

The water cure : a lecture on the principles of hydropathy, delivered before the Council of the Hydropathic Society, at the rooms of the Society of Arts, London, March 23, 1843 / by Edward Johnson.

Contributors

Johnson, Edward, 1785-1862.
Royal College of Surgeons of England

Publication/Creation

London : Simpkin, Marshall, [1844]

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Compliments

THE WATER CURE.

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A LECTURE

ON THE

PRINCIPLES OF HYDROPATHY,

DELIVERED BEFORE THE COUNCIL OF THE HYDROPATHIC
SOCIETY, AT THE ROOMS OF THE SOCIETY OF ARTS, LONDON,

MARCH 23, 1843,

BY

EDWARD JOHNSON, ESQ., M.D.,

Author of "Life, Health, and Disease,"

ON HIS RETURN FROM GRÆFENBERG.

*Several hundreds of persons being unable to obtain admission to the rooms,
it has been thought desirable to publish the Lecture.*

LONDON:

SIMPKIN, MARSHALL, AND CO. IPSWICH: J. M. BURTON.

ONE SHILLING.

"As a general principle of the *first importance*, I would wish here to *inculcate strongly* upon the student, that the cure of *all diseases* must be effected by the *powers of the living system*; and that his remedies are *merely* to be employed with the view of placing the body *under the most favourable circumstances* for resisting disease."—*Introduction to the Theory and Practice of Medicine, by George Gregory, M. D.*

"Practical medicine, in many diseases, makes use of *cold* in a highly rational manner, as a means of *accelerating and exalting*, in an unwonted degree, the CHANGE OF MATTER."—*Liebig*

P R E F A C E.

The following pages were read in the form of a lecture, in the hall of the Society of Arts, on the evening of Thursday, the 23rd of March last—a few days after my return from Gräfenberg.

At that time no intention whatever was entertained of publishing them; but several hundreds of persons having applied for admission tickets after as many had already been issued as would fill the room, (about 400) it was then thought advisable to lay the lecture before the public in a printed form.

My object in this lecture has been to show, in the smallest possible compass of time and space, that the principles of the Hydropathic treatment of disease, so far from being opposed to common sense, and the present state of scientific knowledge, are, on the contrary, strictly philosophical—and minutely and even curiously in accordance with the views entertained, in regard to the nature of disease, and the *modus operandi* of all remedial treatment, by some of the most eminently scientific men of the present day.

In attempting to perform this task, I have not fixed upon the views of life promulgated by second or third-rate writers—nor upon any of the wild and fanciful theories of a bye-gone age—but upon those views and opinions which, while they are the most modern, are *confessedly also* the views and opinions of the very greatest and most scientific man, as well as the most patient and laborious experimentalist, who has ever yet written

upon these most deeply interesting and important subjects—I allude to the “Organic Chemistry as applied to Physiology and Pathology,” lately published by Dr. Justus Liebig—a work which gives a *fact* in support of almost every opinion which its author advances.

I have also endeavoured to show that the Hydropathic treatment proceeds upon *that very principle* which is laid down by Dr. George Gregory, and all our best medical writers and teachers, as the *fundamental principle of all remedial practice*; and that, instead of being opposed to *common sense*, it is only opposed to *common custom*, and old-fashioned prejudice.

But it must at once be obvious to every one, that within the *small compass of a single lecture*, it is impossible to do full and fair justice to a subject at once so new, so startling, and so important—and one, moreover, with regard to which so many, and such violent, preconceived notions so universally prevail. The arguments are here necessarily few, and even these, I fear, will be sometimes found obscure from the brevity with which they are stated.

On these accounts I hope I may be pardoned if I strongly recommend those who interest themselves in the subject, to peruse attentively the larger work which I have already sent to press; and to which these pages may be considered as an introduction, which will assist in making the larger one more easily intelligible to the non-professional reader.

I also beg leave here to recommend to the attention of the scientific enquirer, Liebig’s “Organic Chemistry as applied to Physiology and Pathology.”

It was objected by a gentleman, after lecture, that there are *some* who do not agree with Liebig’s theory. This is undoubtedly true—but then it is equally true of every theory that has *ever yet* been advanced, with regard to *any question whatever*, since the creation of the world. Sir I. Newton’s theory of the planetary motions is still questioned *by some* up to the present hour.

But whether Liebig’s views be right or wrong, the *facts*—the *actual cases of cure* performed by the Hydropathic treatment—still remain *untouched and untouchable*. The intrinsic value of

theory may be but small. But *whatever* its value may be, it is clearly *as great* in the case of Hydropathy, as in that of the old practice; and, with regard to the *modus operandi* of drugs, no more is known (independently of theory) than is known with regard to the *modus operandi* of water. For no man can tell the *why or the wherefore* that quina cures the ague, that the nitrate of silver occasionally cures epilepsy, or that mercury arrests the diseases for which it is administered. No man can tell why jalap empties the bowels, why antimony empties the stomach, or why acetate of ammonia increases the secretion of the kidneys.

All I have pretended to do is to show that the practice of hydropathy can be as easily reconciled with the existing theories of life, health, and disease, as the practice of *medicine* can—and this, I conceive, is all that can possibly be required of me. But I will be bold enough to add, that nothing can be more easy than to show, that the practice of medicine is perpetually seen, running full tilt, in the very teeth of its own fundamental principles—which hydropathy is *not*.

De facto, both the old practice and the new, must rest *substantially* on the facts of experience—and on these facts alone—and these, in favor of hydropathy, are sufficiently numerous, and are daily and hourly increasing *in this country*, and have been so increasing in *other countries*, for the last *twenty years*—but, unfortunately for suffering humanity, the peculiar circumstances under which the practice was originated precluded the possibility of their being recorded and made known to the public, until within a very short period from the present time. But, I repeat, putting experience out of the question, in both practices, as much can be proved theoretically in favor of the practice of hydropathy, as of that of medicine.

It is in vain, therefore, to say that Liebig's, and all other theories, may be *wrong*. For, if they be wrong at all, they must be equally wrong for the practice of *medicine*, as for that of hydropathy. If hydropathy can *found nothing* upon theory—so *neither* can the practice of medicine. This observation of the objector, therefore, falls to the ground.

The objector further observed that Liebig himself acknow-

ledges that he knows nothing whatever of the *cause* of those effects which we call life. This observation was clearly *uncalled for*, since I admitted in my lecture precisely the *same thing*, in the plainest possible terms—*adding* that this ignorance of the cause does not at all prevent us from reasoning with perfect mathematical accuracy concerning its *effects*. And I illustrated this position by reference to gravitation—remarking that we are as profoundly ignorant of the nature of gravitation (which is the cause of the peculiar phenomena of planetary motion, as well as of those of a common clock) as we are of the vital force, or cause of life. But yet this ignorance of the nature of gravitation does not prevent our reasoning with mathematical accuracy both concerning planetary phenomena and those of a common time-piece. This objection, therefore, also falls to the ground.

The objector also remarked that these new modes of cure should be received by the public with distrust. I had *previously* remarked the very same thing—*adding* that the public had been so often deluded, that great caution was necessary in order to protect them against imposition. This objection, therefore, also falls harmless to the ground.

It was also objected that we have not *all* Liebig's data yet before us. This is perfectly true. But then it is also *perfectly true* that we *have* before us all those data of Liebig's which relate to the subject in question. And thus, *this* objection also falls to the ground.

What I have done is simply this. I have been to Gräfenberg, and there witnessed by the aid of my own senses, CERTAIN FACTS; and then I have endeavoured to account for these *previously witnessed* facts, on scientific principles. Let it be granted that I have *not* succeeded in this task, to the satisfaction of the objector. Still THERE STAND THE FACTS—*untouched and untouchable!*

I have not space here to enumerate the particular diseases, and states of disease, to which the hydropathic treatment is especially applicable. But, after twenty years of *active and extensive* practice, I declare, that in numerous diseased conditions, as well those of excessive action as those depending

