out into the world and win his own way.

Neither would the boy lose anything in point of education. For, undoubtedly, a healthy child will learn more in four years, and retain it better, than can be acquired by an unhealthy and weakly one, to whom everything is toilsome, painful, and laborious.

If this plan were generally adopted in England, we should not meet, in society, such multitudes of crooked spines, weak ankles, hip diseases, paralytic limbs, glandular swellings, crippled joints, pigeon chests, heart and head affections, consumptive lungs, &c., which are now so heavy a curse upon the youthful population of our island. Surely it is not less an imperative duty to *prevent* a disease which is obviously impending, than it is to *cure* diseases which are actually present; and more especially, in the case of those maladies which, when once incurred, are known to be incurable.

Let it be remembered that, in this country, *one-fifth of all who die* are hurried out of the world by consumption; and that consumption *can* be prevented, but *cannot* be cured. Surely, it would be wise and politic, in every sense of that phrase, to spare something, in these cases, from the expenses of education, and to bestow it upon the health.

SPRAINED ANKLE OR WRIST.

Cloths, wrung out of cold water, should be kept constantly applied; and the joint should be supported by a dry bandage, firmly and evenly wound round the joint, over the wet cloths. Two or three times a-day the cloths should be removed, rewetted, and reapplied. Every time the cloths are removed, the joint should be steadily, gently, and with an even and regulated motion, rubbed with the wet hand for ten or fifteen minutes, the hand being frequently dipt in cold water.

This treatment, with the most absolute rest for the joint, and abstinence from all stimulating drinks, is, I believe, the best that can be adopted. But sprains are frequently very tedious affairs. I cannot at all agree with that practice, so frequently and indiscriminately adopted, of *douching* sprained joints. I have seen the most mischievous consequences arise from this practice, when due attention has not been paid to the constitution. Within this very year (1848) I have seen a case, in which such high irritation and

inflammation was produced, among the tendinous and fibrous structures of the arm, by the improper application of the douche, that death ensued within a few months.

The unfortunate patient in whom this case occurred had the scrofulous taint.

STITCH IN THE SIDE.

This trivial affection, never of much importance, is sometimes so very slight as to require no remedial measures. Occasionally, however, the pain which it produces is extremely severe; and I have seen persons bled profusely for this spasmodic affection, under the idea that it arose from inflammation.

The patient should be put into the half bath, and there thoroughly rubbed by the hand of one or two assistants, until the pain has subsided, which will generally happen within ten minutes.

THE STING OF BEES AND WASPS.

I know of no better application for these accidents than the cooling compress. If the inflammation and pain be very severe indeed, the wet sheet for one hour, followed by the shallow bath, may be adopted with advantage.

The cooling compress should be renewed about every ten minutes, till the pain subsides; and then every hour, or two, till the inflammation recedes.

STOMACH SYMPTOMS

There are two groups of symptoms which, in the popular jargon of the day, are called "stomach symptoms."

One group is *seated* in the region of that organ; and these symptoms undoubtedly indicate functional disorder of the stomach. They are flatulence, heart-burn, occasional sickness, perhaps oc-

casional vomiting, [illegible]se of distension and other uneasiness soon after eating, [illegible]other indescribable sensations about the stomach.

The other [illegible] of so-called stomach symptoms, which are also *said* to indicate stomach derangement, and to arise from it, and to depend upon it, are seated in the head. These are pain across the brow and in the temples; soreness in the eyes; an inability to read with comfort; black specks or other objects dancing before the eyes; slight occasional and transient giddiness; some uneasiness and sense of heat at the top of the head; very dreamy sleep; and even double vision is enumerated by some authors as a symptom of stomach derangement. To these are added, irritability of temper; some confusion of thought; a distaste for those employments which in health were a source of pleasure; inability to apply the mind for the same length of time as formerly; a diminution of cheerfulness and buoyancy of feeling; with other obscure sensations, having direct reference to the brain, and which, being exceedingly various in various persons, it is impossible to describe minutely.

The former of these groups I shall call the stomach-group; the latter, the head group. The almost universal notion is that the head-group arises out of and depends upon a disordered stomach; and [illegible]is is the notion I wish to combat. I assert that the head-sy[illegible]oms indicate disordered function of the brain or its appendages; and that, in all those cases where no intemperance in eating or drinking has been committed, the stomach derangement arises out of, and depends upon, the derangement within the head.

In considering the causes of disease in general, as it appears in any one country, it is, I think, quite obvious that the *habits* of the people of that country must be carefully remembered. And if there be any one almost universal habit which is peculiar, or nearly peculiar, to that people; and if there be one almost universal disease which is peculiar, or nearly peculiar, to that people also; and especially, if there shall clearly exist a manifest relation between the peculiar habit and the peculiar disease; that is, if the particular part of the body in which the symptoms of that disease are seated shall be such as is likely to be influenced by that habit; if it be a part of the body upon which that peculiar habit is known to make its direct impressions; if, moreover, the habit be such as is known and proved to be capable of making mischievous impressions upon that particular part of the body, and upon no other; then, I say, we are certainly justified, and com-

manded by sound reasoning, to consider the peculiar habit and that peculiar disease in the light and relation of cause and effect. And if we look abroad and find that, in other countries in which this habit prevails, the people are also afflicted with this particular disease; and that, in those countries in which the habit does not prevail, the disease does not exist; then I do not see how it is possible to resist the conviction that this habit is the cause which produces this disease.

The habit to which I have alluded is, severe and long-continued mental exertion, which commences from the period at which we are sent to school, and lasts till that late period of life at which we retire—either from business or from the world.

The two groups of symptoms which I have mentioned, constitute together what are called stomach symptoms, symptoms of stomach derangement, or indigestion. And that group which is seated in the head, is said to be produced by that functional derangement of stomach which gives rise to the other group, which is seated in the stomach.

There is no country in the world in which mental application is carried to such intensity, and perseveringly conducted with so much eagerness and earnestness, as in Great Britain, except America; and there is no country in the world in which those so-called stomach symptoms are so nearly universal as in England—except, again, America.

In those countries in the affairs of which mental labor is not a prominent feature, stomach symptoms (indigestion) are almost totally unknown, and are confined to the drunkard, the glutton, and the dissipated debauchee. And so also, in our own country, indigestion is almost wholly unknown among those classes who labor with their hands and not with their brains; I mean our agricultural laborers. It is peculiar (where not inherited) to the man of business and the man of pleasure; to the man who exhausts his nervous system in the untiring and eager pursuit of knowledge, of money, of fame, or of sensual excitement.

But it will, I know, be ceded to me by many, that mental taxation *is* the chief cause of indigestion. The cession of this point, however, in the argument involves them in the most unintelligible paradox. For, mental taxation is a *moral* cause; and it is not possible to conceive how a moral cause can make any *direct* impression upon the stomach. To suppose this is to suppose a something which is unheard of, and at utter variance with all the rest

of what we know and believe of the physical nature of man, and of the several uses, powers, purposes, and relations of the several organs of which he is composed. Such a supposition would be an anomalous monster, a huge and grotesque deformity—"monstrum horrendum, informe, ingens"—and certainly I may complete the line and add, "cui lumen adumptum;" for the blindness of Polyphemus, deprived of his one eye, was surely not more dense than would be the blindness of such a gratuitous supposition. It would be a great spluttering blot on the page of knowledge, and all the world would wonder how it came there.

The only manner in which a moral cause can make a mischievous impression on the stomach is by first making a mischievous impression on the brain. And here we see the marked relation which exists between the particular part of the body in which the second group of the so-called stomach symptoms are seated (the brain), and that particular habit (mental taxation) which we are assuming to be the cause of those symptoms. There is no relation whatever between the stomach and a moral cause. But the brain is expressly contrived and fitted on purpose to be acted upon by moral causes; and mental taxation is exclusively a moral cause.

And here we have a perfectly intelligible chain of events, and one quite in harmony with all the rest of our knowledge—viz. first, a morbid moral cause (excessive mental taxation); secondly, a morbid impression made upon the brain by this moral cause, deranging the functions of that organ, and giving rise to morbid sensation, or morbid mental phenomena; thirdly, we have functional derangement of the stomach—that is, the morbid impression on the brain (irritation) propagated, from the brain or its appendages, down to the stomach, along those nerves which constitute chains of direct communication between the brain and stomach.

The very marked manner in which the stomach always sympathizes with the injured brain is universally known and acknowledged. No one denies this. Everybody knows that a blow on the head will produce vomiting; and that sickness, and sometimes vomiting, is one of the premonitory signs of approaching apoplexy, or other severe brain disease. Again: it is perfectly well known that a violent *moral* blow on the brain—as, for instance, sudden information that one's banker has failed; or that one's house, including wife and children, has been suddenly destroyed by fire—I say it is well known that a moral blow on the brain of this kind will instantly derange the functions of the *stomach;* that the effects

of such a blow will be first felt (not at all [redacted] brain,) but in the stomach; that it will produce (not pain in the h[redacted]) but sickness in the stomach, and frequently vomiting; and that the formerly clean tongue *will become foul* within half an hour. Is it possible to conceive that a morbid cause, thus travelling through the brain to the stomach, can, as soon as it reaches the stomach, produce so much mischief there, and yet produce no mischief to the brain through which it passes?

. In the acute form of water in the brain, the first symptoms which are developed are not in the brain, but in the digestive organs. "The child loses his relish and appetite for food; or he may be possessed with an insatiable craving; or his appetite may vary. The tongue is foul, the breath offensive, the abdomen tumid and tender; the bowels constipated, and the motions unnatural; they are pale; or dark, fœtid, and slimy; or hard and lumpy." To these are afterwards added "sickness at stomach and actual vomiting."

Now, here is an instance of a most deadly disease of the brain, in an *acute* form; and yet, for some time, the only symptoms manifested are seated, not in the brain, but only in the stomach and bowels. So likewise, when *chronic* disease of the brain first begins to steal into the substance of that organ, the first symptoms manifested are in the stomach; but these symptoms are less severe in the case of commencing *chronic* brain disease; and the final development of the brain affection is much more gradual and slow—occupying years instead of weeks—but scarcely less certain.

But, according to the present doctrine of the schools, that portion of so-called stomach symptoms which are seated in the head arise from, and depend upon, stomach derangement; and are therefore *second* in the order of their coming. Now, since the schools admit that mental taxation is the chief cause of the so-called stomach symptoms (called indigestion), then, according to these school doctrines, the order of events will stand thus: first, a morbid moral cause (mental taxation); secondly, a morbid moral impression made upon the stomach! deranging its functions and giving rise to flatulence, heart-burn, &c; thirdly, this functional derangement of the stomach is propagated to the brain, deranging *its* functions, and giving rise to those morbid sensations, in and about the head, called stomach symptoms, and said to be significant, not of disease of the head, but merely of stomach derangement.

Now, it is quite clear, and most logically certain, that those who believe in this doctrine, and necessarily, therefore, in this order of events, cannot do so, unless they also believe that a moral cause can act directly on the stomach, and that the stomach can be directly impressed by a moral cause. They must either believe this grotesque absurdity, or else acknowledge that, wherever indigestion has been produced otherwise than by physical causes, as intemperance in eating or drinking, disease of other organs, &c., the derangement of the stomach must arise from, and be dependent on, disorder of the brain or its appendages. By one or other of the horns of this dilemma they are certainly transfixed, and there I leave them to writhe and wriggle until they confess their sins—especially that one which consists in taking for granted, and as necessarily true, an established notion, for no other or better reason than merely because it *is* established.

Those groups of symptoms which are indifferently called stomach symptoms, bilious symptoms, nervousness, indigestion, dyspepsia, &c., are, with the few exceptions before excepted, indicative of derangement in the functions of the brain. They indicate the beginning of that series of changes which is, in very many cases, destined ultimately to result in paralysis, apoplexy, epilepsy, insanity, imbecility, &c. Both they, and these latter diseases, are but different phases and different stages of one affection; and that one affection is some morbid change in the structure or function of the brain, or its appendages. Every case, however, will not have the same results. The *whole series* of changes will not always be completed; and the ultimate result will depend upon the particular part of the brain, or its appendages, which may happen to be the seat of the mischief; and upon the extent and intensity of the mischief itself. A good deal, too, will depend upon the nature of the constitution, its peculiar proclivities, other peculiarities, acquired and inherited predispositions, and something upon the peculiar build of the body.

In this, and in every other civilized country, stomach symptoms, otherwise called indigestion, have always kept equal pace, in the march of intellect, with the advance of the arts, the sciences, the commercial industry, and the generally increasing knowledge, wealth, prosperity, and mental activity among its people. And it is an equally significant fact that, as these stomach symptoms have kept constantly following at the heels of national advancement, so

also paralysis, apoplexy, insanity, suicide, &c., have, with equal constancy, dogged the heels of stomach symptoms.

The reason why I have dwelt with so much pertinacity on this subject, both here and at every convenient opportunity throughout this work, is because of its great *practical* importance.

If a patient, having stomach symptoms, apply to a medical man for relief; and if that medical man believe those symptoms, both those seated in the head and those seated in the stomach, all arise from, and are dependent on, stomach and biliary derangement, he will endeavor to relieve his patient by giving him such medicines as are thought to exercise the power of rectifying derangement in the stomach and liver. But if, as I have endeavored to prove, these symptoms really arise from, and are dependent on, derangement of the brain or its appendages; and, if there be really nothing the matter with the stomach or liver; or if the functions of these organs be only deranged in *consequence* of the derangement within the head; then it is quite clear that all the acrid and irritating drugs (as blue pill, calomel, purgatives, tonics, &c.) administered for the purpose of rectifying a stomach which had never gone wrong, and of curing a liver which had never been diseased, will not only fail to relieve the patient of his malady, but will irritate into real ailment, organs which before were perfectly sound.

Let us look at an actual case, directly to the point: Mr. ——— has just left my house. When he came to me, he complained of all the usual stomach symptoms—flatulence, distension, sickness, headache, dreamy sleep, confusion of mind. On one or two occasions, he had vomited bile. He had also had, at one time, violent pains in one leg, and had been confined to bed for several weeks by it. While with me, too, he had now and then neuralgic pains in his heels. He had also occasional dilatation of the pupil of the right eye. The flatulence, the uneasiness at stomach, the vomiting of bile, &c., were the principal features in the case which attracted the attention of his medical attendants, and led them to look to the stomach and liver, as the sole fount and origin of all the mischief. They described it (at least, one of them did) as an "old, inveterate case of dyspepsia (indigestion), accompanied by the most obstinate biliary derangement."

The features in the case which most attracted my own attention were, the dilated pupil, the dreamy sleep, the confusion of mind, the pain in the head—formerly in the temples, but latterly fixed at the back of the skull, the neuralgic pains, &c. All these point-

ed, with a straight and unmistakeable finger, to disordered function of the brain. But these symptoms were supposed, by his medical men, to result from the disordered stomach. Whereas, I knew that this gentleman had led a life, from childhood, of the utmost temperance, and of perfect and most rigid propriety. I also knew that, in mental application to business, he had been most *intemperate*. From boyhood, and for nearly thirty years, he had unremittingly and indefatigably toiled with his brain, from six o'clock in the morning, till ten o'clock at night. Here was a clear case, as it appeared to me, of brain disease, arising naturally, almost necessarily and just as one might expect, out of *brain intemperance*. It has always seemed to me one of the oddest things in the world that, while everybody acknowledges that there is no organ of the body which will not be hurt by excessive use, nobody appears to think that excessive use can hurt the brain. They seem to suppose that the brain bears a charmed life. If we over-stimulate the organ of sight by too much seeing (too much light), the organ of sight will suffer. If we over-stimulate the organ of hearing with too much hearing (too much sound), the organ of hearing will be injured. If we over-exert the muscles of the leg with too much exertion, the muscles will suffer damage. All the world can understand this; yet no one seems to understand that the organ of thought can be damaged by being over-stimulated with too much thought.

Independently, therefore, of the fact, that many of this gentleman's symptoms were seated in the *head*, the very history of his life was strong presumptive evidence, even if there were no other, that the suffering organ of such a man would naturally, almost necessarily, be the brain; and that, therefore, the symptoms under which he was actually suffering were indicative of a disordered, irritated, overworked, and exhausted brain; and that the stomach derangement were merely consequent upon that condition; and that, consequently, whatever remedies were used, they should be addressed to the head, not the stomach or liver, which were only sympathetically affected, and could not, therefore, be relieved until the organ with which they sympathized was relieved *first*. Any reasoning and unprejudiced person, who might happen to know this gentleman in early life, and who saw him day after day, month after month, and year after year, taxing his brain, from six in the morning till ten at night, now at his business, now at his account-books, would naturally have said: "Whenever Mr. ——

gets an illness, it will be in his brain; from the excessive wear and tear of that organ." But who, in his senses, would have predicted of such a man, who had never in all his life abused his stomach in any kind of manner, that, whenever he got an illness, it would be in his stomach! Such a prediction could only apply to a man addicted to *stomach* intemperance. Of the glutton and the drunkard such a prediction might be made with reason; but surely not of the *temperate* man! To believe that a disorder, so nearly universal in the middle classes as what are called stomach symptoms are known to be—to believe, I say, that they depend fundamentally upon stomach disorder, is to deprive temperance of its strongest motive! For if the stomachs of the temperate in diet are to become diseased as often as the stomachs of the *in*temperate, to what purpose are we temperate? And what is the fact? Why that, for every one case of indigestion occuring in the intemperate, we meet with twenty in those who have been always temperate.

The gentlemen who attended Mr. ——, I am told, still maintain their point; fighting stoutly, to the last, for the stomach as the fons et origo mali. They will have it that the head and front of his disease was in his stomach, and that his brain was only secondarily affected. And they do this in spite of the crowning fact that, in the short space of three months, at my house, under a treatment addressed almost exclusively to the brain, his improvement was most marked, evident and satisfactory to himself; while, during the twelve years that he had been under the ordinary drug treatment, addressed to the stomach, his only progress had been, on the whole, from bad to worse. I received a letter from him the other day, in which he says: "I am keeping wonderfully well in this changeable weather. I sometimes feel my poor head rather overworked; but this I am guarding against as much as I possibly can. But, even with five or six hours' work, I feel as well as when I left you." In another letter he says, judging from his *own sensations*, "I believe as firmly that my disease is in my head as I believe the Bible to be the word of God."

But let us grant them, (merely for argument's sake though,) that the greater number of the head symptoms *did* arise from a deranged stomach; that the fixed pain at the back of the skull was from the stomach; the neuralgic pains in the heels, from the stomach; the confusion of mind, from the stomach; the dreamy sleep, from the stomach; the general nervous irritability, all from

the stomach. Still, there remains the dilated pupil! Did that, too, arise from the stomach? Oh, yes; even that also might arise from that incorrigible offender, the stomach! Well, then, let it be so—let it be that even the dilated pupil arose also from derangement of stomach. But, then, how did it happen that only *one* pupil was dilated? How happened it that both were not dilated? Or sometimes one, and sometimes the other? Why was it that the *left* pupil was never, by any accident, found to be dilated? Why was it always the right, and the right only? What mysterious influence can a deranged stomach possess over the left eye, which it does not possess over the right? I leave the question at this point.

But patients themselves often allege that they are quite sure it is "all in the stomach," because the head symptoms are always relieved, for the time, whenever they take a dose of aperient medicine. But this, obviously, proves nothing to the purpose. For there is scarcely any disease which will not be relieved by an aperient dose, especially if the bowels had been previously a little confined. A source of irritation has been removed, and the whole system has been lightened, and the brain, for a time, therefore relieved. A patient suffering under whitlow of the finger, will have his pains relieved by a dose of medicine. But, surely, this does not prove that the whitlow is in the stomach, and not in the finger! So loosely do people reason.

I shall conclude this chapter, on stomach symptoms, by the relation of another well marked case or two, illustrative of the fact, that those head symptoms, which are usually called stomach symptoms because they are supposed to arise from, and to depend upon, stomach derangement, are, in truth, only indicative, in most instances, of disease in the head, and not in the stomach; and that the disordered stomach sensations, which usually accompany these head symptoms, are only so many proofs that the stomach is sympathizing with an irritated and disordered brain; and, having been thus deranged, it often re-acts back again upon the brain.

A gentleman, also from Scotland, was attacked, some twenty years ago, with a violent headache; so severe that he could only rest, during the night, in a chair. This lasted for many months, and then gradually left him; and he perfectly recovered. Some time after this. his vision began to be affected; so that, in walking along the street, he found himself, every now and then, swerving

to one side, as if for the purpose of avoiding some obstruction to his course. This symptom was thought to depend on stomach derangement. His bowels also had become constipated. The next change which came over him was a pretty severe pain in his left arm. This, having lasted for some time, at last left him entirely. The third and last of that series of changes which had been going on within him, cleared up the mystery, and set the matter in its true light. The *third* change was an attack of epilepsy—from which I trust, under Providence, to be able to relieve him.