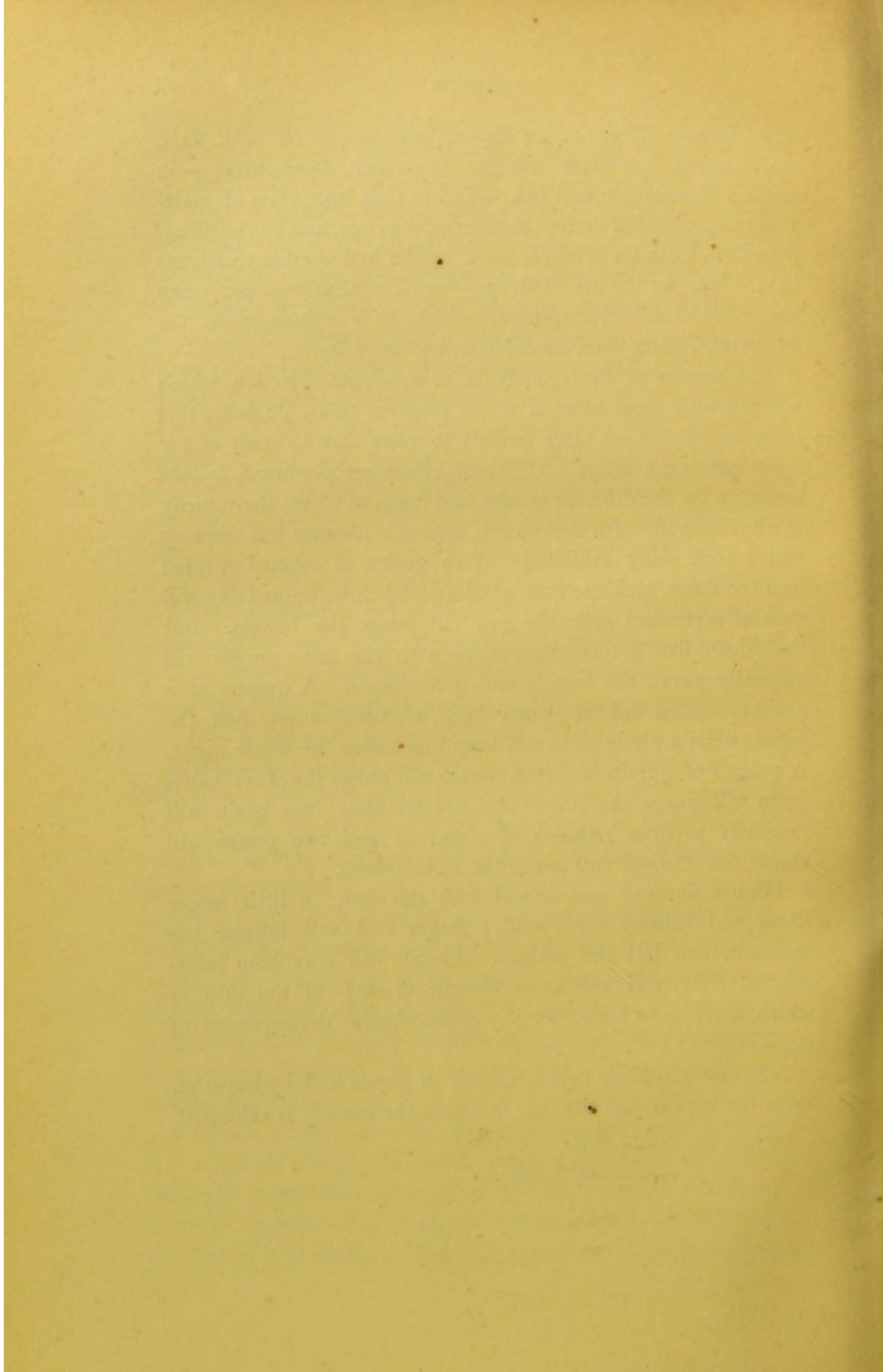
upon *nervous debility* or *an impure condition of the vital fluid*, or *depraved secretions without structural degeneration*—in chronic rheumatism and gout—and in that large class of maladies comprehended under the term *nervous weakness* or *functional disorder*—I can do *infinitely more* by the hydropathic treatment than I can by the use of drugs—and I add, *without producing any of that collateral mischief which, it is acknowledged, too frequently results from the exhibition of medicine*.

The *oneness* of the remedy is an *apparent* objection which will probably occur to most of my readers. But, *de facto*, this objection applies not more forcibly to water than to many of our most important drugs. Different effects are produced, *in both instances*, by the different modes and doses in which the remedy is administered. In how many opposite diseases are mercury and arsenic daily exhibited! Five grains of calomel divided into ten doses, and one dose administered three times a day will generally produce *salivation* and not purge the bowels. But the whole five grains given at once to the same person will generally purge the bowels and *not salivate*. A quarter of a grain of opium will frequently keep a patient *awake* half the night, while a whole grain will keep him *asleep* the whole night. A quarter of a grain of tartar-emetic will purge the *skin*; half a grain will purge the bowels and *not* the skin; one grain will generally produce sickness of stomach; and two grains will empty the stomach and purge the bowels, *both*.

Minute doses of arsenic will cure the ague; a little larger doses will inflame the eyelids; larger still will inflame the stomach, and kill the patient. Arsenic will cure both *intermittent fever*, and also some chronic diseases of the skin in which there is *no* fever, nor any constitutional derangement of any kind.

All efficacy *entirely* depends, both in physic and hydropathy, upon the *manner* and *dose* in which the remedy is exhibited.

18, New Burlington Street,
St. James,' London.



LECTURE.

MR. CHAIRMAN,

The lecture which I now propose to read before this society has for its object an elucidation of the principles of a new method of treating certain diseases—sufficiently known as the hydropathic remedy, or water cure.

Several works on this subject have already been published, both here and abroad; giving elaborate accounts of the various modes in which this new treatment is put into practice by Vincent Priessnitz—its original discoverer—and detailing a multitude of extraordinary cases, successfully treated by *him*, and his continental followers.

But the details of this practice are so utterly repugnant to all our preconceived notions—and the cases said to be cured by it are of so startling a nature, that the public mind, naturally enough, has some difficulty in *receiving* them as *authentic*.

By the cursory observer, whatever is violently opposed to established practice and long cherished opinions, is sure to be denounced as *unreasonable*—forgetting that long custom is *not* proof, and that opinions, however popular and universal, are *not always* expressions of the truth. The public, too, has, from time to time, so often been deluded by empty pretences, that a certain degree of caution is not only pardonable, but absolutely necessary to self-protection against imposture.

On these accounts it is by no means extraordinary that this new method of treatment should be condemned as contrary to common reason; since the words “common reason,” when thus

employed, can only signify common custom. Nor is it wonderful that doubts should be entertained concerning the authenticity of the reports of its great success. These doubts, however, are fast giving way under the reiterated strokes of multiplied facts. Still there is a large class of thinking persons, who very properly refuse to accord their assent to the hydropathic treatment, until it shall have been proved to them, that its doctrines are founded in reason, and supported by science. But, to the best of my belief, there has yet been published no work which has even pretended to satisfy the minds of men in this particular. Enough has been written concerning the details of the practice, but nothing concerning its principles—and to supply this deficiency is the task which I have set myself.

In the work which I am about to publish almost immediately, I have endeavoured to prove that the hydropathic treatment of disease is not only perfectly rational, but strictly, minutely, and even curiously in accordance with those views concerning the nature of animal life, and the nature of disease, which are entertained by some of the most scientific men of the present day. But it will be obvious to all, that in the brief current of a single lecture, although I shall pursue the same course, I can do little more than glance at those arguments which, in the work to which I have alluded, will be more elaborately developed. In this lecture, therefore, you will hear but little of sitz baths or damp sheets. It is with the *principles* of Hydropathy that I am mainly concerned—which, being established, its *practice follows* as a matter of course.

But before I proceed to that which forms more especially the subject of the lecture, I must solicit permission to make a few observations concerning the nature of life, and the nature of disease, according to the views entertained by the most modern medical philosophers. If I were reading to an assembly of physicians these would be unnecessary. But to an unprofessional audience they are absolutely essential, in order to make the rest of the reasoning intelligible.

An ordinary man takes into his system daily about two pounds, by weight, of solid food. He also takes in daily about two pounds, by weight, of oxygen, which he inspires along with the

atmospheric air, of which oxygen forms a large proportion. At the end of one year, therefore, he has added to his system more than 1400 pounds of matter, and yet, with the insignificant variation of a few pounds, his weight remains the same.

This fact proves to demonstration that *that* power which enables an animal to appropriate daily to his system new matter, out of the food which he eats, is counterbalanced by *another* power by which the old materials of the body are daily destroyed, and expelled from the system; so that one uniform weight and size may be, pretty nearly, always preserved. The former of these powers is called the vital force or principle—the latter, the destructive, or chemical force of oxygen.

The two pounds of oxygen which a man daily takes in, from the atmosphere, by means chiefly of his lungs, unite with two pounds, or thereabouts, of the old materials of the body, and then quit the body again, in company with these old materials, in the shape of those compounds of oxygen which we call breath, perspiration, &c.—and the place lately occupied by these two pounds of old materials, which are carried off in combination with oxygen, is immediately supplied by two pounds of new materials, appropriated by the vital principle, out of the daily food. The body, therefore, is perpetually undergoing the double process of *destruction* and *construction*, or destruction and reproduction. And animal life is very properly termed a state of continual resistance between two opposing forces—the *constructive* or vital force, which is for ever adding new matter to our organs, and building them *up*: and the *destructive* force of oxygen, which is continually pulling them *down*, and carrying them out of the system. Now the health and strength of the body entirely result from the operation of these two powers. The greater the energy and rapidity with which these two processes are carried on, the greater will be the physical strength. And when, in adult life, these two processes are exactly counterbalanced, the health is perfect. But whenever *either* of these predominates over the *other*, then disease occurs. The assimilation of food, therefore, which is effected by virtue of the vital force; and the process of respiration, by means of which oxygen is introduced into the system, for the purpose of effecting its

necessary daily destruction, constitute the two great fundamental powers which support animal life—and they are for ever in *direct* and *active resistance* to one another.

These are the views entertained by the very greatest and latest of all the writers on the subject, Dr. Justus Liebig, whose magnificent work on the chemistry of organic beings is at this moment the admiration of all the learned societies of Europe.

Now the several changes brought about by the operation of these two fundamental powers—viz. the several changes which the food undergoes before it becomes a part of the solid body; and also the several changes which the solid body itself undergoes, in its various combinations with oxygen, in order to its expulsion from the system—are at once expressed by the comprehensive term, CHANGE OF MATTER.

From what has been already said, therefore, it will appear that the degree of health and strength will depend upon the degree of activity with which this change of matter is accomplished—provided always that the destructive and reproductive powers are equally balanced. “All vital activity,” says Liebig, “arises from the mutual action of the oxygen of the atmosphere, and the elements of the food.” And again: “in the animal body we recognise, as the ultimate cause of *all force*, only one cause, the chemical action which the elements of the food and the oxygen of the air mutually exercise on each other.” And again: “all experience proves that there is, in the organism, only one source of mechanical power; and this source is the conversion of living parts into lifeless, amorphous compounds of oxygen.”

How it happens that a rapid change of matter is so necessary to health, I will now explain by a very humble, but, I think, very appropriate, illustration. Suppose a fishmonger find it necessary to have constantly on hand, for sale, a stock of one hundred fish, say mackarel. Now what are the necessary conditions on which *must* depend the freshness and saleable qualities of this fishmonger's stock of one hundred fish? The condition clearly is, that the sale of them shall be incessant and rapid—and that as fast as one of the old fish is sold off, another fish, fresh from the sea, shall be put in its place. Now it is clear,

that so long as this sale or *change of fish* goes on steadily and rapidly, the whole stock of fish will remain perfectly fresh—and that the more rapid the change, the fresher and more valuable will be the stock of fish—and it is equally clear, that if anything occur to slacken the sale, to make the *change of fish* go on languidly and slowly, the whole stock will soon become proportionally stale, and of less value. It is also obvious, that in order to keep up the *constant stock of exactly one hundred*, some of the fish *must be sold* before any fresh ones *can be added*.

Now all this illustrates exceedingly well what is perpetually going on in the body. The oxygen of the air, taken into the system, every moment of our lives, sleeping and waking, by means of the lungs, is perpetually seizing upon the minute particles of the body, combining with them, and carrying them off in the form of breath, perspiration, &c.—while the vital or nutritive force is constantly adding fresh particles, newly endowed with a young and vigorous vitality. And, as in the case of the fish, so also in the body, the more rapidly this change of particles goes on, the fresher, the healthier, the more vigorous, the younger, as it were, will be the condition of the body. For the animal machine is a contrivance by virtue of which inert and lifeless matter is endowed for a time with all the powers and properties of vitality. But the endowment is only temporary, and exceedingly evanescent; for no sooner has a particle of lifeless, inert food been endowed with vital energy, and taken its place as an integrant particle of the living body, than its vitality begins to fade; and it soon becomes necessary to remove it from the body, in order that a fresher, and therefore more vigorously vital particle may supply its place.

Thus, then, it seems, with regard to each particle of the body, that it no sooner begins to live than it begins to die—and it becomes clear that, as in the case of the fish, so in the body also, an incessant and rapid change is absolutely necessary to the vigorous health and freshness of the body. So long as this change goes on rapidly and incessantly, the whole body, that is, the whole stock of living particles, constantly retains its freshness and vigour, because it is for ever *new*. But when anything occurs to *retard* this necessary change of matter, then the par-

ticles of the body, from being retained within the system until they have lost too much of their vital energy, become stale; and as the body is but an aggregation of these particles, and as these particles have lost much of their vital energy, the whole body necessarily becomes weak and languid—the appetite fails, and the spirits are depressed. And that long train of symptoms comprehended under the term nervous weakness, functional disorder, &c., begins to manifest itself. With regard to the body also, as in the case of the fish, it is quite clear that no fresh matter *can* be added, until a portion of the *old* has been removed, if the size and weight of the body is to be maintained. It is also clear, that the faster the old matter is carried off, the more new matter (if the weight and size of the body is to be maintained) must necessarily be added to it. The process of destruction or waste, therefore, must *precede* that of supply.

Having thus briefly alluded to the two great fundamental powers which support animal life, I must now mention a third remarkable power with which living animals are endowed. Professional men have named this force or power, the *vis medicatrix naturæ*—or curative power. If a piece be cut out of the solid flesh, certain new actions will be set up in the part, for the purpose of remedying the mischief. A degree of healthy inflammation will occur, and pus and coagulable lymph will be poured out, and the result of this will be, that the wound will be filled up with new flesh, and healed. If a small splinter of wood be accidentally thrust into the flesh, so that it cannot be withdrawn, inflammation will come on, a discharge will be set up, and the splinter will be removed with the discharged matter. The force or power by which these effects are produced is called the *vis medicatrix naturæ*, or curative power. The instances of manifestation of this power which I have given are very common ones; but there are many ways in which this power can exhibit its peculiar effect. When small-pock matter has been introduced into the system, its quantity becomes marvellously increased, as yeast, when added to sweet wort, has its quantity greatly augmented. The continued presence of this foreign matter in the system would be incompatible with life. The curative power, therefore, throws it to the surface, institutes a multitude of

small abscesses in the skin, called pustules, through which the matter is discharged out of the system. The eruptions of measles, scarlet fever, &c., are produced in the same manner, by the same power, and for the same purposes. But the energy and efficiency with which the curative power can fulfil its office in the economy, must depend upon the energy and activity with which the change of matter is accomplished—or, in other words, upon the health and strength of the body. Experience proves this beyond doubt. For we invariably observe that all wounds, and other local affections, get well very much more quickly when the body is healthy, than when it is weak and sickly.

Before I conclude this part of the subject, it is necessary to say a word or two on the subject of temperature. Every animal has its own peculiar fixed temperature, upon the preservation of which unchanged its existence depends—and, losing which, disease first, and finally death, necessarily ensue. In different animals, the temperature varies considerably. In fish, the mean temperature is from 2.7° to 3.6° , above that of the water which they inhabit. In the pigeon it is 107.6° —in the guinea pig 100.4° —dog 99.3° —and in man 99.5° . This is the mean temperature; but there are slight variations in different individuals, which doubtless help to account for difference of character. But 99.5° is about the mean temperature of man. Of course I speak only of the *internal* temperature.

Now it is remarkable, that although the animal body is a heated mass that gives out its heat to the surrounding medium like any other heated mass—that is, with greater or less rapidity according to the greater or less degree of cold with which it is surrounded—it is remarkable, I say, that notwithstanding this, it preserves one unchanging temperature, whether it belongs to the inhabitants of the frozen regions of the arctic circle, or to that of the burning sands of Africa. So great, indeed, is the importance of a uniform temperature, and so careful has nature been to provide against any considerable change in this respect, that nothing short of violence, can affect it—but, whenever any material change of temperature *has* been effected, disease and death necessarily ensue, unless the proper temperature be restored.

Nature has guarded against any *increase* of temperature by establishing a cooling process, viz., the process of insensible perspiration. And the contrivance is so managed that whatever has a *tendency* to raise the temperature, has an equal *tendency* to increase the activity of the cooling process—so that these two tendencies destroy each other, and the temperature remains unchanged. Thus, if a man be put into an oven sufficiently heated to roast a joint of meat, the thermometer proves that his temperature is not raised more than a degree or two. And the reason is this: as fast as the heat is received into his body from the heated air of the oven, it is driven *out again*, with the perspiration, which is streaming from every pore—and so the temperature remains the same. The means by which the temperature is prevented from falling, in the cold latitudes, is easily explained; but such explanation is not necessary in this place. My object now is merely to show the absolute importance of a fixed temperature.