The next case which I shall relate, is equally well marked, and as instantly to the point. A child, about eight years old, the daughter of a country gentleman in Ireland, was suddenly attacked with violent headache. Physicians were called in to attend her. The headache, as usual, was charged to the account of the poor little thing's innocent stomach! It was ascertained that she had an unusually large appetite, and was addicted to eat, in secret, all sorts of trash. It was proved that, on one occasion, she was detected in actually eating the food that had been set aside for the chickens! Here was evidence against the stomach, then, which was thought to be unmistakable—as though a morbid and perverted appetite could not possibly exist in a healthy stomach!—as though a morbid and perverted appetite were not frequently one of the symptoms which attend some of the best recognized and most plainly marked brain diseases! There being present, however, in this case, no other symptom, except pain in the head, and perverted appetite, the whole matter was peremptorily set down as a case of "stomach complaint." The mother was said to have fancies about the child; and the poor child was said to have fancies about herself. One gentleman, however, (Dr. B———,) declared his conviction that it was the brain which was in fault. But his opinion, not being in accordance with *established* theories, was rejected. Every conceivable stomach remedy was administered; and such a diet was ordered for her, as her medical attendants thought best suited to allay the fancied grumblings of an irritable and offended stomach—to wit, mutton chops and brandy and water, even at breakfast! Poor little thing! All the dosing with stomach remedies, and the mutton chops, and the brandy and water for breakfast, could not succeed in converting a brain disease into a stomach disease! She died, eventually, at Bath; and was ex-

amined after death. Her stomach was perfectly sound; but her brain was stuffed full with scrofulous tubercles.

I could fill a small volume with cases similar to these few which I have here related.

CHRONIC SKIN-DISEASES.

In addition to those affections of the skin (as measles, scarlatina, &c.) to which I have given a separate notice, it is extremely liable to several others of a chronic, troublesome, and sometimes very distressing nature. The variety of these is almost infinite; and most of them run into each other, and differ from each other by such slight shades of distinction, as to defy all nomenclature and correct classification. Some are vesicular, some pustular, some papular, some bullous, some scurfy or scaly. Some itch intolerably; and some do not itch at all. Fortunately, however, these differences have little or no practical importance.

With the exception of the itch, which depends upon the presence of an insect which makes its nest and finds a habitation in the skin, most, if not all, chronic skin-diseases are occasioned by the presence of morbid poisons in the blood, or by some morbid alteration of function in the skin itself. The same treatment, therefore, is applicable to them all; viz. any treatment which is capable of restoring the healthy function of the skin, purifying the blood, and correcting the nutritive actions.

Some of these chronic skin-diseases have a scrofulous origin.

Since the itch depends upon the presence of a living animalcule, it is obvious that it can only be cured by the use of some poison; something which is capable of poisoning the life of that animalcule. Itch, therefore, is a disease in which the water treatment is of little or no service; but in which the drug treatment, so abundantly rich in poisons of all kinds, may be adopted with singular propriety.

TREATMENT.

For chronic skin-diseases, of almost all kinds, the wet sheet packing for forty minutes, and the vapor bath alternately, or the sweating cradle, followed immediately by the tepid wash-down, or shallow bath, or dripping sheet, or plunge bath, or by the douche,

will constitute the proper treatment. While in the vapor bath, the head should be sponged with cold water; or a wet towel, folded, may be placed upon it, being rewetted every few minutes. As a general rule, the patient should not remain in more than five, ten, or fifteen minutes, after the perspiration has appeared on any part of the face; and the temperature of the bath should be raised neither too rapidly nor too high—not beyond 110°. The frequency with which the wet sheet packing and the vapor bath are to be repeated, must depend upon the patient's strength and the effect they produce upon it. At first, they may be taken every day; that is the sheet one day, and the vapor the next. Few persons, however, can bear this for very long—but some can. In proportion as they affect the strength, the frequency of their use must be diminished. I have cured vast numbers of all sorts of skin diseases by this method. Sometimes, however, when this has failed, I have succeeded perfectly, especially in psoriasis and eczema, by washing the patient's body very well, all over, before a fire, with hot water and yellow soap, three times a-day.

Almost all chronic skin-diseases, except the itch, are notoriously incurable by the drug treatment. The hydropathic treatment will not cure every case; but it will certainly cure the majority of instances. The slightest glance at the nature of that treatment, addressed as it is especially and immediately to the skin, will be sufficient to account for this.

There seems to be a notion abroad that the water treatment is calculated to repel eruptions—to drive them in. Nothing but total ignorance of the especial properties of that treatment, could have given rise to such a notion—a notion so diametrically opposite, not merely to the fact, but to all its tendencies, natural influences, and mode of action. All the tendencies of the hydropathic treatment are to *determine to the surface*—to bring latent eruptions *out;* and to increase, at first, those which are already out. It constantly happens that persons begin the treatment with skins as clear as possible, which skins become, in the course of it, covered with eruptions. This is one of the common modes in which it exercises its remarkable influence in purifying the blood. It purges the body through the skin.

DIET.

The patient should live on plain diet. Sometimes a very rigid and scanty diet becomes necessary.

EXERCISE.

As much of every kind as he can well take.

SYNOCHUS:

OR, COMMON CONTINUED FEVER; SOMETIMES CALLED LOW NERVOUS FEVER, BRAIN FEVER, TYPHUS FEVER, ETC.

A person, exposed to the contagion of fever, is not immediately affected by the disease. The poison incubates; that is, lies hatching for a certain season—during ten days, on an average, according to Dr. Gregory; during a period varying from seven to seventy-two days, according to Dr. Haygarth.

In the malignant forms of the complaint, the time of incubation is greatly abridged, and the disease manifests itself a few hours after the reception of the virus.

The premonitory symptoms may be thus enumerated. The patient is pale, languid, easily fatigued, incapable of sustained attention, depressed in spirits, and sometimes harassed by the fear of some approaching calamity. He looks ill. His appetite disappears; his tongue is white, and it may be tremulous; the bowels are irregular, confined, or relaxed; his senses are less acute than in health; he experiences various shifting pains in his limbs. He is chilly, and sometimes has one or more shivering fits, succeeded by flushing of the face, and a general dry heat of skin. He may suffer from headache, more or less intense; from giddiness; from drowsiness during the day, and from disturbed, fitful, unrefreshing slumber at night.

These premonitory symptoms, more or fewer of them, usually herald an attack of fever. But sometimes, they are wholly absent, and the disease suddenly appears, surrounded by its distinctive insignia. The patient is afflicted by thirst, increased heat of skin, frequent pulse, headache, and throbbing of the temples. The tongue is dry, deprived of its natural protective mucus, and is apt to cleave to the roof of the mouth; but it may be clean and smooth; still, it is more frequently furred; sometimes the tip and edges are red, and the centre coated with a white secretion, striped

down its middle by a black or brown streak. The abdomen is generally tumid, hard, tender on pressure: and when struck it emits a hollow sound, indicative of an accumulation of gas. The bowels may be relaxed; and if so, the motions will usually be found to be loose and watery, and either dark colored and offensive to the smell, or of a yellow-ochrous color, or somewhat similar to pea-soup. The chest is very commonly affected also. The respiration is accelerated; and, even when the patient expectorates nothing, sounds which are indicative of the presence of mucus in the air-tubes, morbid in quality and quantity, may often be detected by the stethoscope. The brain early participates in the disorder; and the cerebral affection is marked by a peculiar fixity and vacancy of countenance. The patient seems remarkably dull and stupid. When spoken to, he returns no answer, unless indeed he be addressed with some vehemence of tone and manner. Towards the end of the first week, delirium appears; the muscular power is almost destroyed; the patient lies on his back, quite motionless. What little sleep he gets, is obtained in snatches, and more resembles transitory fits of lethargy than genuine slumber.

This group of symptoms constitutes what is called the first stage of fever; and it usually marks the first week of the disease.

With the second week, the second stage commences. Typhoid phenomena supervene. The pulse is more frequent, weaker, and more compressible. The tongue is drier and browner. A dark brown or black filth accumulates round the teeth and lips. The patient's headache disappears; but his muscular debility is augmented. This is strikingly indicated by his position, as he lies supinely in bed; he sinks down, or may be said to gravitate, towards the foot of the bed. The voice is so enfeebled that, sometimes, he cannot utter an audible word; he may even, when at the worst, lose the power of swallowing. Or he may only apparently be unable to speak and swallow; the dryness of the throat and tongue, especially when, as is frequently the case, he lies with his mouth open, renders an attempt at either painful to him. Hence, before forming an opinion upon his ability to speak or swallow, it is well to moisten the patient's mouth with a little water.

Convulsive twitching of the muscles and tendons, about the wrist and other parts, and tremulous movements of the tongue, frequently mark the extreme point of the disease.

But, in addition to those above-described, there are two symp-

toms, occurring during the second stage, which particularly seize the attention; I mean delirium, and the characteristic eruption. The delirium is *sui generis*. At first, the patient wanders only at night; and the delirium generally manifests itself on awakening from disturbed sleep. Sometimes, he wishes to get out of bed, and can only be prevented by force from executing his design. Sometimes, he declaims, in a loud, angry, incoherent manner; but more generally he is perfectly tranquil, busying his fingers in picking the bed-clothes, and muttering in an under-tone fragmentary sentences, of which certain words, which he repeats over and over again, can only be distinguished. The sight of a strange object, or words spoken in a loud voice, will sometimes awake him from this state; but he relapses, immediately afterwards, into the same condition. Sensation is dull and blunted. He is deaf; the eye is dull, and, in very rare cases, insensible of light. Black specks frequently appear to dance before the patient's eyes; they annoy him, and he attempts to seize them in the air, or pick them from the bed-clothes. When the disease has reached this height, sensation and feeling are so impaired, that symptoms which formerly distressed him cease to occupy his attention. His hips, and other parts exposed to pressure, may mortify and die, without inducing him to utter a murmur; he seems quite indifferent as to the final event. His bladder and bowels are emptied involuntarily.

It is also in the second week that the eruption occurs. It consists of small, roundish, rosy or dusky discolorations, which sometimes speckle the whole surface of the body; generally, they are most manifest on the abdomen. It does not come out all at once, nor does it always last the same period of time. It may continue a fortnight, or only a day or two. Diarrhœa is often a prominent symptom; and the motions are frequently tinged with blood. A quantity of pure blood is, sometimes, passed from the bowels.

The third stage, or third week of fever, commonly presents the phenomena which immediately precede death or convalescence.

The patient dies exhausted by the violence or long duration of the disease: he dies from feebleness of the heart. Or, a state of profound stupor and insensibility may precede this event; and then, he is said to die from oppression of the brain. Or, he may die from mal-aeration (deficient purification) of the blood; the respiratory muscles, together with all the other muscles of the

body, becoming too enfeebled to exert their ordinary functions: the lungs themselves becoming gorged with dark venous blood.

When the disease terminates in recovery, the symptoms begin to abate, generally, about the fourteenth or twenty-first day. In an Irish epidemic, which, like everything else in that unhappy kingdom, differed strangely from epidemics as they occur in other parts of the globe, the fever began to depart on the fifth day. Hence, it was called the five-day fever.

When this fever assumes the malignant type, it takes the name of typhus fever.

EXCITING CAUSES.

Fever is now generally believed to arise from contagion and infection—from an animal poison, generated by the bodies of the sick, capable of floating in the air, and of engendering, in those who breathe the tainted atmosphere, the specific disease, called fever. It is communicable by contact. Whether fever, in these latter days, is ever spontaneously generated—whether it is born, the squalid child of filth, pauperism, crime, and starvation, which, huddled together in promiscuous intercourse, pollute the narrow courts and corners of the metropolis—whether it has lived, one and undivided, from the beginning, or springs up anew, like the armed men from the Cadmean dragon's teeth, is a question still undecided. Certain, however, it is that the filthy alley, with its dense population and its foul and stagnant atmosphere, unvisited of the sanatory commissions, and prejudiced in conservative ignorance—such a spot, I say, once breathed on by fever, its population will, without doubt, be decimated by the disease. For my own part, I do not believe that any amount of filth can produce fever, any more than it can produce hooping-cough or small-pox.

TREATMENT.

The patient should be placed in a large airy room; and there should be a small fire in it (unless the weather be very hot), because the fire acts as a ventilator, by determining a constant current of air towards the chimney. A window or the door, or both, should be kept constantly open. All bed and window curtains, carpets, and unnecessary furniture, of whatever kind, should be removed. The sheets and blankets and counterpane should, if

possible, be changed every day—the whole of them—and be put into water and washed at once. Even the bed or mattrass should be changed, at least once a-week: for these things retain, for a time, the poisonous miasms given off by the patient's body, and are continually parting with them again, and thus diffusing them through the air of the room.

All discharges from the patient should be immediately removed from the room; all unnecessary intercourse, between the patient and his family or friends, should be avoided; and those who attend him should be as careful as possible not to inhale the patient's breath, or other emanations from his person. As the young are more liable to take this disease than those more advanced in life, his personal nurses and attendants should be middle-aged persons. Those friends who enter the apartments only now and then, should never enter it *fasting*.

A little solution of chloride of lime may be sprinkled about the floor, and even about the bed-clothes (in small quantities), two or three times a-day.

In general, it will be sufficient to cover the patient with a single sheet and blanket—in hot weather, a single sheet only. If he prefer lying uncovered, he should be allowed to do so.

The wet sheet packing, followed by the pail douche, of two pails, should begin the treatment. Sponging, with water at 70°, should also be repeated twice or even thrice, a-day. The wet sheet packing may be repeated in the evening if the symptoms run high. The patient should lie in the wet sheet for forty, or fifty, or sixty minutes; it should then be removed, and the patient be immediately submitted to the pail douche; then placed in bed, and lightly covered with bed-clothes. In using the wet sheet packing, in fever, it will not be necessary to cover the patient with more than two or three double blankets. The best times for packing will be, when the skin is hottest and driest, and the pulse quickest; and the treatment should not be commenced until symptoms of excitement have set in; as thirst; hot, dry skin; quick pulse; throbbing of the temples, &c. Wet cloths should be kept constantly applied all over, and under, and around the patient's head, and be very frequently renewed. Besides this, the head should be occasionally well wetted with a sponge, the hair having been first cut short. The patient's head should rest on a horse-hair pillow; and a dose of castor oil, just enough to act freely on

the bowels, should be given about every second or third day; but the powers of the patient should never be depressed by purging.

This is all the treatment that will be necessary; and those who have not witnessed it, can form no conception of the soothing, cooling, and refreshing influence which it exerts upon the parched and heated body—how it allays thirst, restores the secretions, soothes the nervous system, moistens the scorched tongue, softens and moistens the skin, and calms the excited brain. There is no treatment that can possibly be used, in fever, which has half the safety, certainty, and efficacy of this. It will not save every life that may be entrusted to it—no human means can hope to do this—because fever often attacks those whose life is already weakened by a bad, impoverished, and depraved constitution, or by unrevealed organic disease within. Neither, probably, will it ever *cut short* this fever; because it is one which, like small pox or measles, has a definite course to run, through the successive stages of which it must pass. All that can be expected, and all that the sensible physician ever does expect, in these cases, from *any* treatment, is to pilot the ship through the storm, and bring it safely into harbor. And it will effect this object with a degree of certainty a hundred-fold greater than any other; and the convalescence after it, will be wonderfully more rapid; while all those lasting and evil consequences which too often result, from the ordinary drug practice, to the constitution, will be avoided.

Those who, from the mere pride of prejudice, refuse to adopt this treatment in fever—*this safe, sensible, simple, intelligible, and successful treatment*—incur a fearful responsibility, the amount of which time will certainly reveal, if not to themselves, at least to their successors. For, nothing can prevent it from becoming *ultimately* universal.

DIET.

The ordinary bedroom slops—barley water, mutton broth, beef broth, &c.—should be administered freely; and the patient should be induced to drink hearty draughts of cold water, whenever he is thirsty. When the teeth or tongue are covered by a black or dark brown crust, the water should be pretty strongly acidulated with lemon juice, or lime juice, or common table vinegar.

The value of cold water as a remedy, in fever, was well known to the ancient physicians. And since their time, many able prac-

titioners have written in its favor, and labored to convince the profession of its efficacy; but its simplicity has always prevented it from being generally accepted among our remedial means. Some, indeed, will tell the nurse, in a cursory manner, that she may sponge the patient's body now and then, and put wet cloths upon his head. But the physician himself lays so little stress upon it, and evidently himself attaches so little importance to it, that it is either done in a bungling and superficial manner, or altogether neglected. Among those who have written expressly on the use of cold water in fevers, the very eminent, learned, and practical Dr. Currie, of Liverpool, is, I believe, the latest, except the hydropathic writers. In his "Medical Reports," a mass of evidence is accumulated, in the form of actual cases, treated by himself and others, and of other more indirect experiments, which, one would have thought, could not possibly have failed to force it into general acceptation; the more especially as Dr. Currie was a man universally acknowledged to occupy a place in the very foremost rank of his profession. From the numerous cases detailed with great minuteness by him, in the "Medical Reports," I can only spare room for one. It was communicated to him by Mr. Dalrymple of Norwich, and is as follows:

"On the 31st of January, 1802," says Mr. Dalrymple, "after a few days of slight indisposition, James Money, aged 16 years, of a healthy habit of body and serious turn of mind, was seized with a long-continued and very violent shivering fit, which was quickly succeeded by a greatly increased state of his temperature. He complained grievously, when I first saw him, of intense lancinating pains in the head; of sickness and oppression at the pit of the stomach; of great uneasiness in the region of the loins, accompanied by extreme prostration of strength, and a distressing sense of soreness over the whole surface of the body. His tongue was covered with a thin cream-colored crust; his pulse was small and quick; his heat was now natural; his eyes were dull and suffused, and an air of deep despondency overspread and saddened his whole countenance.

"Some days previous to the appearance of these symptoms he had been exposed to the contagion of typhus fever, by occasional attendance on the sick-bed of his father, and had suffered considerable agitation and distress of mind in consequence of a severe domestic affliction. His elder brother, who had been more uniformly about the person of his parent, was seized, nearly at the

same time, with milder symptoms of a similar kind; and, although he obstinately declined all medical assistance, passed safely through a mitigated typhus of the ordinary form. James, however, at the desire of his master, became my patient, and was ordered to take an emetic dose of tartarized antimony immediately; and in the evening, when he should have been sometime in bed, a gentle anodyne draught. I visited him on the following morning, and found him in a very restless and perturbed state. The emetic had operated moderately, and somewhat relieved the oppression at the præcordia, but he had passed a sleepless, unquiet night. He complained heavily of his head and loins; his respiration was embarrassed and frequent; his tongue dry and brown; thirst great; urine high-colored and scanty; pulse 102, and small; his heat was still moderate and natural, but the tenderness of his surface had become so great, that on passing my hand under the bedclothes, in order to ascertain the state of his pulse, he screamed dismally, from a dread of the pain he expected to suffer from my touch.

"In this state he continued, with very little variation of feelings and appearances, until the evening of the fifth of February; during which interval he had been ordered to take frequently small doses of the compound powder of ipecacuanha, alternated with doses of decoction of the yellow bark, and sulphuric acid; beer, wine, and opium had also been given in moderate quantities, and a blistering plaster had been applied, with some little advantage, to the nape of the neck.

"On the morning of the sixth of February, I perceived in him a material alteration for the worse; his animal heat, which had hitherto continued uniformly moderate, was then greatly increased, the quicksilver of Fahrenheit's thermometer, applied at the axilla, rising to 104 degrees. His sense of hearing was become wonderfully acute, insomuch that he was considerably incommoded by noises, which were either obscurely, or not at all, perceived by others; his sight was also greatly quickened. He was fretful and refractory; talked sometimes calmly, at other times very wildly; was extremely restless in his bed; answered sometimes prematurely, constantly with eagerness, to such questions concerning him as were asked of the nurse. He fluctuated greatly in his spirits, in the course of a few minutes; being now elated with joy, at his self-assurance of recovery, now depressed with despair, from conviction that he should die.

"In addition to the other means that had hitherto been used, attention was now directed to be given to the state of his heat; and his body was ordered to be sponged frequently, with a mixture of cold vinegar and water; but this process he greatly disliked, and constantly opposed; *for although he was much distressed by a sense of burning heat, he was so apprehensive of the effects of cold air upon his skin, that he was constantly collecting the bed-clothes together, and wrapping them close round him.* Cold acidulous drinks, however, he eagerly called for, and largely drank. At eight o'clock of the same evening, I repeated my to him, and, entering his room, I found him sitting up in his talking and singing loudly and deliriously. He answered rationally, however, to some questions that were put to him; complained heavily of his head, and of the action of the lighted candle upon his eyes. *His pulse was* 120; *his heat increased to* 108°, *his skin felt parched and dry;* the crust on his tongue was of a dark brown hue; and from the commencement of his illness, on the morning of the 31st of January, to the evening of the 6th of February, his nights and his days had been equally sleepless.

"Under these circumstances, I determined to make a trial of the cold affusion, a remedy I considered as still in reserve, and which I had hitherto been deterred from employing by the moderate state of his animal heat. As soon, therefore, as the necessary conveniences were prepared, he was taken out of his bed, conveyed into an adjoining room, and before he was aware of what was intended against him, a pailful of cold water was hastily poured over his naked body.