It may be proper to mention here, that animal heat, as well as animal strength, is produced by those changes of matter, within the body, which are effected by means of the inspired oxygen, of which I have already spoken—those new combinations with oxygen, into which the living particles are continually entering, within the tissue of all our organs, with a view to their expulsion from the system; and which combinations with oxygen cannot take place without the extrication of heat—a law of nature, which chemistry has long ago fully established. “The high temperature of the animal body, or, as it may be called, disengagement of heat, says Liebig, “is uniformly, and under all circumstances, the result of a combination of a combustible substance with oxygen.” And the animal body is as assuredly a combustible substance as a log of wood, *since combustion signifies nothing more* than combination with oxygen, or other supporter of combustion, accompanied by the extrication of heat.

The mode in which oxygen finds its way into the most intimate recesses of the tissue is this. The blood is filled with an infinite number of small opaque bodies called blood-globules. At every inspiration we take into the lungs a certain amount of oxygen.

This oxygen immediately attaches itself to these blood-globules, by which it is carried into the heart first, and then, by it, distributed to every point of the human body, into which, quitting the globules, it is absorbed. The blood-globules, therefore, are the *carriers of oxygen*.

Having premised thus much concerning the nature of the living actions, I must now be permitted to make one or two remarks on the nature of disease in general.

Since the fundamental actions whereon life and health are based, consist of changes of matter—that is, the change of food into solid living tissue, and the after change of that same solid living tissue into lifeless compounds of oxygen—it follows that disease, which is but an error in the living actions, must consist in some error, either in the manner, or amount of the *change of matter*—some error either in those changes by means of which the body is built up—or in those by means of which it is pulled down. A cancer, for instance, is an error in those changes by which the body is built up—an ulcer is an error in those by which it is pulled down. Now, since health is a state of equilibrium between two opposing forces—the conservative, vital, or nutritive force, and the destructive or chemical force of oxygen—it follows, that disease is a state, in which this equilibrium is lost, so as to give a preponderance to one of these forces over the other. “The action of a cause of disease,” says Liebig, “exhibits itself in the disturbance of the proportion between waste and supply, which is proper to each period of life. In medicine, every abnormal condition of supply or of waste, in all parts, or in a single part, of the body is called disease.” Disease, therefore, is a disturbance of the equilibrium between waste and supply—between the destructive action of oxygen, and the resisting action of the vital, or nutritive, or, as it is sometimes properly called, the conservative force.

All diseases are divided, by medical writers, into two great classes—acute and chronic. *Acute* diseases are such as run a short and defined course, and soon terminate either in death or recovery. This class is almost entirely constituted of fevers and inflammations, conjointly or separately. Now let us take a case of inflammation of some important organ, as representative of

that class of diseases called acute; and then let us apply to it the hydropathic remedy, and observe the mode in which that remedy operates, so as to remove the disease. But before I do this, I must just mention that it is an admitted and fundamental principle, in the science of healing, that all diseases must be cured by the inherent energies of the living system *itself*. And, this great and acknowledged principle is so important to the doctrines of hydropathy, that I will not suffer it to rest merely on my own authority; but will quote the language in which this golden rule is laid down and enforced, in the *Theory and Practice of Medicine*, by Dr. George Gregory, a standard work, in high estimation, throughout the medical profession. "As a general principle of the *first* importance," says Dr. Gregory, "I would here wish to inculcate *strongly upon the student*, that the cure of all diseases must be effected by the powers of the *living system*; and that his remedies are *merely* to be employed with the view of placing the body under the most favourable circumstances for *resisting disease*."

Within the chest there are several important organs which are perhaps more frequently than any others becoming the seat of dangerous inflammations. Of these I will select one as being very common, and the name of which is familiar to most of us. I mean pleurisy, or acute inflammation of the pleura—that membrane which lines the cavity of the chest, and envelopes the lungs. Now it is extremely important that this disease should be subdued as quickly as possible; because it can scarcely continue for any considerable length of time, without giving rise to other diseases; some of which are of a mechanical nature, and incurable by any known means. These are extensive adhesions between the several thoracic organs, by which their vital functions are impeded, and premature death rendered inevitable. Besides these deadly adhesions, a large quantity of matter will sometimes be poured out into the cavity of the chest. More than a pint has been known to collect within six and thirty hours after the first attack.

In contemplating the condition of a patient labouring under pleurisy, wherein do we find it differ from that of a healthy man? The differences are these: the healthy man will be

observed to breathe about 18 times in a minute—the pleuritic about 30. The pulse of the healthy man will make about 72 strokes per minute—that of the pleuritic 120. The pulse of the sound man will be soft and easily compressible—that of the sick man hard, strong, and incompressible. The pleura of the sound man would appear (if it could be seen) pale, smooth, and shining—that of the pleuritic patient, uneven, red, swollen, and its vessels gorged with blood. In the pleura of the sound man the destructive force of oxygen is exactly counterbalanced by the *resistance* offered by the vital or constructive force. In the pleura of the sick man, some cause has weakened the resisting energy of the vital force—the balance (in which health consists) between these two forces is lost—the *destructive* preponderates over the *constructive* or vital force—and the oxygen is literally combining with, and destroying the *substance* of the pleura—while a continued and *unnaturally abundant* supply of oxygen is carried to the inflamed part by the unnatural velocity of the circulation—for we have seen that the oxygen is conveyed to every point of the body, by the blood-globules, which float in the blood, like countless shoals of fishes in a stream of water.

Now we have seen that the pleura of the pleuritic man is *red* and *swollen*, and that its vessels are *gorged* with *florid* blood. The *red colour* is entirely owing to the presence of too much oxygen; for the blood owes its florid colour solely to oxygen. And the swollen condition, and the engorgement of vessels, are owing to the *rapid circulation* by which blood is *brought* to the part by the arteries, *faster* than the veins can carry it away. The thermometer shows also an *increase of temperature* at the inflamed part. Now since animal heat is produced solely by the combination of oxygen with the materials of the body, it is clear that this *increase* of temperature is owing to the *increased activity* with which oxygen is combining with the substance of the diseased pleura.

The indication of cure, as it is called, is in this case, and in all cases of this class, to diminish the velocity and force of the circulation, and to lessen general excitement. The means on which medical men chiefly rely for accomplishing these

objects are, low diet, bleeding, blistering, vomiting, purging, nauseating doses of antimony, and foxglove. These are the powerful means, the sole object of which is to diminish the preternatural velocity of the circulation and to lower excitement, in order to give an opportunity to the curative power (by which alone, as we have just seen, all diseases must be cured) to restore the balance, in the diseased part, between the resisting power of the vital principle, and the destructive force of oxygen. The good effects of lessening the velocity of the circulation depend on this: that under a *slower circulation* a much less amount of oxygen is carried to the inflamed part in a given time. And, therefore, the ravages produced in this part, by the action of the oxygen, is at once checked. And it is solely on this principle that low diet, and such medicines as have the effect of diminishing the circulation, as foxglove, antimony, &c., produce their good effects in these cases. Bleeding effects the same object; but it also effects another. By abstracting blood from the system, the number of the *carriers of oxygen* (the blood-globules) is diminished, and therefore the supply of oxygen to the inflamed part rendered more difficult and less rapid. Blisters, also, produce their beneficial effects, by diminishing the amount of oxygen carried to the inflamed part; but they operate in a more indirect manner. In health, the destructive force of the oxygen is resisted in every part of the body with an equal energy. But when, from any cause, the resistance becomes weaker in any *one part* than it is in any *other*, that one part will become, as it were, a centre of fluxion, since the oxygen will always attack those parts where it meets with the least resistance, in preference to *others*, in which the resistance is more energetic. Now in pleurisy, as we have already seen, the vital resistance in the diseased part is *deficient*; and, in consequence of this, the destructive force of oxygen is going on with an abnormal or morbid activity. But now, if a blister be applied to the surface of the body, opposite to the diseased pleura, a part of the surface will be actually destroyed by the blister—or, in other words, at the blistered surface, the vital resistance has been rendered still more deficient than it is at the inflamed part, in consequence of which, the action of the oxygen

is determined from the diseased part; because, although the resistance it met with at the inflamed part was weak, yet the resistance which it meets with at the blistered part is weaker still.

All the heavy artillery of medicine, therefore—its lancet, its blisters, its tartar emetic, its calomel, and its foxglove—is brought to bear, in cases of acute inflammation, for the sole purpose of lessening excitement, and of diminishing the velocity of the circulation. And the reason why it is desirable that these two effects should be produced is, that a diminished quantity of oxygen may be conveyed to the inflamed part—that thus the destructive process may be arrested in time to allow the curative power to manifest itself, before irremediable alteration of structure has been produced.

Having thus made ourselves acquainted with the *nature* of the disease—having thus observed *which* of the living actions are going wrong, and *how* they are going wrong—having also learned what are the *objects* of treatment—what are the *intentions* to be fulfilled, by whatever means are adopted in order to stop the disease—let us now pause, and inquire into the general and immediate effects, produced upon the living system, by the *reduction of temperature*. These effects have been repeatedly proved, in the case of persons, accidentally exposed to severe cold—as when they have been buried, for a time, in snow, &c.