"The shock was unexpected and severe. He started from his seat as the water was falling upon him, and endeavored to make his escape; but being restrained, he wrung his hands, wept bitterly, and earnestly entreated he might be permitted to return to his room. Wrapped in his blanket, he was conveyed back to his bed. *In a few minutes afterwards, his pulse was examined, and found to beat* 100 *strokes in a minute; his heat, which an accident prevented me from accurately examining, was most sensibly diminished; his mind became calm and clear; he expressed a feeling of regret for the trouble he had occasioned to those about him; drank a glass of warm wine and water, and in about half an hour sank into a deep sleep, in which he continued nearly eight hours.*

"When I saw him the following morning, his skin was moist and cool; his pulse 96, and firm; his thirst gone; the pains in his

head and loins removed; his countenance was cheerful; his intellect collected and composed, and he appeared only like one suffering from extreme debility. But in the course of the day, his heat again increased; in the evening his pulse was quickened to 108 strokes within the minute; his tongue was dry and thirsty; he became restless and anxious, and complained considerably of his head and loins. His body was, therefore, ordered to be sponged copiously and frequently with a mixture of cold vinegar and water; and, although he once expressed very violent dislike to that remedy, he now submitted himself to its application without reluctance, and derived from it effects at once agreeable and useful. He slept soundly and perspired gently, during the ensuing night; awoke in the morning refreshed and free from fever; the dark brown crust had left the edges, and was quitting the middle of his tongue; his pulse beat 90 strokes, and firmly; the pains in his head and loins were removed; he ate his food with appetite and relish, and with a few slight checks and interruptions, eventually recovered his ordinary state of health."—CURRIE'S MEDICAL REPORTS, vol. 2, page 27; Second Edition, 1805.

SYNOVITIS:

OR, INFLAMMATION WITHIN THE KNEE JOINT.

A person, otherwise in tolerable health, becomes suddenly aware that he has a pain in his knee on walking. In a short time, the pain becomes so considerable, that he finds himself unable to walk at all without great uneasiness.

On examining the joint, there is little or nothing to be seen externally. Still the pain continues. After a time, however, if he feel it with his hand, he finds it rather hotter than the other; and now, if he examine it again, and compare it with the other knee, he finds that there is a slight redness, with some slight degree of puffiness on one side of the joint.

This is synovitis, or inflammation of the synovial membrane of the knee joint. It may be rheumatic; it may be gouty; or it may be of a scrofulous nature, and destined to terminate in white swelling.

What is to be done in these cases? Why, the knee is to be enveloped in wet cloths; and these are to be covered with oiled silk; and the whole to be secured by a bandage, lightly applied. This dressing is to be worn night and day; and it is to be renewed two, or three, or four times.

A cold affusion (pail douche) is to be taken twice a-day; about noon, and at five or six in the evening.

EXERCISE.

Absolute REST, with the knee in the easiest position, is to be strictly enjoin

DIET.

A light spare diet, of bread and farinaceous puddings, is to be used; and no stimulants allowed.

SENSATIONS OF UNEASINESS

ABOUT THE LOWER BOWEL.

There are some important diseases situated in the immediate neighborhood of the lower bowel. This locality frequently becomes the seat of internal chronic abscess. Sometimes, a tumor will be formed some five or six inches within the tube. Occasionally the bowel itself, from various causes, will *descend*. This affection is called prolapsus or falling of the bowel. Sometimes, it is the seat of a most distressing itching; and sometimes of fissure. Very frequently indeed the part is infested with what are called piles; and sometimes the bowel becomes the subject of stricture.

Most of these morbid conditions arise from the habit of taking aperient medicines too frequently; or from that state of the bowels and of the general health which induces the necessity of such frequent recourse to drugs. Whenever they depend upon these causes, and have not become too confirmed, the hydropathic treatment will remove them, by removing that state of the bowels and

of the general health which produced and sustains them. In most cases, relief will be obtained by the adoption of that treatment recommended under the head of Constipation. But the exact nature of the affection should always be clearly made out by a careful examination.

STOMACH AND BOWELS:

CHRONIC INFLAMMATION AND ULCERATION OF THEIR MUCOUS MEMBRANE.

From the too frequent employment of drugs, and excessive use of alcoholic stimulants, the mucous membrane of the stomach will sometimes take on a slow chronic inflammation; and this, if not early subdued, will occasionally end in ulceration and perforation of the stomach. Now and then, these causes will produce, not actual inflammation, but an excessively *irritable* condition of the *nerves* of the stomach, not extremely unlike that disease, well known to surgeons, called the "irritable breast"—an affection, whose true nature was, if I mistake not, first pointed out by Sir Astley Cooper. Pain after eating, cramp in the stomach, sickness, vomiting, and gradual wasting, are the principal symptoms characteristic of this malady.

But the mucous membrane of the bowels is also liable to take on chronic inflammation, sometimes ending likewise in ulceration and perforation. That portion of the intestinal canal which is most liable to become the seat of chronic inflammation and ulceration, is that divison called the large bowels; and that particular portion of the bowels called the cœcum is, more frequently than any other, the subject of these affections.

Like the stomach, too, the bowels will sometimes become merely *irritable.*

The most marked symptom which characterizes these conditions of the bowels is chronic diarrhœa. Now I shall not attempt to lay down any treatment for these particular affections. To do so would involve a multitude of minute distinctions which would neither be understood by the general reader, nor be compatible with the simplicity which ought to characterize a work of this kind. It is not intended, as I have before observed, that this book

should supersede the necessity of medical advice—excepting in some few slight cases: it is not intended, simply because it is *not* possible. Such diseases must become the subjects of medical investigation, and their treatment be determined according to the results of such inquiry.

TETANUS:

OR, LOCKED-JAW.

The patient about to be affected with this disease, is first attacked with a peculiar stiffness of the neck. He finds a difficulty and uneasiness in turning his head. He experiences pain and some little trouble in opening the mouth; at length the jaws become so firmly locked, that no power can separate them without fracture of the bones or laceration of the muscles. These symptoms occurring alone, constitute locked-law; but they are sometimes mere precursors of other symptoms of a far more formidable character—of those symptoms which, in their ensemble, are known by the name of tetanus. In this case, the closure of the jaws is succeeded by an acute pain near the pit of the stomach, running through to the back-bone. This pain results from spasm of the midriff, or diaphragm. At the same time the muscles of the belly become rigid, swollen into knots, and as hard as a board. The muscles of the back partake in the general spasm. Their contraction is so intense that the patient is often arched like a bow; and, during the violence of the convulsion, rests only on the back of his head and on his heels. Sometimes, he is bent forwards, and doubled up like a ball, the head and knees coming into close contact. The muscles of the extremities, upper and lower, are affected. The calves of the legs, particularly, are drawn into knots as hard as iron. The hands and fingers are generally the last affected; sometimes they escape altogether. The muscles of the tongue sometimes contract in the same manner, and deprive the patient of the power of articulation. The features assume that frightful expression, known as the "sardonic laugh." The brow is knit; the eyelids rigid and open; the eyes staring and fixed; the nostrils dilated; the corners of the mouth drawn back. The whole countenance wears a grin of anguish. These muscular

contractions are attended with excruciating pain. Everybody knows the startling pain produced by cramp in the calf of the leg. How agonizing must be the pain when, as in tetanus, the cramp involves every muscle in the body! Amid all these agitations of the muscular system, the other functions continue to be performed as in health. There is no fever. The pulse and breathing are quickened, and the bowels obstinately constipated. Frequently, during the violence of the convulsion, a profuse sweat breaks out. The condition just described, however, does not persist until death. The tetanic state, having endured some minutes, is succeeded by a perfect remission; and the patient is tranquil and collected. Indeed, at no period of the disease, is his intellect in the slightest degree obscured. After, perhaps five or ten minutes, or half an hour, the convulsions recur, run through the same stages as at first, and again subside. Every new attack, however, is usually more violent and of longer duration than the preceding one.

Tetanus runs through its course in a very short space of time; rarely extending beyond a few days; and sometimes terminating within a few minutes. In the great majority of instances, those whom it attacks it kills. But tetanus from cold is not so certainly fatal as that arising from wou

EXCITING CAUSES.

Tetanus is the result either of a torn and ragged wound, as that produced by a rusty nail driven into the hand; or of exposure to cold and damp, especially during the prevalence of great heats. Thus it is much more common in hot than in cold climates. When tetanus occurs from an injury, it generally first shows itself in the second week; whereas, when it arises from exposure, it appears within a few hours.

Wounds in the ball of the thumb, palm of the hand, and sole of the foot, are especially liable to excite tetanus.

TREATMENT.

I have had occasion to treat, in the course of my life, several cases of tetanus. One only recovered. I treated it by enormous doses of æther and laudanum; but this remedy failed in all the other instances in which I employed it. I have never had occasion to treat a case of tetanus by the hydropathic method. But

the disease not unfrequently attacks horses; and I have heard of two cases in which the horses recovered under the water treatment. When it attacks the horse, the animal usually stands with his four legs straddling, stiff and rigid, and looks not unlike a wooden horse. While thus standing, four men should be employed in constantly dashing pails of water over him, until the tetanic spasm is overcome. Other men should be occupied in bringing the water into the stable.

But, although I have never myself treated a case by the water method, we are not totally destitute of all evidence, or of some experience, in such cases, in favor of the hydropathic plan. The following is one of several cases occurring in the practice of Dr. Currie, and detailed by him in his "Medical Reports."

"George Gardner, a soldier in the Staffordshire militia, was put under my care by his officers, on the 20th of February, 1781. About a fortnight before, after severe dancing and hard drinking at a country wedding, in which he had been employed two days and nights, he fell suddenly into a fit, which lasted an hour and half, during which his consciousness was abolished. On recovery, he was affected with slight twitchings, which gradually increased, and were afterwards followed by fixed spasmodic contractions in different parts of the body; but more affecting the left side than the right. He had, when I saw him, all the symptoms of tetanus. The head was pulled towards the left shoulder; the left corner of the mouth was drawn upwards; the eyes were hollow; the countenance pale and ghastly; the face and neck bedewed with a cold sweat. But his most distressing symptom was a violent pain under the ensiform cartilage, with a sudden interruption of his breathing, every fourth or fifth inspiration, by a convulsive hiccup, accompanied by a violent contraction of the muscles of the abdomen and lower extremities. He felt on this occasion as if he had received an unexpected blow on the serobiculus cordis. Before I saw him, he had been bled, and vomited repeatedly, and had used the warm bath, not only without alleviation, but with aggravation of his complaints. The three first remedies mentioned, were used here in succession, viz. opium, mercury, and the cold bath.

"He first took a grain of opium every other hour, afterwards a grain every hour, and at last, two grains every hour: but he grew worse and worse during the two days on which this course was continued. The spasms extended to the back and shoulders, the head was at times retracted, and the muscles of the abdomen par-

took of the general affection. Being no longer able to swallow the pills, he took no medicine of any kind on the night of the 22nd, in the course of which, general convulsions came on and returned once or twice in every hour. The tincture of opium, (liquid laudanum) was now directed to be given, and an ounce of quicksilver ointment to be rubbed in on each thigh. In twenty-four hours he took *two ounces and a half of the tincture, without sleep* or alleviation of pain. The dose being increased, in the next twenty-six hours he swallowed *five ounces and a half* of the laudanum; a quantity which, at that time, was, I believe, unexampled. He lay now in a state of torpor. The rigidity of the spasms was indeed much lessened, and the general convulsions nearly gone; but the debility was extreme; a complete hemiplegia [palsy] had supervened; the patient's eyes were fixed, and his speech faltering and unintelligible.

"As this young soldier appeared on the utmost verge of death, it seemed no longer safe to continue the laudanum, which had relieved spasm only in so far as it had brought on general paralysis. Intermitting this medicine, therefore, we gave small doses of camphor from time to time in a liquid form; but the chief attention was directed to supporting the strength by such nourishment as could be swallowed. Gruel, with a small quantity of wine, was ordered for him, though with much caution; for, at that time, I was not instructed with what safety and efficacy this last article might have been administered. For the next six days he seemed to revive; the general convulsions kept off, though the twitchings and convulsive hiccup continued. But, on the night of the 1st of March he was seized, during sleep, with a convulsion as severe as ever, and this was followed by a return of all his symptoms with their former violence. The jaws were indeed more completely locked than before, deglutition was become impossible, and the pain under the ensiform cartilage was so extreme, as to force from the patient the most piercing cries. At this time, the effects of the quicksilver ointment were apparent in the fætor of the breath, and in a considerable salivation.

"Had poor Gardner been a man of any rank, or indeed had he been surrounded by his family, it is most probable that we must now have abandoned him to his fate. But our proceedings being obstructed neither by the prejudice of ignorance, nor the weakness of affection, another and a last effort for his life was resolved on. Having heard that the cold bath had been employed with success,

in tetanus, in the West Indies, particularly by Dr. Wright of Jamaica, and Mr. Cochrane of Nevis, and this practice corresponding with certain speculations of my own, I had recourse to it on this occasion, with some little confidence.

"With the consent of his officers, Gardner was carried to the public salt water baths of this town, then of the temperature of 36° Fah., and thrown headlong into it. The good effects were instantaneous. As he rose from the first plunge, and lay struggling on the surface of the water, supported by two of his fellow-soldiers, we observed that he stretched out his left leg, which had been for some time retracted to the ham. But his head did not immediately recover the same freedom of motion, and therefore he was plunged down and raised to the surface successively for upwards of a minute longer, the muscles of the neck relaxing more and more after every plunge. When taken out, we felt some alarm: a general tremor was the only indication of life, the pulse and respiration being nearly, if not entirely, suspended. Warm blankets, however, had been prepared, and general friction was diligently employed. The respitation and pulse became regular, the vital heat returned, the muscles continued free of constriction, and the patient fell into a quiet and profound sleep. In this he continued upwards of two hours, and when he awoke, to the astonishment of every one, he got up and walked across the room, complaining of nothing but hunger and debility. The convulsive hiccup indeed returned; but in a slight degree, and gave way to the use of the cold bath, which he continued daily a fortnight longer; and in less than a month we had the satisfaction of seeing our patient under arms, able for the service of his country.

"The success of the cold bath in circumstances so apparently desperate was not lessened by bad effects of any kind. Though the patient was in a salivation when thrown into it, yet this was not stopped suddenly; it lessened indeed immediately, and soon disappeared."

URTICARIA:

OR, NETTLE-RASH.

If a person, walking through a bed of nettles, happen to brush one with his hand or face, a definite series of phenomena takes

[redacted] there is a tingling, itching, or burning sensation felt at the [redacted] with which the nettle has come in contact. This pain is soon followed up by the appearance of a small, irregular, solid elevation, which shows a disposition to be round or oblong. It is sometimes white, sometimes pink, and sometimes combines both these colors. When the latter is the case, the whiteness is generally in the middle, and more prominent than the red. Now, when these appearances occur in several places on the surface of the body, and are not produced by the poison of the nettle, they constitute the affection called nettle-rash. But even then, I believe, they are always caused by the absorption of poison; the only difference being that, in the former case, the venom is applied to the skin, or external integument; and in the latter, to the mucous membrane, or internal integument. The grounds of my belief are rested on the fact, that in the acute form of this disorder, its origin can be almost always traced to the use of some particular kind of food or other noxious substance; and that the employment of an emetic or purgative makes it rapidly subside. Indeed, vomiting and diarrhœa are frequently nature's own method of cure. Moreover, in the chronic form, Dr. Willan's plan of withdrawing from his patient one by one, all his usual articles of diet, until the cessation of the complaint indicates the offending material, is for the most part successful.

There is usually a little feverishness attending the acute nettle-rash, accompanied by some amount of nausea and oppression of the chest. The patient becomes giddy, and occasionally there is a puffiness of the head and face. This form of the disorder rarely lasts more than a few days, and is quite harmless.

The chronic form is apt to recur again and again, and is usually aggravated at night. Indeed, the pricking and itching and smarting at night are, sometimes, almost unbearable.

EXCITING CAUSES.

The only exciting causes that are known, consist of various noxious substances taken into the stomach, as food or otherwise. They may be conveniently divided into medicinal and non-medicinal. The medicinal are cubebs, copaiba, and valerian. The non-medicinal may be sub-divided into animal and vegetable: as examples of the former, I may mention prawns, crabs, muscles, and many other shell-fish; as instances of the latter, mushrooms, raw cucumbers, almonds, oatmeal, and any kind of bitter kernels.

TREATMENT.

The acute form of nettle-rash will almost always yield to an emetic and one or two brisk purgatives. But the chronic form will often successfully resist all the forces that the drug-treatment can bring against it. These are the cases for the water-treatment; and the water-treatment will generally succeed. The wet sheet packing should be taken every other morning, and the sweating cradle every alternate morning, both being immediately followed by the shallow bath. The actual sweating should not endure more than ten or fifteen minutes. About five or six o'clock in the evening, the wash-down should also be administered.

The diet should consist exclusively of brown bread, and bread pudding; until the patient is well. No stimulants should be used.

ULCERA CRURIS:

ULCERS OF THE LEG; OR, SORE LEG.

Where these are not of a specific character, they are almost always curable. Ulcers of the leg are of various kinds, shapes, and sizes—some excessively irritable and painful, others not so. But as these peculiarities depend chiefly upon the state of the general health and constitution, and as they will almost always heal kindly when these have been rectified, it is not necessary to describe them severally.

The wound should be covered with fine lint, four or five times doubled, and dipped in cold water, and applied quite wet, with all the loose water in it. Then the entire leg—lint and all—should be covered with a piece of soft wet linen, two or three times folded. Over this, oiled silk should be applied, quite round the leg, from the knee to the ankle. Over all, a calico bandage, three inches wide, and six or seven yards long, should be neatly, accurately, and evenly applied, so as to make exactly even pressure upon every point of the limb. Much of the efficacy of this local treatment will depend upon the manner in which this external

bandage [redacted] is laid round. It should be dry, and should be drawn [redacted] tight. If possible, it should be applied by a surgeon accustomed to the use of the roller; for there is more difficulty in applying it properly than, at first sight, would be readily supposed.

In addition to the local treatment, a wash-down may be taken twice a-day; and the sweating cradle or vapor bath once a-week, followed by the shallow bath. The actual sweating may last from ten to twenty minutes.

DIET.

The full mixed diet will be proper, without any stimulants.

EXERCISE.

As much as the patient's strength can bear.

THE URINE.

This chapter will be devoted to a consideration of the morbid conditions of the urine. And as no one is capable of recognizing an unhealthy state, before he is acquainted with the healthy state, I will begin by describing the properties of the urinary secretion unaltered by disease. And I shall be somewhat minute; for it is a subject of the very highest importance. Comparatively little can be learned from an examination of the secretions from the bowels. But much, very much—and that too of the greatest importance—is to be acquired by a careful analysis of the urine. "Of some very important forms of constitutional disorder," remarks the late learned lecturer at King's College, "the scientific physician of the present day reads the sure evidence, in the sensible and chemical qualities of the secretion from the kidneys. And I do not hesitate to say, that a rightly instructed person might form a more accurate opinion respecting a sick man fifty miles off, and prescribe for him more judiciously, upon being furnished with a phial of his urine, than some practitioners whom I have known could do, if they had the patient bodily before them."

A healthy adult person makes about a pint and a half, or a little more, of urine in the course of the twenty-four hours. In order

to examine this as accurately as possible, passed from one stated hour of the day to the [redacted] of the next day should be mixed together, and then as much as necessary for analysis taken from the mixed fluids. The reason for this caution is, that the color and specific gravity vary considerably during different periods of the day, and depend very much upon adventitious circumstances. Thus, after a heavy meal of the ordinary kind, if urine be voided at the expiration of two or three hours, it will be found of a deep color and of a high specific gravity. Again, if it be passed soon after drinking a copious draught of water, the color and the weight will be diminished in the same proportion.

Liebig, in his new work on the Motion of the Juices, observes that, "if we take, while fasting, every ten minutes, a glass of ordinary spring water, there occurs after the second glass (each glass containing four ounces) an evacuation of colored urine, the weight of which is very nearly equal to that of the first glass; and after taking, in this way, twenty such glasses of water, we have had nineteen evacuations of urine, the last of which is colorless, and contains hardly more saline matter than the spring water." Hence arose the distinction of the urine into urina cibi, (that is, the urine that flows after food has been taken), the urina potûs, (the urine evacuated after drinking), and urina sanguinis (the urine of the blood). This last kind of urine it is which is made the first thing in the morning.

Characteristics of Healthy Urine.

Having mixed together, then, the different portions made at various periods within the twenty-four hours, in one vessel, it is seen to measure about a pint and half or two pints. It is of an amber color, and perfectly translucent.

The odor of healthy urine is by no means disagreable, or, at all events, very slightly so. Indeed, when it becomes strong enough to strike a person that it is disagreeable, it is no longer healthy. Healthy urine has what is called an acid reaction; that is, when a piece of litmus paper is dipped into it, the blue color of the paper becomes instantly transformed to red.

Another most important item in the constitution of healthy urine is, the proportion which the solids, held dissolved in the fluid, bear to the whole quantity. This is ascertained, in a moment, by means of an ingenious little instrument, called the urino-

meter, which can be procured of any surgical-instrument maker. According to the scale on the urinometer, the specific gravity should be about 1018, or between 1015 and 1020.

Besides observing these characters, in order to be quite sure that the urine is perfectly natural, it is best to perform the two following experiments: Place two quantities, each consisting of a few drams, in two glass test-tubes. Heat one over a spirit-lamp till it boils: it should not become turbid. To the other, add a drop or two of aqua-fortis: in this case too, it should not become turbid. If the examiner cannot lay his hand on a glass tube and spirit lamp for the former of these two experiments, an iron spoon held over a candle till the urina boils, will answer the purpose; but neither so efficiently nor so neatly.

Lastly, if a single drop of perfectly healthy urine be placed on a glass plate, and examined through a microscope with a lens of a half-inch power, nothing at all will be presented to the eye. The fluid will still retain its perfectly transparent condition.

When the urine has run the gauntlet of all these tests, and still nothing is discovered, it may be said to be quite healthy. I shall, therefore, pass on to its diseased conditions.

In the first place, then, it may be evacuated in too great quantity. This is the case in hysterical and diabetic urine.

Hysterical Urine

is the same as that which exists in diuresis, or, as it is sometimes called, diabetes insipidus. It is very copious, pale, and of very light specific gravity. It appears to be merely ordinary urine very much diluted.

Urine of Pregnancy.

It is sometimes of great importance to ascertain the existence or non-existence of pregnancy, in the earlier stages; and this is often an exceedingly difficult matter to determine. Take a little of the urine of the person supposed to be pregnant, and put it into a tea-cup. Place the cup in some place where it will not be disturbed, nor exposed to dust. If that person be pregnant, there will appear a thin, delicate, greasy-looking pellicle, or film, on the surface of the water, at the expiration of four or five days. Taken in conjunction with other circumstantial evidence, this appearance may be considered as decisive.

The pellicle, or film, somewhat resembles that which is formed on the surface of white sand urine, to be presently mentioned. But the two kinds of pellicles are distinguished thus: the pellicle of pregnancy does not appear until after the lapse of three, four, or five days; whereas, the white sand pellicle becomes visible after some seven or eight hours. The pellicle of pregnancy is called kiestine.

Diabetic Urine.

Here, besides there being an extreme abundance of fluid, there is also an actual increase of the solid constituents. This urine is generally pale, and of a different consistence to the healthy fluid. It has a thick oleaginous appearance; and its average specific gravity is about 1045. This increased density is owing to the presence of sugar, which may be detected in a variety of ways. In this work, however, it is not necessary to detail more than two. One is called the fermentation test, and is exceedingly useful in discovering minute quantities. To a portion of the urine, in an open vessel, add a little yeast; in a short time, fermentation will commence, and go on in the same way as in a brewer's vat. The other experiment is this: Mix an equal quantity of urine and liquor potassæ in a glass tube, and boil it. When sugar is present, the liquor will become perfectly brown.

Albuminuria, or Albuminous Urine,

is neither quite so acid or so deep in color as healthy urine. Its peculiarity consists in the fact of there being a new ingredient in it, namely, albumen. It is this state of the urine which is the characteristic symptom of the disease called Bright's kidney.

The albumen is readily detected thus: Ascertain first whether the urine be acid or not, by means of litmus paper. If it color the litmus paper red, it is acid. *If it be acid*, boil a little of it in an iron spoon over a candle. If, as soon as it boils, it becomes cloudy and turbid, it contains albumen; if it remain clear, it does not. If the urine be *not* acid—that is, if it do not color blue litmus paper red, in that case it is either alkaline or neutral—then, as before, boil a little of it in an iron spoon over a candle. If it do not become turbid as soon as it boils, add a few drops of nitric acid. If it still do not become turbid, there is no albumen; if it do, the urine contains albumen.

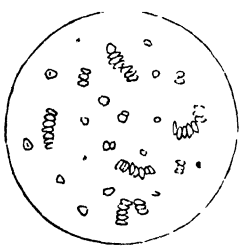
If, on boiling the alkaline or neutral urine, and before the addition of any acid, it becomes turbid, then the urine contains either albumen or the triple phosphates. Now add, as before, a few drops of nitric acid. If it still continue turbid, it contains albumen. But if the turbidity disappear, and the urine become clear again, then it does not contain albumen, but only the phosphates.

To obviate certain fallacies to which each of these tests is liable, but which it is not necessary to detail here, it is requisite always to perform these *double* experiments, that they may confirm each other.

Bloody Urine

is the same as albuminous urine; except that, in the latter, only the albumen of the blood appears; whereas, in the former both the albumen and the red particles of the blood are present. This fact will readily explain the difference in their sensible qualities, and the similarity in their chemical reactions. Urine then, into which blood has found its way, may be of several different colors. It may be scarcely distinguishable in tint from ordinary urine; or it may be of a bright scarlet red. But the most common color is of a smoky-brown, or porter tint. Sometimes, it is nearly black. This is in consequence of some of the other constituents exerting a chemical action upon it. If the blood be in considerable quantity, there is a floating, streaky subsidence, just enough to make the lower stratum less transparent than the upper. Its chemical reactions with heat and aqua-fortis (nitric acid) are the same as when albumen only is present; except that the floating particles which render it turbid, instead of being of a pure white, have a grey or brownish tinge, imparted to them by the coloring matter of the blood.

But there is one essential distinction. Albuminous urine, under the microscope, reveals nothing to the eye; whereas, when the materials of color are there also, the red particles are readily exposed to view, in the shape of round, smooth, perhaps flat discs, of a yellow appearance, and uniform size, as delineated in the annexed diagram.



It will be as well, before I quit this subject, by way of caution and to prevent unnecessary alarm, to show that the urinary secretion is some-

times red, without any intermixture of blood. Logwood is an astringent frequently used by drug-doctors, to endeavor to prevent or check different kinds of fluxes. This drug imparts a most perfect blood-red tinge to the urine. I remember a case where this remedy was exhibited for the very disease now under discussion. And so great was the similarity in the color of this patient's urine, imparted to it by the drug, and that depending on the presence of blood, that we could only tell which was the cause of the redness by the application of the chemical tests above described, and by a microscopical examination. Other vegetable substances have this property of reddening the urine, as madder, beet-root, and the cactus opuntia, or prickly pear. And there is a substance, called purpurine, which appears in the urine, and adheres to the sides of the chamber utensil in some states of disease. It is of a bright red color, and imparts the same dusky tinge to the contiguous urine which is imparted by blood. This smoky, dusky, or even blackish hue, is also sometimes observable in

Bilious Urine,

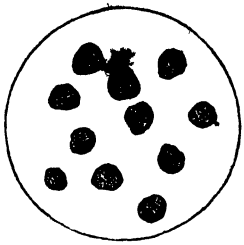
which, however, is easily distinguished by diluting it with water, when a brilliant yellow color is evolved. This proves that the blackish tint was merely owing to a concentration of yellowness. It also stains white paper, or linen, yellow.

There is a very elegant and decisive test for bile in the urine. Pour some of it on the white bottom of a dish or plate. Elevate one side, so that it may slope a little. Now, on the highest point let fall a few drops of nitric acid. As this acid runs down into the bilious urine, its course will be marked by a beautiful display of colors. All the shades of the rainbow will be developed.

Mucous Urine.

It is exceedingly common, and need never excite much fear, to see a very light, semitransparent, and feathery deposite floating about in the lower half of a certain quantity of urine. This is a little of the healthy mucus of the bladder. Sometimes, under a diseased state, however, the urinary bladder secretes an overabundant supply of mucus, which then appears in the chamber-vessel in a much denser, and somewhat murky cloud. Heat and

acid have no very [illegible] effect on this extraneous body. But, if scrutinized by the aid of a microscope of moderate capabilities, there will be seen a number of round globules, opaque and of very irregular surface. Some of them are entire, and some of them broken-up. They are easily distinguished by an experienced eye from everything else, except matter or pus, and are represented in this diagram.



The globules of mucus and pus so much resemble each other, that the most practical microscopists, in some cases, do not pretend to be able to distinguish them. The chemical effect of potash, however, removes all doubt. It dissolves mucus, but converts pus into a tough, tenacious, stringy, and almost flesh-like mass.

Purulent Urine.

The chemical and microscopical characters of this condition of the urine have just been laid before the reader. We have just seen that pus globules, under the microscope, present the same appearance as mucous globules; but that the chemical test of potash reveals the distinction. When any considerable quantity either of pus globules or mucous globules appear in the urine, they both alike indicate inflammation of the mucous membrane of the bladder or urethra.

I have now brought to a close the detail of the abnormal fluids which are occasionally present in the urine. I shall now pass on to a consideration of the solid substances which sometimes intrude there, in the shape of sediments, or deposits.

Brick-dust Sediment in Urine.

This sediment, or deposit, is very common in many diseases. Sometimes, it appears in the urine of persons otherwise quite healthy; and continues for many months, or even years. It is not deposited till the urine is cold; that fluid being passed perfectly transparent. It varies very much in color. Sometimes, it is of a light yellow; sometimes, of a buff or fawn color; sometimes, almost white; but its most general tinge resembles that of brick-dust: hence its designation. It is by no means calculated

to cause alarm. Its chemical characters are [redacted] is re-dissolved in the urine by heat, or by the addition [redacted] potassæ. Inspected through the microscope, it presents the appearance of an amorphous powder.

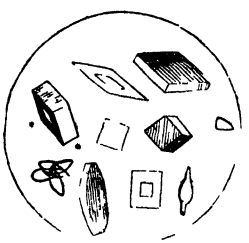
Red Sand in Urine.

Before I describe this solid deposit, I must beg to be allowed to say two words on the extreme importance of this and the *next two* which follow; and on the earnest attention they should receive, on account of their connection with stone in the bladder. I hope I have already said enough to convince my readers that it is well worth their while to study the urine, both in its healthy state and in all its pathological changes. But I wish particularly to impress upon their minds the fact that, by paying due regard to the appearances of the three following depositions, the sufferings, amounting frequently to the sharpest agony, which arises from the presence of stony concretions, may be avoided; and the necessity for a complicated, and most fatal operation, be obviated. They all three are called gravel; that is, they pass from the bladder in the solid form. Herein they differ from the last described sediment, (the brick-dust,) which we saw was not deposited till the urine had cooled. Whenever a case of urinary calculus (stone in the bladder) occurs, it is always, with about one exception in a thousand cases, formed of one of these. Its formation is preceded by one of them; and therefore, if we can control the deposit in the urine, the formation of the stone may be prevented. During the growth of the stone, the deposit still appears; and therefore, if we can get rid of the latter, the *continuous* growing of the stone, at all events, may be stopped. Moreover, by instituting a search into the nature of the deposit, we can—and I have done so many times—ascertain the nature of the stone. In this way, the constitution of the stone being an indication of the constitution of the body, on which its formation and growth depend, we have one method of attacking the disorder clearly shown us.

In addition to all these circumstances, when we consider that a urinary calculus is nothing more than an aggregation of the minute particles of the sandy deposit, and that every individual particle of the sand is nothing less than a perfect calculus or stone in miniature, and that each one in the bladder may become the nucleus or centre of a large stone, it must be allowed, I think, that if stone is an important disease, each urinary sediment is equally so.

Red sand [illegible] uric acid, consists of an infinite number of minute crystals, being at first dispersed throughout the urine, are eventually collected at the bottom of the vessel, in the form of a gritty, red powder. They are always red. Hence, its name, Red sand.

The best chemical test for uric acid is the following: Dissolve a little in nitric acid, and carefully evaporate in a watch glass; you will then have a residue of a fine pink color. Expose this to the vapor arising from a bottle of hartshorn, and the pink is converted into a rich [illegible]. The microscopical characters are delineated in the annexed diagram. The crystals are of various shapes; but it will be seen that they are all modifications of the rhombic prism.



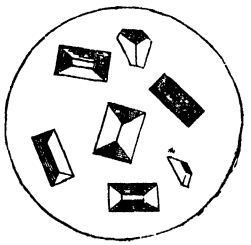
This deposit is most noticed in one particular kind of constitution; and on that account, a person with that constitution is said to be the subject of the uric acid diathesis; that is, a person with such a constitution is more likely to be the subject of uric acid concretion, or red sand, than one of another constitution. Now, what is this diathesis? It is precisely the same as the gouty; so that a man who is liable to gout, is liable to uric acid sediments; and consequently, to uric acid calculus.

In this constitution there is observed a great liability to inflammatory disease, and feverishness of any kind. And when these occur, red sand is frequently found in this urine. An ordinary catarrh, or even a debauch, is sufficient to cause its appearance. This state of urine is most common in adults, after the middle period of life. But, nevertheless, children frequently deposit red sand before they have passed their fifteenth or sixteenth year.

White Sand in Urine

varies very much in its physical appearance. Sometimes, it sinks to the bottom in a dense white cloud; and it is then apt to be confounded with mucus; from this, however, it can, of course, be most readily distinguished by its chemical and microscopical characteristics. Very frequently, if there be present only a small quantity, it remains diffused through the liquid, and invisible for some hours; and then is collected on the surface, as a thin pellicle,

where it continues floating. This stratum [illegible]y look, and, if examined by reflected light, obliquely, [illegible] to present a beautiful iridescent appearance. It is not dissolved by liquor [illegible], or heat, but immediately disappears on the application [illegible] few drops of dilute hydrochloric acid. From this solution it [illegible] again precipitated on the addition of a little ammonia. The microscopic field displays a number of very beautiful, transparent, triangular prisms, with well defined edges and angles. There are also many [illegible]difications of the perfect prism. The [illegible]inations are generally bevelled off. [illegible]metimes they are truncated. These crystals are mixed with a number of amorphous (shapeless) granules, which, to avoid confusion, are not represented in this diagram.

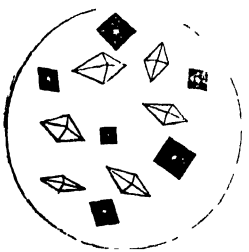


The urine from which this sediment is deposited, is either alkaline, neutral, or very feebly acid. Frequently, it is slightly acid when passed; but, on standing, soon becomes neutral, and then alkaline. The odor, too, is not to be forgotten when once fully known. When it is well pronounced, it is very like that produced by putrefying fish. The smell alone enables us to say that there is the white-sand deposition. This state, we know, depends upon a certain state of the bladder or kidneys, or both. And, again, that condition of the secreting organ, the kidney, or of the urinary reservoir, the bladder, depends upon a certain condition of the general system. So that, by merely smelling a man's urine, and by drawing legitimate inferences from the odor we inhale, we readily arrive at his general state of health. Now, what is this state of constitution? Why, we find it in persons of a weak and debilitated frame, who have been enfeebled by too much labor, either mental or corporeal; and in persons who have received insufficient nourishment. In fact, it is exactly the very opposite to the uric acid, or red sand constitution. Whereas, the vital energy in the latter case is too strong and heightened, that in the former is too weak and depressed.

Mulberry Deposit in Urine.

I have applied the epithet "mulberry" to this sediment, because it is of a coherent aggregation of the crystals of this sediment that

the stone, well known by the name of "mulberry calculus," is constituted. This deposit very rarely subsides to the bottom, so as to become clearly visible to the naked eye. For this reason, it has been thought to be of rare occurrence. But this is a mistake. Indeed, Dr. Bird, who is one of the greatest authorities we have in such cases, affirms that it is far more common than the white sand. The crystals remain diffused through the urine for many days, instead of sinking; because their specific gravity is no higher than that of the fluid in which they float. They are not appreciable to the naked eye, because their refractive power, and that of the surrounding medium, are nearly the same. They may, however, be easily discovered in this way: Place a small quantity, just passed, into a glass tumbler, and let it stand for two or three hours. Then decant the upper three-fourths very carefully. The lower stratum will be more opaque than the upper, from the presence of more crystals, entangled probably in a cloud of mucus or brick-dust deposit. Warm this, till, if any of the latter material be present, it is dissolved. Then place a drop or two on a piece of glass and submit it to the microscope, when octohedral crystals, like those represented in the annexed drawing, will be exposed to view. If any reader should wish to see these crystals, and he be not troubled with their appearance in his urine, all he has to do is to eat some rhubarb in its season, and then treat his urine in the manner described, and he will be sure to see an abundance of them. Rhubarb abounds in raphides, or crystals of oxalate of lime, which is the technical term for what I have called the mulberry deposit. The square dark objects delineated in the diagram generally appear when the water of the urine has evaporated, leaving the crystals dry on the glass.



The kind of constitution most obnoxious to the attacks of this sediment is the desponding, hypochondriacal, irritable, and nervous. Such persons as are the victims of dyspeptic ailments, who suffer much from flatulence, and whose assimilation is badly and imperfectly performed; these are the persons whose urine is most frequently contaminated by the mulberry deposit.

BLOOD DISEASES.

THERE is a very singular class of disorders, technically called exanthemata or exanthems. Their peculiarities are these: they are very nearly restricted to children; they rarely attack the same person more than once during his life; they are epidemic and contagious; they are eruptive diseases, accompanied by fever; they run a definite and determinate course; they have a regular and determinate period of incubation or hatching peculiar to each of them, before the eruption appears. The chief of these blood diseases are small-pox; chicken-pox; scarlet fever; and measles.

There are other diseases, no doubt, which belong properly to the same class, but whose peculiarities are not so well marked; as hooping-cough—in which, as I believe, the animal poison producing the eruption falls on the air passages leading to the lungs; continued fever—in which, as I believe, the eruption falls generally on the brain; and, by some, erysipelas is included in this class. Mumps is another in which the eruption falls on the parotid glands.

As I have observed, they are commonly called exanthems. But they are strictly *blood* diseases; and, as Dr. Watson properly remarks, would be more correctly so called.

No doubt, there are a great multitude of other diseases which have their origin in an unhealthy state of the blood. No doubt there are many diseases which depend upon an eruption falling upon some internal organ, instead of being thrown out upon the skin. I believe hooping cough, asthma, occasionally epilepsy, and many others, to be of this nature. But the term blood diseases is applied, especially and *par excellence*, to the four I have mentioned.

These blood diseases are propagated by contagion; that is, by an animal poison exhaled from the bodies of those suffering under them, and absorbed into the blood of others. These

animal poisons, to quote the words of Dr. Watson, "effect changes in the blood, whereby they are themselves abundantly multiplied or reproduced; and the eruptive disease that ensues, seems to be the mode provided by Nature for the escape or the expulsion of this newly-formed morbid matter from the system. This is the old-fashioned humoral pathology; founded on bold, unproven speculation: and it is most curious to see these very doctrines, which had sunk into universal discredit and contempt, now again assuming their places, as scientific truths, upon the secure basis of organic chemistry. A wonderful specimen this of the sagacity of the older physicians—of the despised wisdom of our forefathers."

Yes—but it is a "wonderful specimen" of something else also. It is a wonderful specimen which proves the shallowness of that vulgar cant which particularly characterizes the present age, and which affects to deride all theories and theorists. Those who turn their backs and will not listen to any theory—much less examine it; those whose intellect can only admit small *particulars*, but are incapable of comprehending great *generals;* these fashionable jargonists forget, or else never knew, that mankind are indebted for almost all their proven Facts, to the thoughtful genius of Theory. Theory is a hunter, who is perpetually prowling about the world of Things in search of facts whereon to support himself; and although he often fails to find those which he wants, he very frequently brings home others which he looked not for. The sensible man of theory is to the mere man of fact what the architect is to the mere builder—the mere layer of bricks, and shaper of timber; and his mind is one of an infinitely higher order. Theory is the Star in the East, which guides wise men to the obscure stable, wherein facts lie cradled.

America *discovered*, is now a fact. But, long before it became a fact, it was only a theory; and out of the theory the fact arose. And the Genoese theorist, Christoval Colon, who conceived it, was scouted and ridiculed by the wise men of fact of no fewer than three governmental bodies. He! he! he! went the little grasshoppers. Ho! ho! ho! cried the big bull-frogs. Alas! how often has the giant Reason been beaten to the ground by no better weapons than he! he! he! and ho! ho! ho! But Queen Isabella, of Spain, in despite of her fact-loving advisers, had sense enough to know the color of truth when she saw it; and not to reject what seemed to her to be sound reasoning, merely because it went by

the name of theory. I know very well there was a flaw in that theory; and that Columbus, or Colon, did not find the particular fact of which he went in search. He discovered America, nevertheless; and brought home a magnificent fact which he "looked not for."

Railroads are now a fact. But they were a theory long before they became a fact. And had not the pigmy minds of the men of fact of that day been too small to contain the grand and stupendous railroad theory of poor Thomas Gray, we should have had our present system of railroads many, many years before we got them. But time succeeded at last in cramming poor Gray's theory down the public throat, and in compelling the public stomach to digest it into a fact.

In like manner, the theories of the older physicians, with respect to these blood diseases, after having "fallen into discredit and contempt" in the estimation of those who thought themselves wondrous wise, are now "assuming their places, as scientific truths, on the secure basis of organic chemistry."

Your men of mere fact are the heaviest of all dead weights upon all beneficial progress. It is to the spirit of commercial enterprize and speculation that England owes her hoards of commercial wealth. And it is to precisely the same spirit of scientific speculation, or *theorizing*, that human knowledge is indebted for her vast accumulation of scientific *facts*.