The first and immediate effects of cold upon the living system are to *diminish the velocity* of the heart's action, to *lessen sensibility*, and to decrease the number of respirations in a given time. Under the protracted influence of cold, the pulse becomes slower, feeble, and thready—the respirations also, like the pulse, *sink* from 18 to 14 or 12 in the minute. Whatever degree of excitement, too, might have been present; as, for instance, the excitement of danger, rapidly vanishes—in a short time, the circulation has become so languid, the respirations so infrequent, the limbs so feeble, the sensibility so blunted and overwhelmed, that the desire to desist from all efforts at escape becomes perfectly irresistible; and the victim throws himself down, and willingly resigns himself to that insensibility, from which he is perfectly conscious he will never awake. The influence of the cold continuing, the circulation and sensibility

fall lower and lower, until at length they cease altogether. I have put an extreme case, for the purpose of illustrating more forcibly the general effects of cold upon the living system. But of course its effects can always be modified, by the degree of intensity, with which cold is applied.

The direct influence of cold, therefore, is to *diminish the frequency and strength of the pulse, and to lessen excitement*. But to produce these two effects, we have already seen, is *precisely the sole object of all the bleeding, the blistering, the tartar emetic, the calomel and opium, the purging and the foxglove, by which pleurisy is treated according to the present system of medical practice*. If a full bleeding and a large blister have lessened the rapidity of breathing, and rendered the pulse *slower, softer, and weaker*, they are said to have produced the *desired effect*. If these effects be not produced by the *first* bleeding and blistering, these operations are repeated until these effects are accomplished—that is to say, until those effects, on the respiration and pulse, be produced, which can at any time be accomplished, solely by exposure to the necessary degree of cold.

Let us now suppose a person with inflammation of the pleura is put into a cold bath and there kept for a certain time. The first effect is to lessen the frequency of the inspirations, by which a less quantity of oxygen is taken into the system. The next effect is to diminish, in a remarkable and striking degree, the force and frequency of the pulse, so that a diminished quantity of oxygen is carried to the *inflamed part*. Here, then, we have *all the effects* which are sought to be produced by bleeding, low diet, tartar emetic, foxglove, and calomel and opium—and there only remains the blister. Now we have seen that the good effects of a blister are produced by determining the force of oxygen from the *inflamed part* to the *blistered part*—and the means by which a blister is enabled to do this are the power which enables it to weaken the vitality so much, that the resistance offered by the vital force, at the blistered part, shall be even smaller than the resistance offered at the inflamed part. Now the effect of cold in lowering the vital energy is so extremely well and commonly known as to need little or no illustration on my part. The frozen nose of Russia, the frost-

bitten toes, common even in our own country, in severe winters, and that condition of the fingers when we say they are benumbed with cold, are all instances of the effects of cold in lowering and even destroying the vitality of living parts. When, therefore, the whole surface of the body is submitted to the continued influence of cold water, the vitality of the whole surface may be lowered to almost any extent, and thus the force of the oxygen be withdrawn from the inflamed part, and determined towards the skin, whose *reddened* appearance demonstrates that this effect *has been produced*, since the red color is owing to, and *can only* be occasioned by, the *increased quantity of oxygen* which has been brought to it.

Thus, then, I think it is quite obvious that the judicious application of cold, by means of the cold bath, can produce not only all the beneficial effects of low diet, blood-letting, tartar emetic, foxglove, and cathartics, but also all those of the blister—and that, too, in an infinitely higher degree—for whereas the effects of a blister are confined to a single small portion of the skin, those of the cold bath are universal over the *whole surface of the body*. Thus, then, the effects of cold water, and those produced by the ordinary treatment, are not only *equivalent*, but they are the *very same*.

And the manner in which they both operate so as to cure inflammation of an internal organ may be exceedingly well illustrated by observing the different degrees of activity with which a fire is made to burn by closing and by throwing open the furnace door. When the door is shut, there is a strong current of air produced through the ash-hole beneath, which is directed upon the under surface of the fire; by which current an unwonted quantity of oxygen is thrown upon the ignited materials—and the fire burns with dazzling brightness, and extricates an intense heat. But now if the door of the furnace be thrown open, and the current of air stopped, so that no more oxygen is conveyed to the fire-place than to any other part of the room, the fire will be observed instantly to become dull, and it will continue to grow duller and duller until it goes out entirely. Now this is precisely what happens when a patient, labouring under pleurisy, is submitted to treatment either by cold water, or by the lancet,

blister, tartar emetic, calomel, and foxglove—for in these cases, the effects of both treatments are the same. *Before* he is submitted to treatment, some cause has, by weakening the vitality of the diseased part, determined an unusual quantity of oxygen to that part, just as the closure of the furnace door has the effect of determining an unwonted quantity of oxygen to the fire. Both in the diseased organ, and in the fire, the consequences of this unwonted afflux of oxygen are precisely the same—that is, a more rapid and violent combination of oxygen with the carbon and hydrogen of the fuel in the furnace, and with the carbon and hydrogen of the substance of the diseased organ, in the body; and, in both cases, a greater amount of heat is liberated. Both the fire in the furnace, and the fire in the inflamed organ, burn more fiercely. In both instances combustion is urged on with greater violence.

But when the patient has been submitted to either of the two modes of treatment to which I have alluded, the same effects are at once produced upon the inflamed organ as are produced upon the fire, by throwing open the furnace door, and thus stopping the current of air—combustion is retarded—and the inflammation immediately begins to burn dully for the same reason that the fire burns dully—viz. because, in both, the supply of oxygen—without which neither the inflammation of a living organ, nor that *other* inflammation of ordinary materials which we call fire, can possibly exist—the supply of oxygen, I say, is, in both cases, suddenly and greatly diminished—in the one, by opening the furnace door, and thus checking the current of *air* which carries *oxygen* to the fire; and in the *other*, by checking the current of the *blood* which carries *oxygen* to the inflamed part. For as, in the external world, the oxygen is circulated to every part of it, *by the air*; so, within the *body*, the oxygen is circulated to every part of it, *by the blood*. By opening the furnace door, the equilibrium of the circulation of the air, and therefore of oxygen, is destroyed; a current is set up, by which a disproportional amount of oxygen is circulated through the fire. So when any cause has weakened the vitality of an organ, the equilibrium of the circulation of blood, and therefore of oxygen, is, in like manner, lost. The pulse proves

that the velocity of the blood's circulation is exalted, while the microscope shows, that the capacity of the capillary vessels of the inflamed part is enlarged. The original cause of disturbance, diminished vitality, has so weakened the coats of the vessels that they yield to the lateral pressure of the current of blood within them—they are thus made to admit a larger column of blood, while their power to propel it forward is *lessened*. Thus the diseased organ becomes a centre of fluxion, *towards* which is determined, and *within* which is detained, a disproportional amount of blood, and therefore of oxygen—of which oxygen the increased rapidity of the respiration furnishes an incessant supply.

Inflammation, therefore, being a disease depending on excess of oxygen, nothing can be more obvious than that its cure can only be effected by such treatment as has the power to curtail the supply of oxygen—and this can only be accomplished by diminishing the activity of that process (respiration) by which oxygen is brought *into the system*; and also by diminishing the activity of that *other* process, (the circulation of the blood) by which the oxygen imported into the system by respiration is carried to the diseased organ. And to diminish the activity of these two processes is the sole object of all the bleeding and the blistering, and the tartar emetic, and the calomel, and the fox-glove, which are resorted to in acute inflammation of the pleura. But I repeat that the activity of these two processes can be as quickly, as certainly, as effectually, and infinitely more safely and agreeably depressed by the judicious application of cold water alone—as all experience of the common effects of cold sufficiently proves.

But I do not think it sufficient to show that the treatment of acute diseases by cold water is *as good* as the old method. For, in order to afford reasonable grounds for exchanging the old treatment for the new, it is, I conceive, necessary to prove that the new is not only *as good*, but *better* than the old. With regard to bleeding, the sole object is to diminish the number of blood-globules, because it is these which absorb the oxygen out of the air which we breathe, and convey it to all parts of the body. To diminish the amount of blood-globules, therefore, is

to diminish the amount of oxygen, and these blood-globules take no part in the nourishment of the body. But it unfortunately happens, that in bleeding, we cannot abstract the blood-globules, without *also* abstracting the nutritious parts of the blood along with them, as the fibrine, the albumen, &c. And thus, even when bleeding has succeeded in curing the disease, it has so emptied the body of the vital fluid, and reduced it to such a degree of extreme weakness, as, not only to make convalescence, in all such cases, slow and precarious, but often to lay the foundation of new diseases, (as dropsy, pulmonary disease, &c.) more slow in their development, but not less deadly in their nature, than that for the cure of which the bleeding was adopted. But the application of cold water, when judiciously managed, and with a full knowledge of the effects which it is intended to produce, achieves *all the good* which can be effected by bleeding, without any of its *evil* consequences.