Circumstantial evidence is but another term for theory, and theory is but another name for circumstantial evidence. When theory goes by the name of circumstantial evidence, our men of fact deem it of sufficient force and moment to hang their fellow men by the neck till they are dead. But when circumstantial evidence takes the name of theory, these same men of fact treat it as mere matter of moonshine, whose feeble light can add nothing to the blazing glories of their own wisdom. Sir Isaac Newton was the greatest theorist who ever lived.

By theory, I do not mean, of course, every cobweb that may happen to be spun from the addled brain of every idle spider who may take it into his head to spin; but theory properly so called.

Theories should not be rashly accepted; but they should be always carefully and attentively *examined;* and *without prejudice.*

"The ancients," says Dr. Watson, "attributed various disorders to a fermentation of the animal fluids. The cause of fever, according to Hippocrates was some morbid matter in the blood. This

matter by a process of concoction, was brought in a certain number of days, into a state in which it was ready for expulsion from the body. It was then thrown off by hæmorrhage, by sweat, by alvine discharges; or deposited upon the surface in the form of abscess, or cutaneous eruption: and these eruptions or evacuations constituted the *crisis* of each fever."

This is exactly the hydropathic doctrine of the crisis.

"The doctrine thus enunciated by the father of physic is very nearly the same," continues Dr. Watson, "with that which Liebig is now teaching in the nineteenth century. This distinguished chemist ascribes the phenomena which succeed the introduction of animal poisons into the blood, to a process exactly resembling fermentation."

The blood diseases I have mentioned are contagious. But it is proper that all persons should be made aware that free ventilation very greatly weakens the force of the contagious miasms; and that weakly persons are much more likely to catch these disorders than the strong and healthy.

The great preventives are good health; free ventilation of the sick apartment; and frequent ablutions on the part of those who are exposed to the infection.

RUBEOLA:

OR, MEASLES.

The period of incubation (or hatching) in measles varies from ten to fifteen days, according to Dr. Bateman. At the expiration of this period, premonitory fever is set up. There are lassitude and shivering, followed by increased heat of skin, quickened pulse, loss of appetite, and thirst. These merely betoken the presence of fever; but when with them are associated the symptoms of a common cold, viz. redness of the eyes, of the nose, of the interior of the mouth, involuntary secretion of tears, stuffing of or defluxion from the nose, sneezing, hoarseness, sore throat, or cough, the advent of the peculiar fever initiative of measles is strongly indicated.

Sometimes vomiting and diarrhœa supervene.

On the fourth day of this fever, the eruption begins to come out. It is a purplish rash, consisting of minute, colored elevations of the

skin; these, as they increase in number, unite into a horseshoe shape, and spangle, at irregular intervals, the whole surface of the body. It is two or three days before it is fully out. It begins on the face, neck, and arms, then advances upon the trunk, and lastly invades the lower extremities. It fades in the same order; standing out at least three days upon the face. Generally within about a week the eruption turns brownish, and paler, and at last disappears entirely. The skin peels off in a fine branny powder; whereas in scarlet fever it peels off in large flakes.

In two remarkable particulars, measles differs from small-pox. The fever attendant upon measles is not diminished upon the outbreak of the rash, nor is the violence of the disease proportionate to the universality of the eruption. In the worst cases of measles, the rash frequently is only partial, and comes out late and irregularly.

The danger of this disease principally arises from inflammation in the chest, which, especially in weakly children, or those of a scrofulous constitution, is exceedingly apt to occur.

TREATMENT.

As soon as the eruption begins to appear upon the surface, the child should be placed in the wet sheet packing for thirty or forty minutes; or until the face becomes flushed. This should be immediately succeeded by the pail douche of one pail. The patient should then be placed comfortably in bed. It will be sufficient to repeat this process once a-day, for three days. After this, the pail douche, without the wet sheet packing, should be used once a-day, for another week. By the end of this time, the patient will, in all ordinary cases, be well.

Whatever treatment be adopted in measles, there is always more or less danger that inflammation of the lungs may happen. There is less danger of this under the water treatment than under any other. Still, even under this treatment, it may occasionally occur. Should difficult breathing, or a wheezing in the chest take place; or should the fever not subside after the eruption has gradually disappeared; should the child's face assume an anxious expression, and the skin still remain hot and dry; medical aid should be sought.

I cannot approve of purging the bowels, in any of these eruptive diseases of children, until the rash has not only come, but

gone, [illegible] nothing is so likely to strike it in and throw it upon some internal vital organ. The great effort on the part of Nature which it requires to throw these eruptions out upon the surface, may be estimated by the violence of the excitement, and the exhaustion which frequently succeeds. To achieve her object, she concentrates all her energies into one focus, the skin. To introduce a purgative into the system, at this time, is to distract her attention; to compel her to withdraw a portion of her energies from the point on which they are concentrated, and to give them a different direction, in order to expel from her citadel a new enemy which her injudicious ally, the doctor, has suffered to find entrance under the false title, and in the false garb of a friend. And thus her force is weakened by dispersion. An injection of warm water may be given, if necessary.

DIET.

If there be any appetite, bread pudding, or rice pudding should be given. If no appetite, then beef tea, mutton broth, gruel, barley water, &c. should be administered. If the fever and excitement run very high, cold water may be abundantly taken. But if the eruption do not come freely out; if there be present symptoms of weakness and oppression; then hot tea, or hot broth, should be given plentifully, especially while the child is lying in the wet sheet packing. Indeed, I recommend hot tea, or hot broth, to be administered always, once or twice, while the child is lying in the sheet. It must be remembered, that the object is to determine toward the surface.

For everything regarding the ventilation of the room, and the necessary precautions against contagion, &c., see treatment of Synochus, or Common Continued Fever.

SCARLATINA:

OR, SCARLET FEVER.

Scarlet fever incubates for four or six days. Then the premonitory fever appears, as manifested by the following symptoms: shivering, lassitude, debility rapidly increasing; and as the disease

advances, headache, occasional delirium, sometimes sickness at stomach, and vomiting. Redness and soreness of the throat, stiffness of the neck, and a peculiar appearance of the tongue, are the marks which, during this period, generally enable us to foresee that the coming eruption will be that of scarlet fever. The tongue is covered with a thick, white creamy coat, through which project the small red, prominent points of the papillæ. The edges of the tongue are likewise red and brilliant. The red points increase; the white coating disappears; and the whole tongue now becomes morbidly red, rough, clean, and raw-looking. This is called the strawberry tongue of scarlet fever.

On the second day of the fever, the eruption appears. It is a rash, differing in color from the rash of measles. Its hue is that of a boiled lobster. The redness begins on the face, neck, and breasts, in a number of minute points; these crowding together cover at last the whole surface.

From these regions, the eruption extends to the extremities. The redness is deeper in the bend of the joints than elsewhere. Sometimes, an infinite number of little bladders rise up through the rash. These afterwards dry up and disappear. The eruption stands out three or four days. It then begins to pale, and is generally quite gone by the seventh day. Then the scarf-skin peels off in large flakes. So much so, that sometimes a more or less perfect glove or slipper is cast off. It reminds us of the exuviation of serpents.

The disease varies greatly in intensity. It may be so trivial as scarcely to inconvenience the patient; or it may be fatal in a few days.

The state of the throat must carefully be watched. In mild cases, it will be observed to be marked by diffused redness of a dark claret color. This state of inflammation, however, is sometimes concealed by the white creamy exudation which covers the mucous membrane. In more severe cases, when this exudation is removed, small ulcers are visible. In the worst cases, the throat becomes foul and sloughy; an acrid discharge issues from the nostrils, which are so swollen that respiration can hardly be performed through them. The glands of the neck swell, causing an impediment to the motions of the neck and to the act of swallowing. By pressing upon the veins which return the blood from the head, they cause an accumulation of blood in the brain, and produce a tendency to lethargic stupor. Purging and diarrhœa

frequently accompany these symptoms. The pulse is frequent and feeble; the tongue dry, brown, tremulous; and the debility excessive. Death occurs about the fifth day.

In what is termed malignant scarlet fever, the eruption, when it appears at all, is livid, partial, and early suppressed. The pulse is feeble; the skin cold; the powers of life seem suddenly annihilated. Dr. Watson relates the following case: "A gentleman called one day at my house, and not finding me there, followed me, between twelve and one o'clock, to the hospital. He wished me to visit his wife, four or five miles out of town, who had been taken ill that morning. He feared that she was about to have scarlet fever; but he was not much alarmed for her safety; for, when he found that I could not be at his house before six, he said that that hour would not suit the general practitioner in attendance upon her; and he begged me to fix some time for seeing her next day. I did so; but the same afternoon rapid sinking came on, and the patient was dead very soon after the hour at which I had first proposed to visit her."

When the rash comes fully out, and is of a bright red hue, the chances in favor of recovery are greater; but sometimes, even in this case, congestion or inflammation of the brain supervenes and destroys the patient. Even when recovery takes place, all its evil does not pass away with the disease. In scrofulous constitutions, particularly, various chronic affections are produced. Thus, boils, ulcers, sores on the scalp, and behind the ears, swollen glands, slow inflammation of the eyes, and chronic skin diseases, are common consequences. Pain and swelling of the larger joints—a complaint simulating rheumatism—dropsy, and general infiltration of the tissues with water (anasarca) also occur.

TREATMENT.

On the second day of the fever, or as soon as the eruption begins to appear upon the skin, the child should be placed in the wet sheet packing, for forty or fifty minutes, or until the face becomes flushed. If the eruption come out languidly, the patient should remain in the sheet for sixty or even eighty minutes. Immediately after the wet sheet packing, the pail douche of one pail should be administered. In ordinary cases, once a-day, for four or five days, will be sufficient; but where the eruption comes out very sluggishly, and is of a dull color, the above treatment may

be used twice a-day; about nine or ten in the morning, and nine or ten at night. From the first appearance of the eruption, a wet cloth, two or three times folded, and covered with a dry one, also two or three times folded, should be constantly worn, night and day, round the throat. It should be fastened over the top of the head, and not at the back of the neck. After the treatment, the little patient should be placed comfortably in bed.

When the eruption has gradually subsided, the wet sheet must be discontinued, and a pail douche every day, without the sheet, be administered about twelve o'clock, or in the evening; or pretty early in the morning; or whenever the skin is hottest and the pulse quickest; and should be continued for a month.

In very severe or malignant cases, advice should be sought.

Under every possible mode of treatment, the subjects of scarlet fever will occasionally die; but certainly much less frequently under the hydropathic treatment than under any other. The convalescence, too, will be much more certain and rapid. Death from scarlet fever, when it happens under judicious treatment, does not arise from any error or impropriety in that treatment; but from some concealed and latent disease of one or more of the vital organs; or from some peculiarly morbid condition of the constitution.

The two great points demanding watchfulness are, the character of the eruption, and the condition of the throat.

DIET.

If there be appetite, farinaceous puddings should be given; if not, beef tea, mutton broth, gruel, barley water, &c. Should the excitement and fever run high, cold water may be taken plentifully. Should the eruption come out languidly, and symptoms of oppression and great debility set in, no cold water should be allowed; but the mutton broth, &c., should be given quite hot; and ten, fifteen, or twenty drops of the aromatic spirit of ammonia, in water, thrice a-day. And hot tea should be administered while lying in the sheet packing.

Lemon juice and water, without sugar, forms an admirable drink, in scarlet fever; and should be given freely.

For everything concerning the ventilation of the room, and the necessary precautions against contagion, see the Treatment of "Common Continued Fever."

Extract from "a Practical Synopsis of Cutaneous Diseases," by Thomas Bateman, M.D., F.L.S. (Fifth Edition; Longman and Co., London, 1819.) *Pages* 81—83, *article "Scarlatina."*

"Many practitioners recommend the use of antimonials, and of saline and camphorated diaphoretics, in order to excite perspiration, during the first days of this fever; and some have advised the exhibition of opium in small doses, to alleviate the great inquietude and wakefulness that accompany it. But a little observation will prove, that such medicines fail altogether to produce either diaphoresis or rest, under the hot and scarlet condition of the skin; and that, on the contrary, they aggravate the heat and dryness of the surface, and increase the thirst, the restlessness, the quickness of pulse, and every other distressing symptom. In truth, the temperature is considerably too high to admit of a diaphoresis; and the only 'safe' or effectual 'method' of producing it (which was a desideratum with Dr. Withering) consists in reducing the heat, by the application of external cold, upon the principles established by Dr. Currie.

"We are possessed of no physical agent, as far as my experience has taught me, (not excepting even the use of blood-letting in acute inflammation,) by which the functions of the animal economy are controlled with so much certainty, safety, and promptitude, as by the application of cold water to the skin, under the augmented heat of scarlatina and of some other fevers. This expedient combines in itself all the medicinal properties which are indicated in this state of disease, and which we should scarcely, *à priori*, expect it to possess: for it is not only the most effectual febrifuge, ('the febrifugum magnum,' as a reverend author long ago called it,*) but it is, in fact, the only sudorific and anodyne, which will not disappoint the expectation of the practitioner under these circumstances. I have had the satisfaction, in numerous instances, of witnessing the immediate improvement of the symptoms, and the rapid change in the countenance of the patient, produced by washing the skin. Invariably, in the course of a few minutes, the pulse has been diminished in frequency, the thirst has abated, the

* Dr. Hancock, rector of St. Margaret's Lothbury, published a pamphlet, in 1722, entitled, "Febrifugum Magnum, or common water the best cure for all fevers, &c.," which contains many sound observations and valuable facts, detailed in the quaint language of the time.

tongue has become moist, a general free perspiration has broken forth, the skin has become soft and cool, and the eyes have brightened; and these indications of relief have been speedily followed by a calm and refreshing sleep. In all these respects, the condition of the patient presented a complete contrast to that which preceded the cold washing, and his languor was exchanged for a considerable share of vigor. The morbid heat, it is true, when thus removed, is liable to return, and with it the distressing symptoms; but a repetition of the remedy is followed by the same beneficial effects as at first.

"Partly from the difficulty of managing the cold affusion, and partly from its formidable character in the estimation of mothers and nurses, imbued with the old prejudices; I have generally contented myself with recommending the washing of the skin with cold water, or water and vinegar, more or less frequently and extensively, according to the urgency of the heat. In the beginning of the disease, the affusion of a vessel of cold water over the naked body is, doubtless, the most efficacious: but by a little management, all the benefits of a reduction of the morbid temperature that can be expected at a subsequent period, may be obtained by the simple washing. In less violent cases, washing the hands and arms, or the face and neck, is of material advantage.

"After the extensive evidence, which a period of more than twenty years has furnished, in proof of the uniform efficacy and security of the external use of cold water, in scarlatina, and in other febrile diseases, connected with high morbid heat of the skin, it is to be lamented that some practitioners still look upon the practice as an experiment; and repeat the remnants of exploded hypotheses, about repelling morbid matter, stopping pores, &c., as reasons for resisting the testimony of some of the greatest ornaments of the medical profession. For my own part, I have been in the constant habit of resorting to the practice, at every opportunity, in scarlatina, (and also in typhoid fevers, during my superintendence of the fever institution for the last ten years); attending to the simple rules laid down by Dr. Currie; and I have never witnessed any inconvenience, much less any injury, from it; but an uniformity in its beneficial operation, of which no other physical expedient, with which I am acquainted, affords an example.

"For the direction of those who may not be acquainted with the principles of this practice, if any such remain in the profes-

tion, it may be stated, in the words of Dr. Currie, that the cold washing is invariably safe and beneficial, 'when the heat of the body is steadily above the natural temperature—when there is no sense of chilliness present—and no general or profuse perspiration.' But I have found the following direction to the nurses amply sufficient, viz., to apply it, whenever the skin is hot and dry.

"Dr. Stranger, in treating scarlatina, among the children of the foundling hospital, found no other precaution necessary. 'Its effects in cooling the skin, diminishing the frequency of the pulse, abating thirst, and disposing to sleep, were very remarkable. Finding this application so highly beneficial,' he adds, 'I employed it at every period of the fever, provided the skin were hot and dry.' See a note in Dr. Willan's Treatise, p. 360."

VARIOLA:

OR, SMALL-POX.

Small-pox incubates (hatches) twelve days. Then come two days of premonitory fever; but on the third day commences, and on the fifth day terminates, an eruption of inflammatory pimples, which on the eleventh day are in full suppuration. Scabs are afterwards formed, which, when they fall off, leave behind certain small depressions, called pock-marks. Such is Cullen's accurate analysis of the phenomena of small-pox. The symptoms of the premonitory fever run as follows; shivering, followed by heat and dryness of skin; hard, quick, bounding pulse; pain at the pit of the stomach, with pain in the back; sickness, and vomiting; severe headache.

Delirium and convulsions mark the commencement of very violent forms of the disease.

The small-pox patient emits a peculiar odor, which is sometimes sufficient to identify the disease.

This fever, having endured two days, subsides in violence, and the peculiar eruption, begins to appear. Red spots appear first on the face, then on the neck and wrists, and trunk of the body; and, lastly, upon the lower extremities.

Very shortly after the first appearance of these red spots, if the finger be passed over them, an irregularity of surface, somewhat

resembling that which would be produced by a layer of small shot, will be perceived. This irregularity is due to the presence of numerous minute bladders, containing water: but, as the bladders increase in size, they cease to contain water. They now—that is, eight days after first appearance, contain pus or matter, and are called pustules. Each small-pox pustule, when fully formed and ripe, consists of a little independent abscess, set and fixed in the centre of the matter of a larger one, viz. of the pustule—a little bladderful of matter fixed within, and surrounded by the matter of that larger abscess, called a pustule. This little *contained* abscess, or independent bladderful of matter, may be dissected out of the pustule *entire*.

On the eighth day of the eruption, the pustules begin to burst, and to scab over. When this scab falls off, it leaves behind it either a purplish stain, or a small depression or pit, called a pock mark.

Such is a brief sketch of the ordinary course, and of the general features of a case of small-pox. But there are some collateral and exceptional circumstances which it is necessary to mention.

Sometimes, every pustule is *distinct and separate* from its neighbor—a most important circumstance. Such cases are called *discrete* small-pox, and generally do well under judicious treatment. But often, the pustules are so numerous, that there is not room for them on the surface, and they *coalesce*. These are called cases of *confluent* small-pox, and are dangerous in the highest degree.

It is always important to *recognize* small-pox at the earliest possible moment. Those symptoms which, previously to the appearance of the eruption, chiefly distinguish it from the commencement of other fevers are, vomiting, headache, pain in the loins, delirium, stupor, or convulsions. And in proportion as these symptoms are severe and protracted, so may the coming disease be expected to be virulent.

The eruption almost always appears on the third day, and settles the question of identity. The danger will always be in proportion to the *quantity* of eruption. In mild cases the fever, and all the other premonitory symptoms, subside on the appearance of the eruption. But when the disease is destined to be severe, the fever and other symptoms do *not* subside when the eruption comes out.

About the eighth day of the eruption, even in mild cases, and when the fever has subsided on the appearance of the eruption,

there is generally a *recurrence* of fever for a day or two—called the fever of *maturation*; because, at this time the pustules have arrived at *maturity*. In the distinct or discrete small-pox, this fever of maturation is slight; but in the more severe or confluent form, it is exceedingly intense. *This is the period of danger*—viz., about the eighth day of the eruption, and the eleventh of the disease.

In small-pox there is always sore throat, and generally more or less of salivation; and the face swells so much as to close the eyes, and altogether obscure the features. The skin of the face, between the pustules, assumes a dark red color.

PROGNOSTICS.

When the premonitory symptoms have been severe and protracted; when the pain in the back has been very considerable, and the vomiting and fever have not subsided on the appearance of the eruption; when delirium, stupor, or convulsions, has been among the early symptoms; when the eruption has made its appearance earlier than the third day of the fever; when the pustules are very numerous, and run one into another, on the face; when they do not proceed regularly and kindly towards maturation; when they are pale and flattened; or purple, red, or blue; when the salivation and swelling of the face subside *suddenly;* when the eruption has come out, not uniformly, but in patches, accompanied by an efflorescence or rash, like that of scarlet fever; and when the fever of maturation is severe: in these cases the danger is very urgent. But when the premonitory fever is not particularly tumultuous; when there is little or no pain in the loins, and the vomiting soon ceases; when there is no delirium, stupor, or convulsions; when the fever subsides on the appearance of the eruption; when the pustules are not particularly numerous on the face, and are quite distinct from each other; when they are fully formed, plump, and yellowish; when the salivation and swelling of the face subside gradually; and when the fever of maturation is mild: in such cases recovery, under judicious treatment, may be pretty confidently prognosticated.

TREATMENT.

I have had some experience in the treatment of small-pox by the hydropathic method; and that experience has convinced me

that small-pox may, when taken in time (upon which everything depends) be very greatly modified, and each case rendered much milder, by the judicious use of that treatment.

If a patient be struck with a pretty sharp attack of fever, when it is known that small-pox is prevailing as an epidemic, he should not wait for the appearance of the eruption; but should take the wet sheet packing for thirty, or forty, or fifty minutes at once, immediately succeeded by the pail douche of two pails. Of whatever nature the fever may ultimately turn out to be, this treatment can do nothing but good; and it is for this reason that it should never be neglected.

But even if the eruption have already made its appearance before the treatment is adopted, it will not be too late. But, in all cases, the sooner it is administered the better; and for this very manifest reason—viz. that whatever treatment be adopted in small-pox, the prime object, which the medical man has in view, always is to *diminish the quantity* of eruptionn—seeing that the amount of danger entirely depends upon, and is always proportionate to, the amount, in quantity, of eruption. And this is especially the object of the *hydropathic* treatment—viz. to diminish the quantity of the coming eruption. It is obvious that no diminution can be effected *after* it has all come fully out.

In fact, the application of cold water to the skin checks the fermentation in the blood, and thus diminishes the quantity of matter (which is the result of that fermentation) to be thrown out upon the surface of the skin. Just as, if a barrel of fermenting beer be placed in cold water; or if cold water be thrown frequently over it; the fermentation will be checked; and the yeast, which is the result of that fermentation, will be diminished in quantity. It is now pretty generally admitted, by the best systematic writers, that small-pox is a disease of fermentation in the blood. This was the doctrine of the ancients; and is now that of Liebig and others.

The packing should be used whenever the skin is hottest and dryest, and the pulse quickest. It should be administered once or twice a-day, according to the severity of the symptoms; and, if these still run high, the body should be sponged two or three times a-day with water at 70°.

When the eruption has come fully out—that is, by the end of the fifth day from the commencement of fever; or of the third, from the first appearance of the eruption—if the fever subside, the

treatment must be discontinued. If the pustules be distinct, and not particularly numerous, all danger is now over; and there needs no more than to keep the patient cool, the apartment well ventilated, and to nourish him with ordinary sick-rooms slops; as broth, gruel, barley water, sago, tapioca, &c. For the sake of comfort, the face may be frequently sponged with warm milk and water, or milk only. Some use equal parts of olive oil and lime water; and some use Goulard water. These will cool the surface, and help to soften the skin when the pustules break, and scab over. They will also greatly relieve the distressing itching which sometimes occurs during desquamation, or scabbing. The throat, too, may be frequently gargled with lemonade without sugar.

If there be reason to believe that the bowels are loaded, an injection of warm water may be used.

But if the pustules on the face be numerous and coalescing; if the fever do not subside on the appearance of the eruption; if there be still a hot, dry, parched skin, quick pulse, and other signs of considerable febrile excitement—then the treatment must be continued.

If, about the eighth or ninth day, the patient become restless, sleepless, and affected with tremors, then fifteen grains of Dover's powder should be given at bed-time, (if the patient be an adult) in a little broth or weak tea. If the patient be a child, then the dose of the powder must of course be reduced to suit the child's age; and on this subject a medical man should be consulted. But the dose should always be a full one: small, insufficient doses will do more harm than good.

If symptoms of great weakness and depression come on; and the pustules become flattened, and pale, and not well filled and plumped out with matter; then plenty of strong broths should be given, and a few grains of the carbonate of ammonia, now called sesquicarbonate, dissolved in a little water, three times a-day. An adult may take seven or eight grains.

During the secondary fever, or fever of maturation, it will be sufficient to sponge the body frequently with water at 80°.

The itching, during the scabbing process, is sometimes almost intolerable; and it is often, on that account alone, necessary to give Dover's powder two or three times a-day, in doses proportioned to the age of the patient. Sponging the body all over very frequently with hot water and yellow soap, until it is covered with soap lather, and then sponging this off again with a sponge out of which the

loose water has been squeezed, will very often allay the irritation when nothing else will.

At any time, during the entire progress of the disorder, whenever the skin becomes hot, harsh, painful, or irritable, it may be sponged with advantage, with water at 75° or 80°.

For everything concerning the ventilation of the room, the bed clothing, necessary precautions against contagion, &c., see Treatment of Synochus, or Common Continued Fever.

DIET.

During the first stage of fever and high excitement, cold water may be drunk in copious draughts. When the throat has become sore, and salivation has arisen, it should be acidulated with lemon juice. For the rest, the ordinary sick-room slops must be given: when the appetite begins to return, farinaceous puddings.

VARICELLA:

OR, CHICKEN-POX.

A child, without having previously suffered from fever, (and it is well to remark this emphatically, because it is an important distinctive mark,) is attacked by a peculiar eruption, which appears first on the breast, neck, and shoulders. The scalp is generally affected, but the eruption spares the face much more generally than small-pox. The eruption consists in a crop of little bladders, filled with a limpid fluid, and encircled by a rosy halo. These bladders appear one after the other for two or three days, and while new ones form, the old ones shrink and wither. The bladders that are left after the second or third day contain an opaquish fluid. They exactly resemble small pearls. When irritated by rubbing against the dress, or by scratching, the bladders become inflamed; are converted into cells full of matter; and ultimately dry up, leaving behind a gummy scab. When the scab falls off, a shallow scab or pock-mark remains. The health of the child suffers in no respect; his sole annoyance is produced by the general itchiness of the surface.

Chicken-pox occurs only once to the same person. It is propa-

gated by contagion, but cannot be communicated by inoculation. It is a distinct disease, and not merely modified small-pox, as was once supposed.

TREATMENT.

True chicken-pox requires no treatment of any kind. Very frequently, however, modified small-pox is mistaken for it.

DRUG DISEASES.

ALKALIES:

POTASH; SODA; AMMONIA; MAGNESIA; ALKALINE SCURVY.

"By continued use," says Dr. Pereira, "the alkalies give rise to increased activity of the different secreting organs, and of the absorbing vessels and glands; effects which are analogous to those caused by mercury. After some time, the digestive function becomes disordered, the appetite fails, the blood becomes thinner and darker colored, and loses its power of spontaneous coagulation when drawn from the body; the whole system, and more particularly the digestive organs, become enfeebled; and a state precisely similar to that of scurvy is brought on. It is said, if the alkalies be temporarily suspended, the blood speedily reacquires its coagulability, but loses it again when we resume their employment. These phenomena deserve especial notice, as being precisely analogous to those of scurvy; a disease which has been usually supposed to be brought on by the constant use of salt, and salted provisions, and to be prevented or cured by vegetable acids (especially the citric). It appears, therefore, in the highest degree probable, that scurvy, and the effects caused by the long-continued employment of the alkalies, are analogous conditions of the system." "Wibmer," says Dr. Pereira, "found that three grains of the sesquicarbonate of ammonia increased the frequency of the pulse from 68 to 72 beats per minute, and produced throbbing headache. In other experiments, in which he took from six to twelve grains (in some, repeating the dose at short intervals), the effects were usually, but not constantly, increased frequency of pulse, with disorder of brain, manifested by pain, heaviness, throbbing, &c. In one instance, he says, disposition to cough, and increased secretion of bronchial mucus (phlegm) were

remarkable." Huxham, in his "Essay on Fevers," has given a curious case of poisoning by this drug. "I had lately under my care," says he, "a gentleman of fortune and family, who so habituated himself to the use of vast quantities of the volatile salts, that at length he could eat them in a very astonishing manner, as other people eat sugar and caraway seeds. The consequence was, that he brought on a hectic fever; vast hæmorrhages (bleeding) from the intestines, nose, and gums; every one of his teeth dropped out; and he could eat nothing solid; he wasted vastly in his flesh, and his muscles became as soft and flabby as those of a new-born infant; and he broke out, all over his body, in pustules. His urine was always excessively high-colored, turbid, and very fœtid. He was at last persuaded to leave off this pernicious custom; but he had so effectually ruined his constitution, that, though he rubbed on in a miserable manner for several months, he then died of marasmus (emaciation). And I am persuaded he would have died much sooner, had he not constantly drank very freely of the most fine and generous wines; and daily used large quantities of asses' milk, and anti-scorbutic juices, acidulated with juice of lemon." The gastric juices, it is well known, are naturally of an acid quality; but the alkalies, freely taken, neutralize and destroy this acidity. It is manifest, however, that to destroy the acidity of the gastric juices, is to destroy, in great part at least, their digestive powers. When an unnatural acid, lactic or acetic, is formed in the stomach, as sometimes happens in cases of dyspepsia, immediate relief is often obtained by swallowing some alkaline preparation; but alkalies are very frequently exhibited in cases where no unnatural acid is generated by the stomach; they are sometimes given just before, or soon after a meal; and in such instances, it is clear that they must do great harm, by neutralizing the acidity of the gastric juices, and disqualifying them from the due performance of their digestive actions. In such instances, the food passes through the alimentary canal undigested; the system is despoiled of its proper nutriment: and the patient, of necessity, loses flesh. If the injudicious employment of the drug be persisted in, effects more or less remotely similar to those above described, as alkaline scurvy, ensue.

Magnesia, collected as Stone in the Bowels.

In addition to the general consequences above referred to, however, magnesia, from its solid form, produces sometimes very dis-

tressing local complaints. "A lady," says Dr. Periera, "took every night, during two years and a half, from one to two teaspoonfuls of Henry's calcined magnesia (in all between nine and ten lbs. troy weight), for a nephritic (kidney) attack, accompanied by the passage of gravel. Subsequently she became sensible of a tenderness in the left side, just above the groins, connected with a deep-seated tumor, obscurely to be felt on pressure; and subject to attacks of constipation, with painful spasmodic action of the bowels; tenesmus, and a highly irritable state of stomach. During one of these attacks, she evacuated two pints of "sand;" and, on another occasion, voided soft light brown lumps, which were found to consist entirely of carbonate of magnesia concreted by the mucus of the bowels, in the proportion of 40 per cent. In another case, a mass of a similar description, weighing from four to six lbs., was found embedded in the head of the colon (large intestine), six months after the patient had ceased to employ any magnesia."

FEBRIS ARSENICALIS:

FEVER FROM ARSENIC.

"I have seen," says Dr. Pereira, "very minute doses of arsenic given to patients affected with lepra (leprosy), and continued for many days, without being able to detect the least indication of its action on the system, except the amelioration of the disease. When the dose was slightly increased, the appetite, in some cases, appeared to be increased; but the effect was neither universal nor continued. Very shortly after, a sensation of heat in the throat, œsophagus (gullet), and stomach came on, occasionally with nausea, but seldom with vomiting; in a few cases, with gastrodynia (pain in the stomach); a febrile condition of the body was set up: there were dryness of the skin; increased secretion of urine; relaxed bowels, sometimes with griping; the patients usually complained of great languor, inaptitude for employment, and want of sleep; and sometimes these symptoms were accompanied with, or followed by, redness of the eyes, and certain swellings, especially of the face."

Dr. Fowler gives the following summary of the effects of the

arsenical solution, in more than 320 cases:—In about one-third, no operation: "somewhat more than one-third were attended with nausea; and nearly one-third with an open body; and about one-third with griping. Vomiting, purging, swellings, and anorexia (loss of appetite), were but rare in comparison with the preceding effects; and their less frequent occurrence was generally found in the order in which they are here enumerated, swellings and anorexia being the seldomest. About one-fifth of the cases attended with nausea, and one-quarter of those attended with an open body, were unconnected with any other effects." These effects were noticed by Dr. Fowler during a series of experiments upon the virtue of arsenic in curing ague.

Hahnemann, the homœopath, thus describes the effects of small doses of arsenic, long continued, upon the human frame. It produces, he says, "a gradual sinking of the powers of life, without any violent symptom; a nameless feeling of illness; failure of the strength; an aversion to food and drink; and all the other enjoyments of life." "On some occasions," says Dr. Pereira, "the first symptoms which I have observed of its poisonous operation have been thirst; redness of the conjunctiva (exterior of the eye) and eyelids; followed by a cutaneous eruption. At other times, irritation of the stomach is the leading symptom. In some cases, ptyalism (salivation) is brought on." Marcus noticed this effect; as also Dr. Ferriar. Mr. Furley has published five illustrative cases of it. Trousseau and Pidoux also mention this symptom, as produced by the long-continued use of feeble doses of arsenic. Another instance of this effect has been published by Mr. Jones. This effect acquired some importance in the celebrated Bristol case of poisoning. The following is an abstract of the symptoms produced by the long-continued employment of small doses of arsenious acid, but which are more or less modified in different cases:—Disorder of the digestive functions, characterized by flatulence, sensation of warmth, or actual pain, in the stomach and bowels; loss of appetite; thirst, nausea, and vomiting; purging, or at least a relaxed condition of the bowels, and griping; furred tongue, with dryness and tightness of the mouth and throat, or with salivation; quick, small, and sometimes irregular pulse; oppressed respiration, with a dry cough. The body wastes; the stomach being frequently so irritable that no food can be retained in it. Headache, giddiness, and want of sleep are frequently observed. The limbs become painful, feeble, trembling, subject to convulsions; occasionally be-

numbed, and ultimately paralyzed. The cutaneous system is in some cases affected; an eruption makes its appearance; and now and then the hair and nails fall off. Swelling of the feet, and of the face, are not unfrequently observed, and under these symptoms the patient gradually sinks; in some cases retaining his consciousness to the last, but at other times delirium or stupor supervening.

Febris arsenicalis is occasionally mistaken by the medical practitioner for English cholera, or infantile remittent, otherwise called gastric fever—a mistake sometimes attended with consequences equally fatal to the patient, and the reputation of the physician. The following case occurred recently in London. A woman brought her infant to a medical man, a Mr. W———, and requested his advice. The infant was suffering from diarrhœa, pain and tenderness of the belly, occasional sickness, and loss of appetite. From a plump, hearty child, it had wasted to a shadow, without any assignable cause. At no period had its malady exhibited those violent symptoms which characterize the sudden supervention of fever, or of inflammation. It seemed to pine away, the victim of a slow, indefinite, inexplicable emaciation. Together with these symptoms, some of the signs of an ordinary cold were present. The child's eyes were red and watery—there was irritation of the nose. The mouth was constantly dry, and the tongue white. These phenomena, which agree so closely with the accounts I have just quoted of the manner in which arsenical poisoning is manifested, should have filled the practitioner with suspicion. He should have enquired whether the infant grew worse shortly after eating or drinking, and if the answer were in the affirmative, he should have demanded to inspect the article or articles which appeared to act injuriously, in order to submit them to chemical analysis. He should have endeavored to ascertain whether the parents, the nurse, or any one in attendance upon the child, might be supposed to desire its death. The matters vomited, he should also have investigated chemically. But, unfortunately, no suspicion crossed the mind of the medical man; the disease was carelessly set down as gastric fever, complicated with a common cold, and the ordinary routine of practice was pursued. It is almost needless to add, that the infant, instead of receiving benefit, grew worse and worse, and at last died. The neighbors, more alive to the circumstances of the case than the practitioner, demanded a coroner's inquest. It was obtained; the body was exhumed, and the stomach chemically

examined. It was thus discovered that the child had been poisoned by minute doses of arsenic, frequently given. The culprit was the child's [redacted] mother.

ARSENICAL CEPHALITIS:

ARSENICAL INFLAMMATION OF THE HEAD AND FACE.

Orfila, the celebrated French medical jurist, quotes the following case from Desgranges. The account is thus translated by Dr. Pereira. "A chamber-maid rubbed her head with an arsenical ointment to destroy vermin. Though the skin was perfectly sound, the head began to swell in six or seven days after; the ears became twice their natural size, and covered with scabs; as were also several parts of the head; the glands of the jaw and face enlarged; the face was tumefied and almost erysipelatous. Her pulse was hard, tense, and febrile; the tongue parched; and the skin dry. To these were added, excruciating pain, and a sensation of great heat. Giddiness, fainting, burning sensation at the pit of the stomach, occasional vomiting, heat in micturition, constipation, trembling of the limbs, and delirium were also present. In a day or two after, the body, and especially the hands and feet, were covered with a considerable eruption of small pimples with white heads. She finally recovered; but during her convalescence the hair fell off."

IODISM.

Iodine, given as a medicine, occasionally sets up a peculiar irritation in the system, which is usually designated by the term iodism. "In irritable subjects," says Dr. Pereira, "and those disposed to dyspepsia, it occasions nausea, sickness, heat of stomach, and loss of appetite; especially after its use has been continued some days; the bowels are oftentimes slightly relaxed, or at least they are not usually constipated. More than one-third of the patients treated by Lugol experienced a purgative effect; and when the dejections were numerous, colics were pretty frequent." It

seems sometimes, by a secondary action, to affect the menstrual secretion. Dr. Manson states that, in one patient to whom he exhibited the drug, it produced so much sickness and disorder of stomach, that the menstrual flux ceased entirely. Salivation is by no means an uncommon symptom. A patient taking iodine is often obliged to discontinue its use, on account of the soreness of mouth and increased flow of saliva which it occasions. Wasting away of the breasts, in females, is sometimes observed. "In Hufeland's Journal," says Dr. Pereira, "three cases are reported, one of which may be here mentioned. A healthy girl, twenty years of age, took the tincture of iodine during a period of six months, for a bronchocele (Derbyshire neck), of which she became cured; but the breasts were observed to diminish in size; and notwithstanding she ceased to take the remedy, the wasting continued; so that, at the end of two years, not a vestige of the mammæ remained. Sometimes, the breasts waste, though the bronchocele (to cure which the drug is exhibited) is undiminished. Reichnau relates the case of a female, aged twenty-six, whose breasts began to sink after she had employed iodine for four months; and within four weeks they almost wholly disappeared; yet her gôitre (bronchocele) remained unaffected."

Sometimes, the skin is affected in a singular manner. Dr. C. Vogel speaks of a lady, twenty-eight years of age, who, having used for some time the tincture of iodine, became suddenly brown. After some days, the skin had the appearance of being smoked. The brain and spinal marrow, sometimes, partake in the disturbance thus set up. Lugol asserts that the employment of iodine baths often produces headache, giddiness, drowsiness, intoxication, or stupor. Dr. Manson has remarked similar effects; and, in one case, convulsions were present. Dr. Coindet enumerates the following symptoms as those which characterize iodism: Violent vomiting and purging, with fever; intense thirst; palpitation of the heart; rapid and marked emaciation; cramps; small quick pulse; occasional dry cough; death.

Iodide of potassium, or, as it is sometimes called, hydriodate of potash, is a compound of iodine and the metallic base of potash. It is frequently employed as a medicinal agent. When pushed too far, its effects upon the animal economy bear considerable resemblance to those produced by iodine. It causes an increased flow of urine, and sometimes relaxation of the bowels; irritation of the throat; wasting of the breasts; headache; watchfulness; giddi-

ness; confusion of ideas; mucous defluction from the nose. Dr. Pereira has frequently remarked, that the pocket-handkerchiefs, used by patients who are taking this salt, acquire a distinct odor of iodine.

LEAD:

LEAD PALSY; PAINTER'S COLIC.

Persons who in any way receive lead into their systems—as painters in oil, those who drink rain water which has passed through leaden pipes, workmen in white-lead manufactories, patients who continue the medicinal use of lead, (a drug in common use among medical men) for an improper length of time, and others—are subject to a form of disease, called lead-poisoning.

The following case, related by Dr. Addison of Guy's hospital to his clinical class, shows that lead is sometimes taken into the economy, and produces its characteristic effects, which are recognized and well treated by the physician, although it may be very difficult to discover in what manner the poison was introduced. A publican entered the hospital, and a careful perusal of his malady convinced Dr. Addison that he had been poisoned by lead. He then cross-examined his patient, in order to make out by what channel the metal had been conveyed into the system; but he totally failed to detect any plausible medium. The publican would not confess that he had had to do with lead in any shape whatever; and, relying on this statement, some students who saw the case, impugned the correctness of the physician's diagnosis. They denied that the disease in question was produced by lead. However, after some time, the following fact came out accidentally. The publican had for some time been in the habit, every morning, of drawing off from his tap and drinking the beer that had remained all night in the leaden pipes. During the night, the beer became somewhat acid, and thus dissolved and took up a small portion of the leaden reservoirs in which it was contained.