With regard to the tartar emetic, the foxglove, the cathartics, the calomel and opium, &c., it is *admitted, as a principle*, that every dose of these, and such-like substances, is productive of a *certain amount of mischief*—and their warmest admirers will only say of them that they are evils which we voluntarily undergo in the hope of escaping a still greater evil—that the evils inflicted on the living springs of the animal machine, by the frequent exhibition of minute doses of these poisonous substances, are only so many penalties—and sometimes very heavy ones—which we agree to pay, in the hope of being by them protected from the still greater evil of absolute death. But the evils entailed upon the system, by the influence of drugs, are sometimes so great and permanent, that they can never afterwards be entirely removed; but pursue their victim to the grave; poisoning all the springs, and embittering all the enjoyments, of his after life. With regard to blisters, all will allow that they are, at least, disagreeable, if not hurtful.

Thus, then, it appears, that the proper use of cold water can, in acute inflammatory diseases, produce all the good results of the ordinary practice, without any of those numerous and sometimes deadly effects, which the most skilful practitioners, on the old system, are not always able to prevent—and is, therefore,

pro tanto, certainly to be preferred. Neither is the agency of cold water deficient in *power*; for, when carried to an extreme, it can, like bleeding, produce insensibility and death. The effect of cold, in determining the force of oxygen from one part of the body to another, sufficiently illustrates the necessity of knowing in what part or organ of the body the disease is situated. For, not knowing this, the practitioner might apply his local baths to the wrong part, and so determine the force of oxygen *to* the diseased organ, instead of *from* it; and thus augment the malady instead of relieving it.

I now come to that other large class of diseases called *chronic*. And these I shall subdivide into two smaller divisions—viz., into those which depend upon weakness, or deficiency of living power; and those in which there is something or other—some foreign or morbid matters—present in the system, and whose presence constitutes the proximate cause of the disease.

It has been stated at the early part of this lecture, and the statement was supported by quotations from the very highest authority on this subject, Dr. Justus Liebig, that the ultimate cause of *all force* in the animal economy is the change of matter—that series of changes which the food undergoes until it becomes fixed in, and a part of, the solid organism; and that other series of changes which it undergoes, and which separates it from the solid organism again, and finally expels it from the system, in the shape of those lifeless compounds of oxygen, called breath, perspiration, &c.—and that the energies of the body must ever be proportional to the energy and rapidity with which this double series of changes of matter are carried on. If this be so, then it is sufficiently obvious that the essential nature of weakness consists in the diminished activity with which this change of matter is effected—and that whatever can *accelerate* the change of matter is precisely the very remedy to which we must look, for the cure of all such diseases as depend upon weakness—that is, upon a *diminished* activity in the *change of matter*.

Now, it has been already shown, that the effect of cold is to diminish the resistance offered by the vital force to the action of oxygen. “The living animal body,” says Liebig, “exhibits its peculiar manifestations of vitality only at certain temperatures.

When exposed to a certain degree of cold, these vital phenomena entirely cease." And, continues he, "the *abstraction of heat* must be viewed as quite equivalent to a diminution of the vital energy." But, of two opposing forces, to diminish the energy of one, is to *increase* the energy of the other. To diminish the *vitality*, therefore, in any part, is to increase the action of oxygen in that part—and hence it follows, that to abstract heat from the body temporarily, is, de facto, to increase temporarily, the energy of the chemical force of oxygen—or, in other words, to *accelerate* and *exalt the activity* of those changes of matter, which are effected through the agency of oxygen. Now this *increase of waste*, brought about by the increased activity in the destructive agency of oxygen, produces in the system a sense of *want*—that want, which, in the silent language of instinct, makes itself known by means of the sensation which we call hunger or appetite. There is an increased demand for food—and thus a more rapid supply of new material is brought about by the very same means whose more immediate effect was only to produce a more rapid destruction of the old. And in this way, the whole circle of those changes of matter, upon the activity of which the health and strength depend, is *exalted and accelerated*—and that languid condition of the body, which resulted from a *languid change of matter*, is removed—the stale particles of the body are expelled, and their place supplied with *NEW*—and the youth, vigour, and freshness of the entire body is thus restored. And *now*, if there were any disease which depended upon the former weak and languid circulation of the health, it will get well; because the curative power, whose energy depends upon the energy of the other living actions, has its own vigour restored, in common with that of all the other powers, and is now in a condition to fulfil its own proper function in the body—which is, to resist the action of all morbid causes, and to remove whatever diseases have already been established.

"Practical medicine," says Liebig, "makes use of cold in a highly rational manner, as a means of *exalting and accelerating* in an unwonted degree, the *change of matter*." And again: "the cooling of the body, by whatever cause it may be produced,

increases the amount of food necessary. The mere exposure to the open air, in a carriage, or on the deck of a ship, by increasing radiation and vaporization, increases the *loss of heat*, and compels us to eat more than usual. The same is true of those who drink large quantities of cold water, which is given off at the temperature of the $99\frac{1}{2}^{\circ}$. It increases the appetite, and persons of weak constitution find it necessary by continued exercise (in the open air) to supply to the system the oxygen required to restore the heat abstracted by the cold water." And again: "In winter, when we take exercise in a cold atmosphere, and when consequently, the amount of inspired oxygen increases, the necessity for food, containing carbon and hydrogen, (which all food contains) increases in the same ratio; and by gratifying the appetite, thus excited, we obtain the most efficient protection against the most piercing cold." And again: "Our clothing is merely an equivalent for a certain amount of food. The more warmly we are clothed, the less urgent becomes the appetite for food, because the loss of heat by *cooling*, and consequently the amount of heat to be supplied by the food, is diminished." "The quantity of food is regulated by the number of respirations, by the temperature of the air, and by the *amount of heat given off* to the surrounding medium. No isolated fact," continues he, "apparently opposed to this statement, can affect the truth of this natural law." It is wholly independent of all theory. It rests solely on *facts*. How powerfully does all this tell in favour of the doctrines of the hydropathic philosophy—in favour of the *external* use of cold water—the *internal* use of cold water—the great value of air and exercise—and against the pernicious effects of habitually enveloping the body in flannel—and against the evil consequences of those so-called comforts—those multiplied and careful appliances, by which we endeavour to exclude ourselves, as far as possible, from precisely the two *most indispensable* of all earthly blessings—the breath and the dew of heaven, the blessings of air and water.

We now come to the third great class of our diseases—those which depend on the presence of foreign bodies, or morbid matters, in the system. Repeated mention has already been made of what is called the *vis medicatrix naturæ*, or curative

power. The existence of such a power is proved by its visible effects—and we have already seen that it is a universally acknowledged and fundamental principle in the art of healing, that all diseases must be cured by this *power*; and that remedies can do no more than afford an indirect assistance to *this power*; by placing the body under such circumstances, as are most favourable to its manifestation or exertion. In inflammation of the pleura we have seen that the manifestation of this power is prevented by the excessive rapidity of respiration and circulation, by which an excess of oxygen is constantly conveyed to the diseased organ. And we have also seen, that when this excessive afflux of oxygen is cut off, by diminishing the activity of circulation and respiration, the curative power is then enabled to manifest itself, and the disease gets well. It is true that we know nothing of the *nature* of this power, but that does not in any way prevent us from reasoning, with the most perfect accuracy, concerning its *effects*. For we know nothing whatever concerning the nature of that power called gravitation, upon which all the phenomena of planetary motion, as well as all those of a common clock, depend; yet we can reason, with the most perfect mathematical accuracy, both concerning the planetary motions, and the motions of a clock.

“In our ordinary time-pieces,” says Liebig, “we know, with mathematical accuracy, the effect produced on their rate of going, by changes in the length of the pendulum, or in the external temperature. Few, however, have a clear conception,” continues Liebig, “of the influence of *air* and *temperature* on the health of the human body; and yet the research into the conditions necessary to keep it in the normal state, is not more difficult than in the case of a clock.”