The disease manifests itself in two shapes; one of which is termed lead palsy; and the other, painter's colic. They occur separately or conjointly. The disorder usually commences by embarrassing the organs of digestion. The appetite of the patient

fails; his bowels become constipated; his tongue white; he is perhaps subject to flatulence; and experiences frequent irregular pains in the belly. Presently, his complexion assumes a pallid, dingy, or sallow cast; and he begins to lose flesh. He becomes nervous and irritable. His strength gradually diminishes. His heart is excited, and his pulse quick and hard. He sleeps less than before, and awakes from his slumber heavy and unrefreshed. Together with these symptoms, the characteristic mark of the disease is always present. The margin of the gums, where they unite with the teeth, is distinctly colored blue. This blue line is the shibboleth of the complaint. In every doubtful case, when present, it decides its identity. If the patient continue to imbibe lead, all his symptoms increase in severity—the genuine lead colic is produced. The patient experiences most excruciating pain in the bowels—pain of a twisting, griping character, and generally more or less relieved by steady pressure. The walls of the abdomen are drawn in, sinking more especially about the navel; and the abdominal muscles are contracted into hard lumps or knots. The belly is hard and tense to the touch; and sometimes, though this is not the rule, but the exception, extremely tender. Audible flatulence is often a concomitant of the disorder. Vomiting sometimes occurs during the attack; and cramp of the lower limbs is not infrequent. After a certain time the paroxysm subsides, but the bowels remain obstinately costive. By and by, however, the fit returns, and with it tormenting pain. This lead colic, when skilfully treated, is generally manageable; but otherwise, it may result in death. Lead palsy is generally preceded by some disturbance of the digestive system, of the same kind as that which precedes colic. After a time, as the disease proceeds, the affection of the muscular system becomes striking. The hands drop. The patient loses all power over his wrists, and is, therefore, unable to bend back his hands. As he stands before the physician, he reminds him of the attitude of a dog taught to beg. The animal stands upon his hinder extremities, with extended fore legs and dropping paws. At an after period, the ankles are sometimes affected in a manner similar to the wrists; and the patient cannot bend his foot upwards. If this state of things persist, the muscles gradually waste; and this effect is strikingly evident in the muscles composing the ball of the thumb. These, which in a state of health are full and prominent, become remarkably flat and shrivelled. If the disease continue to advance, the muscles generally diminish in

bulk; and the patient becomes a miserable cripple. His health is destroyed; organic disease of some vital organ is established; he sinks gradually and dies.

Francis C[illegible], a native of Poictou, where this disease prevailed extensively in the year 1617, thus describes its victims. "We see them," says he, "pale, squalid, emaciated, walking through the streets like ghosts, or statues artificially set in motion; with incurved hands, which drop by their own weight, and can only be raised artificially to the mouth and other parts above; and with feet arranged, not by their own muscles, but by the muscles of the legs, into a gait which would be ridiculous, were it not pitiable; and with tinkling and strident voices." Sometimes, the head is more or less affected. There may be headache, giddiness, confusion of thought, and other indications of cerebral disorder. In advanced stages, the intellect is sometimes impaired. The patient sets about his business in a hesitating, half-stupid manner; his judgment is weakened; and he becomes oblivious, both of things and persons. I have seen one case, in which the principal brunt of the disease (lead poison) in the first formed attack, fell upon the brain. The patient had no colic, and no palsy. He lay in his bed, in a ward in Guy's hospital, in a state of prolonged lethargy. The blue line in the gums was unmistakeably present. In another case, which I saw treated, at Guy's hospital, by Dr. Addison—a case, the principal features in which were an obscure pain in the belly, weakness in the wrist, with the blue line on the gums—the patient died; and her liver was chemically examined by Mr. Alfred Taylor; who declared that he found satisfactory evidence of the presence of lead.

MERCURY:

GENERAL REMARKS ON THE EFFECTS OF MERCURY.

In explaining the effects produced by the administration of mercury, the following facts are of importance. Zeller, Buchner, Schubarth, Colson, and Dieterich have detected mercury in the blood. It is, however, so intimately combined with this fluid, that the ordinary methods of analysis fail to manifest its presence. It is necessary to burn and reduce the blood to an ash before apply-

ing the tests appropriate to the detection of the metal. According to Dr. Christison, mercury has been found in the perspiration, the saliva, the secretions from the lining membrane of the bowels, and the fluid of ulcers. Harrold and Rigby make mention of a peculiar blackening of the skin which occurred in individuals who, having undergone a course of sulphur, subsequently took mercury. This color was due, no doubt, to the formation of a mercurial sulphur compound, the black sulphuret of mercury. And this fact alone is sufficient to prove that mercury is carried by the blood to every nook and corner of the economy. "Mercury," says Dr. Pereira, "has been found in the reguline (metallic) state in the organic solids, viz., in the bones, brain, synovial capsules (cavities of the joints) the pleura (cavity of the chest), the humors of the eye, the cellular tissue, the lungs, &c." Dr. Mead, in his "Monita Medica," relates a case in which a quantity of fluid mercury was found in the perinœum (parts between the thighs). It is remarkable that the metal, when deposited in the tissues, is always found in the state of quicksilver, and not as calomel, corrosive sublimate, &c., in which condition it was taken into the system.

MERCURIAL FEVERS.

I. Febris Erethica vel Salivosa (Dieterich).

That high and active fever, which is apt to attack a patient a few days after injudicious dosing with mercury, has received from Dieterich, who has given an excellent account of the affection, the names placed at the head of this description—names which, in English, would sound thus: Inflammatory or salivary fever. The symptoms exhibited are those of smart fever, conjoined with a peculiar affection of the mouth. As the fever which ushers in scarlet fever is characterized by the sore throat, which attends it; as the fever which ushers in measles is characterized by the signs of a common cold in the head; as the fever which ushers in small-pox is characterized by vomiting and intense pain in the back; so mercurial salivary fever is characterized by that peculiar condition of the mouth which precedes salivation.

When we are called to examine a patient, finding that the symptoms of fever are present, viz. quick pulse; hot, dry skin; head-

ache; thirst; loss of appetite, nausea, perhaps constipation; lassitude or muscular debility; oppression of the brain, as shown by certain habit[illegible] of thought and expression; restlessness, and inability to sleep. finding, I say, these common febrile symptoms, we are to look for certain distinctive marks, in order to individualize the disease. These distinctive marks, in the case of mercurial salivary fever, we find in the mouth. The mouth is dry and parched; the gums are reddened, swollen, and what is termed spongy; that is to say, flabby, or loose in texture. Where they meet the teeth, they are bordered by a peculiar dark-colored line. The whole interior of the mouth is reddened; and the tongue swells.

Having run through its course, the fever terminates in one of the following ways. Either the glands behind the ear—the parotid glands—swell, and pour out a current of saliva; or a profuse discharge from the bowels takes place; or the patient breaks into a spontaneous and salutary perspiration; or a remarkable eruption, afterwards to be described, incarnadines the surface of the body.

II. Febris Adynamica, (Dieterich):

Erethismus Mercurialis, (Pearson).

The fever last described is a high and active fever; and evinces, in the patient affected with it, a certain amount of strength and constitutional vigor. It is a contest between the yet powerful forces of life and the forces of the poison. The struggle is maintained with energy and resolution, and the enemy is not uncommonly routed; but the fever about to be depicted, is a fever of a low type—a conflict against disease languidly urged by the enfeebled powers of life—a conflict in which victory, scarcely at any time doubtful, speedily inclines toward the foe.

A patient suffering from adynamic fever experiences extreme lassitude, and total inability to execute any but the simplest and briefest muscular movements. He is affected with a sensation of constriction of the chest; and feels a peculiar distress, which appears to emanate from the heart. His limbs tremble; he sighs frequently, and sometimes vomits. His countenance is pallid and contracted; and the general surface of the body is cold. The tongue and digestive organs are seldom much affected. If the

patient experience any sudden shock of mind or body, the action of the heart will sometimes cease instanteously, and death ensue.

This disease—this adynamic fever—offers to our view merely the symptoms of sedative poisoning. Digitalis or foxglove, exhibited in small doses for a prolonged period, affects the body in a similar manner; that is to say, it enfeebles, and at last utterly exhausts, the energy of the heart. The loss of a large quantity of blood is attended with the same symptoms. The small quick pulse; the sighing, trembling, vomiting; the muscular debility, and coldness of surface; all result from the depressed state of the circulation; and would be produced by administering any poison which weakens the action of the heart. But although the signs attendant upon adynamic fever are not characteristic of mercurial poisoning only, yet there is one symptom which is peculiar to mercury—I mean salivation; and this symptom deserves to be considered under a distinct head.

MERCURIAL ENTERITIS:

Or, Mercurial Inflammation of the Bowels.

It is well known that calomel produces a peculiar coloration of the motions evacuated soon after its exhibition; and such motions are variously termed *green*, *chopped spinage*, and *calomel* stools. Until very lately, this coloration was attributed to the presence of bile. It is, however, now fully ascertained, that it is due solely to an altered secretion from the mucous membrane of the bowels, and not at all to the presence of bile. That calomel acts as an irritant to the mucous membranes, is also evinced by the griping pain which frequently accompanies its action on the bowels. But we have proof more decided. Patients who have been treated with large doses of calomel sometimes incidentally die. We then find exhibited to the eye, a condition of the intestines such as we might have expected from the violent diarrhœa which this drug frequently sets up. The mucous membrane is dark-colored and greenish, sometimes almost black. It has all the appearance, and indeed all the reality, of commencing mortification. Examined in a more advanced stage, we find a large, ragged, dark-colored, corroded surface, surrounded by a deep red or purple halo, which is streaked by black lines of gorged blood-vessels. This state is technically termed sloughing; and, like the appearance above de-

scribed, it is the result of inflammation of the mucous membrane of the bowels. But inflammation of the mucous membrane of the bowels, occurring as an accidental disease, is called enteritis; occurring as the result of the administration of calomel, it is called *mercurial* enteritis.

Concerning the reality of mercurial enteritis, Gölis, a standard medical writer, speaks thus: "Whytt, Odier, Quin, Wibmer, Leib, and others, gave calomel internally in far larger doses, as two, three, and more grains at a time; and continued its use many days in the same dose, without considering the many evacuations from the alimentary canal, or the violent colic pains; and they affirm that they have never remarked, from the effect of this agent, given in these large doses, any bad consequences in the abdomen. Melancholy experience compels me to contradict them. Many times, I saw under those large and long-continued doses of calomel, the hydrocephalic symptoms (those of water on the brain) suddenly vanish, and inflammation of the intestines arise, which terminated in death. Still oftener I observed this unfavorable accident from an incautious use of calomel in croup; viz., where all the frightful symptoms of this tracheal inflammation, which threatened suffocation, suddenly vanish, and enteritis develops itself, which passes rapidly into gangrene, and destroys the patients." Wibmer, in his work, entitled, "Die Wirkung der Arzneimittel u. Gifte," states that "Hellweg has reported a case in which a few grains of calomel, taken as a laxative, caused death; that Vagnitius saw fifteen grains prove fatal; and Sedelius half an ounce." He adds that "Fr. Hoffmann has recorded two fatal cases." In these cases, death resulted from mercurial enteritis.

MERCURIAL SKIN DISEASE.

Eczema Mercuriale.

During the progress of a mercurial course, the skin occasionally becomes affected with a peculiar eruption, resembling that which, when it occurs under other circumstances, is called eczema. The first symptom that appears, consists in a diffused redness, affecting either the trunk or the upper extremities. If the finger be passed over this surface, it is felt to be roughened. The roughness depends upon the formation of a multitude of minute bladders filled with a watery fluid. In two or three days the bladders attain the size of a pin's head, and their contents become

thick, and of a milky color. The eruption soon spreads over the whole body. It is accompanied by swelling, itchiness, and tenderness. When it is about to terminate, the redness disappears, the bladders dry up, and the scarf-skin scales off in larger or smaller flakes. Sometimes, a copious discharge takes place from the surface, thus left raw and undefended; and the hair and nails, and even the eyelashes, and hair of the eye-brows, fall entirely off. Together with these local symptoms, there is usually more or less fever present. The patient is hot, flushed, and restless; his pulse is quickened; his appetite diminished; his sleep disturbed; and he has more or less thirst. The chest not unfrequently suffers likewise; and cough, tightness of the chest, slight shortness of breath, and other symptoms indicative of an affection of the lungs, supervene.

Mercurial Cachexia.

"Mercurial cachexia," says Mr. Travers, "is characterized by irritable circulation: extreme pallor and emaciation; an acute and rapid hectic fever; and an almost invariable termination in phthisis (consumption)." "This condition," says Dr. Pereira, "is characterized by disorder of the digestive organs; loss of appetite; wasting; incapability of much exertion; with increased secretion from all the organs, especially from the salivary glands." In another part of the work, Dr. Pereira says: "Soon after salivation has been established, the blood exhibits an inflammatory crust. At a later period, its color deepens, and its coagulability is diminished. The proportion of clot, and therefore of fibrine, to serum, becomes smaller." "The formation of albumen and mucus," says Dietrich, "sinks to that of serum: the whole organic formation of the patient is less consistent and cohesive." Dr. Farre says: "A full plethoric woman, of a purple red complexion, consulted me for hæmorrhage from the stomach, depending on engorgement without organic disease. I gave her mercury, and in six weeks blanched her as white as a lily."

MERCURIAL TREMOR.

The workmen who labor in the quicksilver mines of Friuli and Almaden—and operatives in towns, employed in water gilding, or

any other trade, which exposes them to the fumes of mercury—are subject to a malady which is called mercurial tremor, tremblement mercuriel, and, vulgarly, the Trembles. The disease usually manifests itself suddenly, giving but little notice beforehand of its approach. It begins with a weakness of the muscles, especially those of the hand and arm. The patient finds his limbs somewhat unsteady. His shaking hands become unfit for any delicate manipulation, his gait is vacillating, his tongue trembles, his speech is abrupt, the muscles of mastication are also affected, so that in eating, the jaws are brought together, and again separated, in a very odd, tremulous, irregular manner. At last, as this general tremor reaches its acme, the poor miner or water-gilder loses the power of locomotion, and of performing with certainty any manual operation. He cannot even carry his food to his mouth, but is obliged to be fed like an infant. In the meantime, the patient's appetite fails; frequently, an excessive flow of saliva is induced: his digestion is impaired; he is subject to sickness at stomach; his tongue is foul with brown fur; his teeth are blackened and disfigured with a dirty secretion, collected about them. His skin changes in color, acquiring a singular brown hue. The pulse is full and slow. If, unheeding these symptoms, the patient continue his employment, if he persist in exposing himself to the noxious vapor, the disease will rapidly advance; obstinate wakefulness will supervene, and delirium and insensibility will close the scene.

Dr. Pereira, in his excellent work on Materia Medica, gives the following account of the actions of mercurial vapors: "The injurious effects of mercurial vapors when inhaled, or otherwise applied to the body, have been long known. They are observed in water-gilders, looking-glass silverers, barometer makers, workmen employed in quicksilver mines, and in others exposed to mercurial emanations. In most instances, an affection of the nervous system is brought on, and which is indicated by the shaking palsy or tremblement mercuriel (tremor mercurialis), which is sometimes attended with stammering (psellismus metallicus), vertigo (giddiness), loss of memory, and other cerebral disorders, which frequently terminate fatally. The first symptom of shaking palsy is unsteadiness of the arm, succeeded by a kind of quivering of the muscles, which increases until the movements become of a convulsive character. In all the cases (about five or six in number) which have fallen under my notice, the shaking ceased during

sleep. I have not seen the least benefit obtained by remedial means, although various modes of treatment were tried. This is not in accordance with the experience of Dr. Christison, who says: "The tremors are cured easily, though slowly." If the individual continue his business, other more dangerous symptoms come on, such as delirium, epilepsy, or apoplexy (apoplexia mercurialis), and, ultimately, death takes place. In some instances, salivation, ulceration of the mouth, and hæmoptysis (spitting of blood), are produced by the vapor of mercury. The following remarkable case is an instance in point. In 1810, the Triumph man-of-war, and Phipps schooner, received on board several tuns of quicksilver, saved from the wreck of a vessel near Cadiz. In consequence of the rotting of the bags, the mercury escaped, and the whole of the crew became more or less affected. In the space of three weeks, 200 men were salivated, two died, and all the animals, cats, dogs, sheep, fowls, a canary bird; nay, even the rats, mice, and cockroaches were destroyed.

MERCURIAL STOMATITIS.

Salivation.

A large dose of mercury, or small doses too frequently repeated, occasion a specific inflammation of the mouth, attended with the secretion of an increased quantity of saliva. This condition is well described by Dr. Pereira. "The first symptoms of this affection are slight tenderness and tumefaction of the gums, which acquire a pale rose color, except at the edges surrounding the teeth, where they are of a deep red. Gradually, the mouth becomes exceedingly sore, and the tongue much swollen; a coppery taste is perceived, and the breath acquires a remarkably fœtid odor. The salivary glands (those seated behind the ear) soon become tender and swollen; the saliva and mucus of the mouth flow abundantly; sometimes to the extent of several pints in the twenty-four hours. During this state, the fat is rapidly absorbed, and the patient becomes exceedingly emaciated. The blood, when drawn from a vein, puts on the same appearance as it does in inflammatory diseases. The quantity of saliva and buccal mucus (mucus secreted by the mucous membrane lining the mouth) discharged by pa-

tients under the influence of mercury, varies according to the quantity of the drug employed, the susceptibility of the patient, &c." Formerly, salivation was carried to a much greater extent than it is at the present day. Thus, Boerhaave considered that a patient should spit three or four pounds in twenty-four hours; and Turner says from two to three quarts are a "good and sufficient discharge." This inflammation of the mouth—this mercurial stomatitis—is not considered by medical practitioners, nor described by medical writers, as anything but a highly desirable consequence of the exhibition of mercury; but is regarded as a proof that the drug has affected the system in the expected manner. Unfortunately, however, the symptoms above given present only the first stage of mercurial stomatitis; and it frequently happens that the spirit which has been so easily raised, cannot be so easily laid. The inflammation, voluntarily produced, will not recede upon the application of remedies, and withdrawal of the poison; but quickly passes from its first into its second stage.

On this subject, Dr. Pereira says: "I have already noticed mercurial salivation so far as it is ever purposely induced for the cure of diseases. But it sometimes happens, either from the inordinate employment of mercury, or from some peculiarity in the constitution of the patient, that the mouth becomes violently affected; the gums are tumefied and ulcerated; the tongue is swollen to such an extent, that it hangs out of the mouth, incapacitating the patient from either eating or speaking; the salivary glands (those behind the ear) are enlarged, most painful, and inflamed, and the saliva flows most copiously from the mouth. In one instance, sixteen pounds are said to have been evacuated in twenty-four hours. In some cases the gums slough, (mortify and come away,) the teeth loosen and drop out; and occasionally, necrosis of the alveolar process (mortification and destruction of the bony sockets of the teeth) takes place. During this time the system becomes extremely debilitated and emaciated; and, if no intermission be given to the use of mercury, involuntary actions of the muscular system come on; and the patient ultimately dies of exhaustion. I have repeatedly seen inflammation and ulceration of the mouth, and profuse salivation, induced by only a few grains of calomel, or some other mercurial. A very frequent consequence of excessive mercurial salivation, and the attendant ulceration and sloughing, is contraction of the mucous membrane in the neighborhood of the anterior arches of the palate, whereby the patient

is prevented from opening the mouth, except to a very slight extent. I have met with several such cases. In one, that of a female, it followed that of a few grains of blue pill, administered for a liver complaint. The patient remains unable to open her mouth wider than half an inch. Several operations have been performed by different surgeons, and the contracted parts freely divided; but the relief was only temporary. In another instance, that of a child, four years of age, it was produced by a few grains of calomel.* Though several years have elapsed since, the patient is obliged to suck his food through the spaces left between the jaws by the loss of the alveolar process, (bony socket of the the teeth.)" Further on, Dr. Pereira says: "In the Times Newspaper of the 26th of April, 1836, there is the report of a coroner's inquest on the body of a Mrs. Corbyn, who was destroyed by swallowing twenty grains of calomel, she having previously taken a moderate dose without its exciting what she considered a sufficient effect; and in the India Journal of Medical Sciences is the case of a lad, aged fourteen, a native of Kepel, in whom six grains of calomel apparently produced inflammation and ulceration of the mouth, enormous swelling of the face, mercurial fœtor of the breath, mortification and death. This was ptyalism (salivation.)"

Another result of mercurial stomatitis, one not mentioned by Dr. Pereira, is however not uncommon. The inflammation, affecting the soft palate, as well as other parts of the mouth, goes on to ulceration; and ultimately bores a hole, of larger or smaller size, through this muscle. When the inflammation subsides, the hole or holes (for the soft palate is sometimes completely riddled) remain, and cause the patient much inconvenience. Fluids, taken into the mouth, are apt to return by the nose; and the voice assumes a peculiarly disagreeable tone. Sometimes, the inflamma-

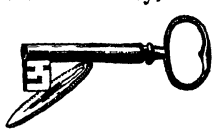
* Dr Pereira, in another part of his great work, relates the case thus "The late Dr. Thomas Davies attended, with a medical friend of mine, a boy of four years of age, laboring under peritonitis (inflammation of the belly) One grain of calomel was directed to be administered three times a-day; and an aperient dose of calomel and jalap was given On the fourth day its employment was stopped in consequence of its violent action. The cheeks were enormously swollen; the gums sloughed; necrosis (death) of the alveolar process (sockets of the teeth) of the lower jaw, on each side, occurred, and portions of bone, with the teeth, came away. The child ultimately recovered in about twelve months; but the jaws cannot be separated, and the patient is now obliged to suck his food through the apertures left by the loss of bone."

tion cannot be stopped, but lingers for years, affecting sometimes one part, sometimes another, more particularly. I remember seeing, among the out-patients attending at Guy's hospital, a man in whom the back of the throat was eaten away to a considerable extent. The bones were laid bare; they were dark-colored, and appeared to undergo gradual corrosion. Several years before, this man had entered Bartholomew's hospital, laboring under inflammation of the heart. To cure this inflammation, mercury was profusely exhibited; and indeed the desired effect was produced, for the inflammation of the heart was cured (whether by the mercury or the powers of nature); but a new disease, mercurial stomatatis, was set up; and this disease completely baffled the resources of physic; creeping along and extending its ravages, month by month, and year by year, until, when I saw him, it exhibited the appearances above described.

Mercurial stomatitis has yet another termination, of which the following case furnishes an example. "A patient of Mr. G.'s of the Borough, requested him never to give her any mercury, as that drug was a poison to her whole family, to which he, without arguing the point, at once assented. In Mr. G.'s absence, the late Mr. C. was consulted, as to some trifling disorder of the bowels; and, not knowing the peculiarity of his patient's constitution, prescribed two grains of calomel. The next morning the lady showed the prescription to Mr. C., saying that she was sure she had taken mercury, as she felt it in her mouth. In a few hours, ptyalism (salivation) ensued; in consequence of which she lost her teeth; her jaw-bone rotted away; and she ultimately, after a succession of ailments, died in about two years."—Dr. Farre, *as quoted in "Ferguson's Essays on the Diseases of Women,"* p. 220.

[redacted] is not an isolated case. Terrible to relate, instances of this [redacted] do not unfrequently occur; though, for obvious reasons, [redacted] are rarely made known to the public. The following case came under my own immediate notice. A young lady, sixteen years of age, consulted her medical attendant for some slight ailment, and received from him a box of pills, of which she was desired to take one every night; but the prescriber neglected to specify how long she was to continue the medicine. The young lady consequently continued the pills for a very improper length of time. At last her mouth became tender, and her gums red and swollen; but believing that this condition resulted from a cold which she supposed herself to have caught, she began to take two

pills at night instead of one. This practice of course increased the malady, which became ultimately so severe that she lost the whole of her upper teeth; and a considerable part of the bones of the nose perished. A lady who resided some time with me, before I quitted Stanstead Bury house, told me that, some years before, she was attacked with inflammation of the liver, and took a large quantity of calomel. The result was that she lost every tooth in her head. But there is a simple plan, which, were it generally practised, would much diminish the frequency of these occurrences. Every patient, who has reason to suspect that he possesses this great susceptibility to the influence of mercury, should test every drug before he ventures to take it. If the medicine be in the form of a mixture, let the patient pour a drop of it upon a sovereign; if it be a pill, or powder, he must rub a small quantity of the drug upon the sovereign, and moisten it with water. Then let him take an iron key, and so apply it that it may touch at once the gold and the drug. The long part of the key must also touch at the same time the rim of the sovereign. The key must come in contact with the gold in two places; and in one place the key must also touch the drug. If, now, the medicine contain any mercury, it will be deposited upon the gold, in the form of a white stain. Nothing but mercury will have this effect. If the sovereign be exposed for a short time to the heat of a lamp, the stain will immediately vanish.



The above are a few, and I regret to say, *only* a few, of the melancholy consequences resulting from the use of mercury. The funeral list is a long one, though I give only those diseases which are known, admitted, and *avowed* to be the effects of mercury. Thus we have:

Diarrhœa *mercurialis*—mercurial purging—or mercurial disease of the pancreas.

Urorrhœa *mercurialis*—a kind of mercurial diabetes, or rather diuresis.

Hidrosis *mercurialis*—mercurial sweats.

Eczema *mercuriale*—mercurial skin disease.

Miliaria *mercurialis*—another mercurial skin disease.

Angina *mercurialis*—mercurial inflammation and sloughing of the gullet.

Mercurial ulcerated throat.

Ulcus membranæ fibrosæ *mercuriale*—mercurial ulceration of fibrous membranes.
Ulcus glandulorum *mercuriale*—mercurial ulceration of absorbent glands.
Neuralgia *mercurialis*—mercurial neuralgia.
Paralysis *mercurialis*—mercurial paralysis.
Apoplexia *mercurialis*—mercurial apoplexy.
Amaurosis *mercurialis*—mercurial blindness.
Hypochondriasis *mercurialis.*
Cachexia *mercurialis.*

Is it not fearful to contemplate this long list of terrible maladies arising out of the use of only *one* of that multitude of poisonous agents which go to make up the sum total of the drug practice? Is it possible that any can be found to blame us for seeking to introduce a treatment of a less fatal tendency? I am certain I speak the literal, the simple, the unexaggerated truth, when I assert that thousands—not hundreds—but literally thousands of human beings are killed, *every year,* in Great Britain alone, by drug medicines.

Neither must it be supposed that all the mischief is done by such drugs only as are known to be poisonous. Many of those which are generally thought to be of a very simple and innocent nature, are highly deleterious, in a great variety of ways. Some of them spoil the blood. They literally *alter the constitution, and destroy the qualities* of this vital and all-important fluid. Take, for instance, common nitre, and sulphate of soda. One of the most important of all the ingredients of the blood is its fibrin. Nitre, and sulphate of soda, have the property of destroying this fibrin in a few hours, as experiments like the following prove. [illegible]ltz took two ounces of blood from the arm of a robust coun[illegible]n On analyzing it, he found it to contain 5 per cent. of fibrin. During the following 24 hours the man took 3 drams of common nitre, and an ounce of sulphate of soda. Two ounces more of blood were then abstracted and analyzed, and found to contain only 3.4 per cent. of fibrin. He continued the use of the nitre and sulphate of soda for 24 hours longer, and was then bled again as before to the extent of two ounces. The blood was now found to contain only 1.9 per cent. of fibrin.

It is very sad to contemplate this state of things. To see with one's bodily eyes its baneful effects in perpetual operation all around, is *sadder still.* To mark the apathy of medical men in

general with regard to it—the pertinacity with which they cling to it—the hostility with which they treat all attempts to improve it—is by far, by very far, *most sad of all.*

SILVER.

Luna caustic—nitrate of silver—lapis infernalis—as it is variously called, is frequently exhibited by the faculty; but perhaps it is more often given in epilepsy than in any other complaint. Its administration is attended with one very serious inconvenience. When taken for a considerable period, it produces a peculiar blueness, or slate color, or bronze hue, of the skin. "In one instance," says Dr. Pereira, "that fell under my notice, the patient, a highly respectable gentleman residing in London, was obliged to give up business in consequence of the discoloration; for when he went out into the street, the boys gathered around him, crying out 'There goes the blue man.' In this instance, no perceptible diminution of the color had occurred for several years; but in some cases it fades in intensity. In one instance, the mucous membrane of the stomach and intestines was similarly tinted. A case is mentioned, by Wedemeyer, of an epileptic who was cured by nitrate of silver, but eventually died of diseased liver and dropsy: all the internal viscera were more or less blue; and Brande, a German chemist, obtained metallic silver from the plexus choroides (a network of blood-vessels by which the brain is supplied with blood) and pancreas."

TREATMENT OF DRUG DISEASES.

This resolves itself into the wet sheet packing, for as long, at each time, and as frequently repeated, as the patient's strength will bear; followed by the cold or tepid shallow bath; and the douche, where the douche can be borne.

DIET.

The patient's strength should be supported by a full mixed diet, when this can be taken; and he should be as much out in

the open air as possible. I need hardly advise him to close the door of his heart at once against drugs, and to bolt it on the inside.

What are we to say about this fearful list of drug diseases, constituting but a small fraction however of the drug mischief daily done? Are we to set down medical men generally as a class of impostors? No. As a body of men remarkable for their ignorance? No. As a class of conspirators against the public health with a view to fill their own pockets? No. The medical class of the community are, to the full, as disinterested, high-minded, honorable, and truth-loving, as any other. And give, without remuneration, more of their time and attention (which is their own wealth) to the poor than any other class. Attention to the poor is a part of the clergyman's solemn duties, for which he is paid—although, in many instances, most inadequately. The lawyer will not given his time and legal knowledge to the poor—the merchant, the manufacturer, the trader, will not give their goods to the poor—without being paid at once, in sterling coin of the realm. A poor man may be dying of starvation, yet the butcher will not give him his meat, without its full value on the spot in money. But if he be dying of disease instead of starvation, the medical man hastens to his assistance. Through mud and mire; through wind and rain; through storm and tempest; at the dead of night; and often when ill himself, he hastens to the sick pauper's chamber; and, in nineteen cases out of twenty, without the most remote expectation, or indeed the possibility of remuneration. Yet his time and his medical knowledge are to him exactly what legal knowledge is to the lawyer; and what their goods are to the merchant, the manufacturer, and the trader; and what his meat is to the butcher. But it may be said that the merchant, the manufacturer, the trader, the butcher, contribute to the comfort of the poor by charitable gifts—each according to his means. If medical men gave nothing in charity save their time and skill, this might be an answer. But nothing can be more certain than that their charities, independent of their professional services, are fully equal to any other body of men of like number and like means.

But it may be said of the manufacturer that he serves the poor by employing them. But he only employs them to serve

his own purposes—to put money into his own purse. For whatever money he distributes among them, he exacts an equivalent in labor, by which he himself profits. If he ceases to get the labor, he ceases to give the money. This is not charity, but a mutual benefit, for which no thanks are due on either side. The manufacturer only employs the laborer because he can't help it. If he could, he would—to-morrow.

But are the class of medical men a peculiarly ignorant class? They possess, as a body, more learning, polite, ornamental, and useful; more various scientific and philosophical knowledge of every kind; and are more thoroughly and better educated, than any other class of men that the sun of heaven shines upon.*

But once again—how are we to account for these same drug diseases, which are undoubtedly, nay avowedly, inflicted on mankind by these same medical men? How are we to account for this, and for all the other mischiefs which they daily do?—for all the deaths (and they are far more numerous than is even dreamed of by the public) to which they daily doom the victims of their art? How are we to account for the fact that a large body of learned, honorable, and humane men are daily practising an art which, according to the confession and published belief of some of the most eminent, learned, and experienced amongst them, entails upon mankind more disease and suffering than it relieves; and kills more than it cures? How are we to account, I say, for this seemingly strange anomaly? To the thoughtful mind—to the mind which does not restrict its gaze to the very circumscribed horizon of particular societies, its feelings, habits, manners, modes of thought, and conventional opinions; to the mind accustomed to contemplate only fundamental principles; to solve all problems by reference to great

* I look upon this assertion to be undeniably and incontestibly true. At the London University, where one of my sons has just taken his degree, a man must undergo four searching examinations, at distant intervals. At the first he is examined in the elements of natural philosophy; Greek and Latin; mathematics and algebra; general history. At the second, chemistry, botany, materia medica, anatomy. At the third, medicine, surgery, hygiene, obstetrics, physiology pathology, comparative anatomy, medical jurisprudence. At the fourth, logic, metaphysics, moral philosophy, and another still more searching examination on the abstruser departments of medicine and obstetrics.

I know of course that the examinations on *some* of these subjects are severer at other universities. But then at these, the greater part of the student's time and attention is given chiefly to *one* or *two*; and he becomes, in most instances, a first-rate classic, and little else; or little else than a first-rate mathematician.

general laws; and which bases all its reasonings upon the great *axioms* of nature; to such a mind there is nothing strange, nothing anomalous in this seeming paradox. On the contrary, it finds it to be in perfect harmony with, and the necessary result of, the great fundamental laws which govern human conduct.

Man is a gregarious animal. He lives in herds, like the buffalo; not in solitude, like the lion or tiger. In other less plain phraseology, he is a social creature. He does not, like the lion, *rely upon himself solely*. He relies, like the buffalo, upon his numbers—upon the support, and assistance, and guidance of others. And, as in all great multitudes, there will always be a few who, in times of danger and difficulty, prove themselves to be much stronger than the rest, either intellectually or physically; so the weak Many soon find it not only much easier, but also much safer, to rely for protection upon the strong Few, rather than upon themselves. Hence, man becomes a *trusting* animal—prone to trust rather to the judgment of others than to rely upon his own.

In all civilized communities, too, to rely rather upon the wisdom and instruction of others than upon his own unaided judgment and reason, is a part of his religious education from infancy. Hence, he learns to *distrust* his own opinion, and his own powers of reasoning.

Hence, when physical strength and cunning in warfare were the prime, and most admired, and most necessary attributes, he who was the strongest and least vincible in battle, and the wisest and most successful in military conduct, became a public leader, and a chief amongst his people, whom all were content to *follow and obey*.

But in our own time, when physical force is of no account, and moral strength and intellectual superiority are the prime requisites; all contention and warfare among ourselves being now moral, not physical; and all wealth and honors accruing chiefly to the intellectually strong; and all government, being the result chiefly of moral power; we pay the same homage to mental superiority, which our far-off ancestors paid to superior physical strength. And we, in common with our ancestors, do this in obedience to the one great fundamental law that, with all animals who live in herds or tribes, it is necessary for the welfare of the whole, that the weak many shall obey the strong few. Were it not so—were not the many content to be followers—if all were desirous of becoming

eaders—then, since no two men have minds and opinions exactly alike, and can seldom agree upon any one subject, or upon exactly the same line of conduct, the result would be nothing but confusion, and want of uniformity of action. And since a *house* divided against itself cannot stand, so neither could a people. Its internal disagreements would constitute its weakness, and, like a rope of sand, it would crumble away and be lost; ceasing to be a unique whole, it would become a part only of something else—a part only of the first neighboring people who, taking advantage of its internal dissensions and weakness, chose to break it in pieces, and absorb it into itself.

Man being thus constituted; Nature having laid it down as a fundamental law, that the few shall lead, and the many shall follow; and having, to the end that this law may be fulfilled, given, for the nonce, to the minds of the many, a natural proneness to rely upon others rather than on themselves, we perceive at once, the true nature, cause, and origin of what we commonly call prejudice. It arises from that mistrust of their own opinion and judgment, and that proneness to rely implicitly and blindly upon the judgment of others, which nature has given to each individual of the many for the reasons and purposes just explained. And so strongly is this principle of self-mistrust, and proneness to look up to others, implanted in our nature, that to *think independently*, on some subjects at least, is often made, literally and really, matter of reproach and opprobrium. The same principle is manifested in that aptitude, on the part of the many, unthinkingly and unhesitatingly to deride and scoff at any new opinion which may happen to be broached in their presence, and which may chance to be at variance with established views.

Hence it happens, that when any opinion, custom, fashion, or practice, has become *established*, to the bulk of a community it becomes a *law*; and any breach of which the community will punish by ridicule, by opprobrium, expulsion from its bosom, withdrawal of its sympathy, protection, mutual obligation, &c.; in one word, by more or less of excommunication.

In thus rendering implicit and blind obedience to established opinion or practice, or, in other words, to those who established it, without even attempting to question its truth or propriety, human communities do but obey a fundamental law of their nature; for which they can justly neither be ridiculed nor vituperated. We know this to be a natural law, because we see that it *every-*

where obtains; and, beyond this, we have no other proof of the existence of any natural law whatever. We have no other proof than this, that gravitation is a natural law; for a law of nature is nothing more than the observed universality of a given phenomenon.

There is no one civilized community in the whole world whose established opinions are the same now as they were a century ago; or as they will be a century hence. But, though established opinions are perpetually changing, and thus perpetually contradicting each other, yet each one, during its day, is implicitly obeyed, and relied upon as an irrefragable truth, by the multitude. The gradual changes which are thus wrought on public opinion, are never the result of the reasoning of the great mass, but the effect of new truths, few and far between, discovered by the strong-minded, thoughtful few, and slowly impressed by the weight and force of superior intellects, and the gradual developments of time and circumstance.

Man, in the mass, is born to obey. The few only were born to lead. And Public Opinion is but another name for the opinion of those few who constitute the heads and leaders of the several classes of society. The individual minds of the multitude have a natural tendency to cohere together into one whole.

And herein, reader, as it seems to me, we discover the true source and origin of drug diseases; and the true solution of the apparent paradox which has given occasion to this long, and perhaps tedious, and unnecessary digression. And yet not unnecessary—since it satisfactorily accounts for many human errors, and the infliction of much human misery by man on man, while it relieves him from all harsh imputations of unworthy motives.

FORM OF REPORT,

FOR THE ASSISTANCE OF PATIENTS IN CONSULTING THEIR PHYSICIAN BY CORRESPONDENCE.

DIRECTIONS.

If the patient's complaint be obviously confined to a single system,—if, for instance, he have a diseased knee joint, and all the other systems be in health—then he will only give PARTICULAR *information on the several points mentioned under the head of that system to which his complaint belongs. In the case of diseased knee, he would only give* PARTICULAR *information on the points mentioned under the head of* MUSCULAR AND BONY SYSTEM*—mentioning the other systems cursorily—as thus: Nervous system, right. Circulating and respiratory system, right: and so on of the others. Still he should read carefully through* ALL *the systems; because this may remind him of some symptom in another system, which he might otherwise forget. But the* INFORMATION HAVING REFERENCE TO THE SORT OF CONSTITUTION *should be furnished in* EVERY CASE; *for a knowledge of the sort of constitution is just as necessary to safe, correct, and effective practice, as a knowledge of the disease itself.*

When the disorder is in the respiratory and circulating system, then all the particular information required under the head of that system, must be furnished, and other symptoms which may belong to any other system.

It will most commonly happen that symptoms will be experienced in two or three different systems. Those symptoms must, of course, be reported.

When the malady seems to belong to the nervous system, the digestive system will generally be disordered also. And when it seems to belong to the digestive system, the nervous system will also be disturbed. In either case, therefore, the PARTICULAR *information sought, as it regards* BOTH *these systems, should always be reported, in order to enable the physician to determine in which of the two systems the root of the matter lies—for the root may exist, and most commonly does, in one of these systems, while the symptoms are chiefly experienced in the other.*

In all important cases it is always best to send a small two-ounce phial of the early morning water, by post, in a small tin or wooden case, for analysis. But in dropsy, liver disease, heart disease, head disease, jaundice, and kidney or bladder disease, it is absolutely necessary.—*See article "Urine," p. 408.*

Age? Sex? Height? Weight? Married?

Information having reference to the *sort* of constitution:—

Past habits of life? Past state of general health?
Diseases or injuries previous to present complaint?
Health of family, including parents, brothers, sisters?
Causes of death in family? Gout in family?
Probable causes, moral or physical, of present malady?
Slight or stout figure? Short neck?
Full, red, flushed; or thin, pallid face?
Any enlarged glands, scars, or eruptions on the skin?
Color and texture of the skin? Color of the eyes?
Color and texture of the hair?
Upper lip—full or thin?
Finger nails—remarkably thin or brittle, or hooked over the finger ends?
Fingers—clubbed at the ends?
Teeth—well formed and even—distorted or roughened?

Information having reference to particular diseases:—

Any position in standing, lying in bed, stooping, or otherwise, which is uneasy or painful?

Integuments and appendages:—

Temperature of skin—hot or cool?
Moist, or dry and harsh? State of eyelids?
Any swelling or puffiness—especially about the ankles—which leaves a pit on pressure?
Any yellowness of eyes or skin?
Pain or tenderness on pressure?
Any ulcerations, abscess, or tumor?

The Nervous System:—

Form and size of the head—any peculiarity?
Spine—[illegible]ght or crooked?
Pain? [illegible]iness? Sensations in the head? or spine?
State of [illegible]upil—size of a pea, or of a pin's head?
Does it readily contract when exposed to strong light?
Does it readily dilate when examined in the dusk?
Any remarkable change in intellect? Temper? Disposition? Is the memory impaired?
Any difficulty in any of the mechanical motions of any of the limbs? Any peculiarity or loss of sensation?
Any defect or peculiarity of vision? Any numbness?
Any defect or peculiarity of hearing? Noises in head?
Unnatural smells in the nose? Tastes in the mouth?
Despondency? Dislike of society?

Any impairment in the power of reading, thinking, writing, or mental application? Dreamy sleep?

Any fault of any kind, not here mentioned, either in general or special sensation?

Any distortion of features? Ever had fits?

When and what kind of fits?

Ever hysterical? Does one eyelid droop over the eye lower than the other? Any difficulty in articulating words? or other peculiarity in speech?

Respiratory and Circulating System:—

Full and broad, or narrow contracted chest?

Pain? Peculiarity of voice? Difficulty of breathing?

Cough? Of what kind? At what times chiefly?

Expectoration? Of what kind? Spitting of blood, past or present? Palpitation of heart? When chiefly?

Speed and character of pulse before rising, and in the evening? Circulation languid or strong?

Any blueness of lips or cheeks? Or puffiness of face?

Digestive System:—

Any peculiarity in form of abdomen? Pain?

Tenderness on pressure? Distension?

Appetite? Nausea? Vomiting? State of tongue?

Appearance of mouth and throat inside? Are they remarkably red? Any ulcers in them?

State of bowels with reference to the frequency of their evacuation, *without medicine?* How often do you take aperient pills? Appearance and character of the dejections? Piles? Falling of the bowels? Rupture?

Urino-genital System:—

Difficulty or pain in relieving the bladder?

Character and appearance of the water?

Pain in region of the kidneys or bladder?

Falling of the womb? Natural secretions right? Any non-natural secretions? Any miscarriages?

Muscular and Bony System, including Joints and

Pain? Stiffness? Swelling? Disto
Heels? Contractions? Walki[redacted]powers? Ever had gout or rheumatic fever?

History of origin, with date of pre malady, and order of succession of symptoms.

Present most *prominent* symptoms.