Now, in the state of health there are perpetually formed in the body certain matters, as, for instance, the perspiration, breath, &c., which are not destined to remain there, but to be perpetually expelled. And the animal body is provided with certain outlets expressly for the expulsion of these matters. These matters, although destined to be expelled, and which, if not expelled, become foreign matters, and causes of disease, are nevertheless natural productions. But, under the operation of

morbid causes, it often happens that *unnatural* productions take place, as for instance, the matter of cancer; or foreign and morbid matters may be introduced into the system through the lungs or skin, as in small-pock; and which foreign matters cannot be expelled, by any of the natural outlets. Now what are the means by which the curative power attempts to expel these morbid matters? We need only consult our senses and they will answer the question. I have already illustrated this subject by reference to the manner in which the curative power expels from the system the matter of small-pock, which has been previously introduced. It effects its object by instituting a number of new extemporaneous outlets, for the express purpose of getting rid of the offending matter, in the shape of those little abscesses called pustules or pimples. In like manner, those larger abscesses familiarly called boils, or furunculi, are so many new and extemporaneous outlets instituted by the curative power, *pro tempore*, for the purpose of expelling certain offending matters which cannot, from some peculiarity in their nature, find an exit, by the ordinary channels of expulsion, along with the excretions.

A remarkable instance of the wonders which can be performed by the curative power used to be related by the late Sir Astley Cooper, when I had the honour to sit under him as a pupil of the Borough Hospitals. There was, in Guy's Hospital, a man suffering under mortification of the leg. The disease gradually spread until it had nearly reached the knee, and Sir Astley had just determined that nothing could save the patient but amputation, when he thought he saw an attempt on the part of nature to save him the trouble, by taking the case into her own hands, and amputating the limb *herself*. Sir Astley, who, among his many brilliant qualities, was remarkable for *nothing* more than his habits and great acuteness of observation, and the devotion with which he watched and studied the operations of nature, determined to wait the result, and see what prowess the curative power would exhibit as an operating surgeon. In the meantime, the operation went on—a process of ulceration, which separated the diseased from the healthy parts, proceeded quite round the limb, forming a little circular ditch or fosse, such as might have

been made with a piece of string drawn so tightly round the part, as to cut into the flesh. Day by day, this circular ditch became deeper and deeper, until, in process of time, the leg was *eaten quite off*. It was, de facto, amputated by the ulcerative process, established by the curative power for that purpose. The stump healed rapidly, and the man got perfectly well.

Such are the great things which the curative power can accomplish under *favourable* circumstances. But if the patient whose case I have just detailed, instead of being placed under the favourable circumstances of a large, well-ventilated, clean, and airy hospital ward, a well-regulated diet, &c., had been placed under the unfavourable circumstances of a small, confined, dirty, and ill-ventilated room, and an ill-regulated diet, the enfeebled condition of his general health would have *disabled* the curative power—there would not have been in his system, strength sufficient to establish the amputating process—the mortification would have spread above the knee—and death must have ensued, or amputation have been performed by the surgeon's knife—and even *this* might not have prevented it. You will now understand the full value of that principle which declares that the legitimate object of all remedial treatment is to place the body under the most favourable circumstances for enabling the curative power to manifest itself—and also what is *meant* by those expressions.

Now, therefore, whenever there are, present within the tissues of any of our organs, any morbid matters or foreign bodies, giving rise to pain or other disordered phenomena, the curative power will make an attempt to establish an extemporaneous outlet for such matters. But, as too often happens, if the general health be depreciated by luxurious, or too sedentary, or other unhealthy habits—if the system be weakened by too *much*, or too *long continued* excitement, whether moral, or from the use of stimulating drinks—if the digestion have been impaired by too much food, or food of improper qualities—if the unnecessary use of flannel, and the too free indulgence in the luxury of warm and well-curtained and well-carpetted apartments, soft beds, and other so-called comforts, have *retarded* the change of matter, so that the integrant elements of the body have become, as it were,

stale and flaccid—then the curative power will have lost much of its energy, and will fail in its attempt to establish the new outlet which is necessary for the expulsion of the offending matters—because the body is now placed under *unfavourable circumstances* for its manifestation.

In what manner the hydropathic treatment operates, in this third class of diseases, is the question which now falls to be considered.

In the first place, we have already seen, it *exalts* and *accelerates* the *change of matter*—and this statement is supported by the high authority of Liebig himself. But it has also been stated that the vigour of the body must always be in a *direct ratio* with the exaltation and acceleration of this *same change of matter*—for which statement we have also the support of the same high authority. The first effect, therefore, is to invigorate the entire system—and thus, and by removing the patient from the influence of all external morbid causes; from all causes of morbid excitement; from the depressing influences of too much clothing, and too warm apartments—by withdrawing him from the impure air and the various anxieties of a town life, whether of business or pleasure—it places him at once under the most *favourable circumstances*, for the curative power to manifest itself, in its own way, and with the utmost possible amount of energy. Now if the hydropathic treatment did this, and *no more* than this, all thinking persons would recognise in it, at *least*, a most valuable auxiliary in the cure of diseases; and would acknowledge that there are many things, of daily practice, in the science of healing, which merit the public sneer much more truly than Hydropathy. But its beneficial effects by no means stop at this point, as I shall now endeavour to show.

It will be obvious to every one that when the body has been the subject of any painful or other severe disease for a *considerable time*, it may often be impossible, even by *ANY* means, to impart to it a sufficient degree of *energy* to enable the curative power to manifest itself with the full vigour of which it is capable in the strong and perfectly healthy subject.

It may have energy *enough* to make the attempt, but *not enough* to succeed. We have already seen that the mode in

which the curative power endeavours to cleanse the system from offending matter, is the establishment of extemporaneous outlets. But before the living structure of any part of the body can be broken down, and a new outlet established, it is clear that the *resistance*, perpetually offered by the vital force, to *all* disturbing causes, must *first* be overcome. And it is here that the efficacy of cold water, in *diminishing* the vital force, steps in to the assistance of the curative power, and by weakening the resistance offered by the vital force, enables it to establish an outlet, where it could *not* have *opened* one until such resistance had been diminished. The outlet, thus opened, becomes a centre of fluxion, towards which the offending matters (if any such be present in the body) are determined by the curative power, and through which they make their escape from the system. At Gräfenberg these extemporaneous outlets are called crises, and are always expected and looked for with great anxiety, and their appearance welcomed with great pleasure, as the almost certain heralds of recovered health. And these outlets may often be established in any part of the body in which it may be thought desirable to open them, by directing the influence of cold more *especially* upon *that part*. But the good effects of these crises do not stop here; for independently of the ready means of escape which they offer to any morbid matters which may have remained locked up in the system, for want of some such means of escape, these critical eruptions undoubtedly act as counter-irritants of the most *powerful* and *extensive* kind; relieving the entire system, upon the same principle that a local disease is frequently relieved, by the pustular eruption, produced by tartar-emetic-ointment, and by issues, setons, perpetual blisters, &c.

However fallacious the humoral pathology may be, as an *exclusive* doctrine, there are many important diseases, both acute and chronic, in which, I conceive, it is impossible to deny its truth—as, for instance, in small-pock, cow-pock, together with most of the eruptive fevers; and also in ringworm, and all such diseases as can be propagated by inoculation. In these instances we *know* that the blood has been poisoned by the introduction of morbid matters; and we also know that the *same*

morbific matters are thrown *out* of the system again, since they are capable of propagating the *same* diseases to other persons. It is, therefore, only in strict accordance with analogical reasoning, to suppose that many of those anomalous diseases, whose pathology is wrapt in obscurity, may depend upon the presence of foreign matters in the blood, which can only be expelled through *new outlets*, instituted by the *curative power* for that purpose, as in small-pock, measles, &c. And thus, while all analogy goes to prove that this hypothesis *may* be right, there is nothing, I believe, in the known nature of the living actions, which can *prove* it to be *wrong*.

But, besides those morbid matters which may exist, in a state of solution, in the blood, there are *other* foreign bodies, which may find a lodgement in *other* parts of the system, and become the cause of severe and even deadly disease. Thus, a blow on the head may have ruptured a minute blood-vessel, and a small quantity of blood, oozing from the rupture, may have formed a clot, which, pressing upon the origin of certain nerves may give rise to paralysis. Some of the forms of epilepsy, too, may undoubtedly be produced by some irritating material cause present in the brain; for tumours, abscesses, growths of bone, and effusion of serum within the ventricles, have sometimes been discovered in the brains of epileptics after death.

Now, in the case of the clot of blood, it is clear, from the anatomical structure of the parts, that before it can be removed from the system, it must be dissolved and conveyed into the blood—and I will now endeavour to explain how this solution is accomplished by the hydropathic treatment. But I must here premise that this treatment comprises several *adjuncts*, which, in certain cases, are of essential importance. Of these, a rigorous diet, especially in the cases now under consideration, takes the first rank—not however at Gräfenburg—for *there* it is most absurdly and utterly neglected. But at other establishments which I visited, it is, in certain cases, very properly considered of great moment.

It must here be remembered, that the atmospheric air introduced into the system by the process of respiration, (or rather the oxygen which the air contains) is perpetually striving to

consume the body; and is only prevented from doing so, by the daily introduction of fresh materials in the shape of food. "Thirty-two ounces and a half of oxygen," says Liebig, "enter the system daily, and are given *out again* in combination with a part of the body." So that, when the supply of food has been cut off, rather more than two pounds of the body are carried off *daily*, by the oxygen inspired along with the atmospheric air. Now, by observing what takes place in a starving man, it will be seen that the oxygen will always consume, *first*, such parts of the body as are the *least essential* to life. This is one of those beautiful precautionary provisions of nature, which, however unaccountable as to their cause, are, nevertheless, most manifestly observable in every department of the animal economy. Owing to this provision, whenever the supply of food has been accidentally cut off, those parts of the body which are *not* essential to life serve to *protect* those which *are*, from the destructive influence of oxygen, by combining with that element which would *otherwise* combine with the more *vital parts*, and so extinguish the life of the animal.

"The first effect of starvation," and I am now quoting from Liebig, "is the disappearance of fat, and this fat cannot be traced in any of the secretions. Its carbon and hydrogen have been given off, through the skin and lungs, in the form of oxydised products. It is obvious that they have served to support respiration. The whole history of hybernating animals, and the well-established facts of the periodical accumulation of fat, (in various animals) which, at other periods, entirely disappears, prove that the oxygen, in the respiratory process, consumes, without exception, all such substances as are capable of entering into combination with it. It combines with whatever is presented to it. In the progress of starvation, however," continues he, "it is not only the fat which disappears, but also, by degrees, all such of the solids as are capable of being dissolved. In the wasted bodies of those who have suffered starvation, the muscles are shrunk and unusually soft, and have lost their contractility; all those parts of the body which were capable of entering into the state of motion have served to *protect the remainder* of the frame, from the destructive influence

of the atmosphere. Towards the end, the particles of the brain begin to undergo the process of oxydation; and delirium, mania, and death, close the scene; that is to say, all resistance to the oxydising power of the atmospheric oxygen ceases; and the chemical process of eremacausis or decay commences; in which every part of the body, the bones excepted, enters into combination with oxygen." "When those substances are wanting," pursues the same author, "whose function in the organism is to support the process of respiration; when the diseased organs are incapable of performing their proper function of *producing* those substances; when they have lost the power of transforming the food into that shape in which it may, by entering into combination with the oxygen of the air, *protect the system* from its influence, *then* the substance of the organs themselves, the fat of the body, the substance of the muscles, the nerves, and the brain, are unavoidably consumed."

Thus far Liebig—and I trust it will be now apparent, how a clot of blood resting on the brain *may*, under a rigorous diet, by which I mean a *scanty diet*, be made to disappear. The supply of food being partly cut off, the daily *addition* is not equal to the *daily destruction* by oxygen. The excess of oxygen, thus produced, (and which, having once entered the system, *cannot* escape from it again, without combining with something or other,) immediately seizes upon such parts of the system as are least essential to life, as, for instance, the fat: and, amongst other things, the clot of blood; which is thus, along with the fat, made to assist, in *protecting* the brain, and other vital parts, from the destructive influence of that element, by offering itself, as it were, a sacrifice, in defence of the more important matters of the system. "In many diseases," says the author whom I have so often mentioned, "substances are produced which are incapable of assimilation. By the mere *deprivation of food*, these substances are removed from the body, without leaving a trace behind. Their elements have entered into combination with the oxygen of the air." And this observation of Liebig's is confirmed by experience. For tumours, and other diseases, have been known entirely to disappear, in the case of shipwrecked sailors, and other persons,

when accidentally reduced to a very scanty allowance of food. The use of water in these cases is still of great, although secondary, importance. For we have already seen that it accelerates the change of matter, which is here the great object. It also assists in supporting the system under the decreased allowance of food. "Through the skin and lungs there escapes a certain quantity of water; and as the presence of water is essential to the continuance of the vital motions, its dissipation hastens death. Cases have occurred, in which a full supply of water being accessible, death has not occurred till after the lapse of twenty days—and in one case, life was sustained, in this way, for the period of *sixty days*."

I have now endeavoured, to the best of my ability, to reconcile the fundamental principles of hydropathy with the fundamental principles of physiology and pathology. But the subject is a new one; and the time which can be allotted to a single lecture is far too brief to do the subject all the justice, which a larger allowance of time, and a more skilful advocate, would undoubtedly afford it—and I trust these considerations will be accepted as some apology for whatever parts of the subject I shall have failed in rendering intelligible—and that the imputation of weakness shall *not* be visited upon the *cause*, where, in *truth*, it is only *due* to the *advocate*.

From the foregone exposition of what I conceive to be the principles of hydropathy, it will be perceived that the remedy, according to the *manner* of its application, operates chiefly in three different ways—by allaying excitement, and arresting preternatural activity in the respiratory and circulatory processes—secondly, by exalting the energy of the living actions, by an exaltation and acceleration of the change of matter—and, thirdly, by instituting new outlets, or centres of fluxion, for the escape of morbid matters.

The well-known good effects of exercise entirely depend on the *accelerated change of matter* which exercise produces. Hydropathy, therefore, in addition to its more direct remedial effects, may be viewed as a valuable substitute for exercise, under circumstances which render exercise impossible or difficult.

Hydropathy can produce the most opposite effects. For the

general and continued application of cold water can lower the vital actions even to the extinction of life—while its *partial and intermitted, and reiterated* use can elevate them even beyond the healthy standard. It is obvious, therefore, that the hydropathic remedy can only be *useful or safe* in the hands of professional men—since a knowledge of the nature of the disease to be treated ; its situation, its aptitude to be benefited by that treatment, or *not* ; together with that professional tact, and readiness of resource, which enable the medical practitioner to combat new and unexpected symptoms—these, together with the facility with which he can take the measure of his patient's strength, so as to accommodate the intensity of the application to the degree of vigor or of feebleness peculiar to each constitution—these, I say, are qualifications imperatively necessary to the successful practice of hydropathy. And if I have been honored this evening by the presence of any professional gentlemen, to them I now beg leave respectfully to commit the further consideration of this matter—only entreating them to remember that there is probably no single instance of an acknowledged truth, which was not ushered into the world amidst the tiny witticisms of small philosophers, and the hisses and revilings of the unreasoning multitude. I do not however, as yet, ask them to *adopt the practice*—I merely *beseech* them to *consider the subject*.

I beg, moreover, to observe here, that we do not advocate the use of cold water as a catholicon—we pretend to the possession of no miraculous pantagogue—we have neither found the philosopher's stone, nor discovered the elixir of life. We have only accidentally stumbled, as we believe, upon an ADDITIONAL ENGINE, of great *power* over the living actions ; and therefore possessing great influence over diseases ; which are, de facto, only those same living actions *going wrong*. The hydropathic treatment cannot cure *every disease*, any more than the *old* practice can. But it can undoubtedly cure a *much larger number* than can be cured by the exhibition of drugs.

Towards the latter end of last year I made the journey to Gräfenberg—and I remained there through the whole winter, for the express purpose of seeing this engine in full operation,

and of watching the results. And I will now conclude with the detail of a few cases which either fell under my own immediate observation, or which were so circumstantially related to me, and attested by so many different persons, as to make *doubt impossible*. And it must be remembered that the cures effected at Gräfenberg are not things done in a *corner*, but on the *house-top*, and on the *hill-top* too. They are open to the daily observation of hundreds of witnesses; who, being patients themselves, looking for benefit by the same means, and some of them having their judgments sharpened, and their impartiality secured, by disappointment in their own cases, are all of them persons deeply interested in the discovery of the truth, with regard to the efficacy or inefficacy of a treatment, to which they have already submitted, or are about to submit, *themselves* or their *relations*. Under circumstances such as these, it is clear, I think, that were the water cure the idle *dream* which many conceive it to *be*, that dream must have been rudely broken long before the present hour. In addition to this, it must not be forgotten, that hydropathy has not leaped into sudden life, and then become extinguished, like those evanescent delusions on a footing with which a writer in the Quarterly has lately placed it, but has slowly progressed from the very smallest beginnings, constantly increasing in celebrity, for 20 years.

During my stay at Gräfenberg, I took notes of some 40 or 50 cases; but I have here only time briefly to mention a few.

No. 1.

One of the first cases which attracted my attention was a case of hip disease, in Elizabeth Stahner, a child 8 years of age, and the daughter of highly respectable parents at Hamburgh. On inquiry of the child's governess, she stated that the hip had become enlarged rather more than two years ago—that the tumefaction gradually increased—that the child constantly complained of pain in the knee—that the leg and thigh became gradually wasted—that the knee joint became firmly contracted, and bent nearly at right angles, so that she could only walk with two crutches, the other limb being weak, and the general habit of the child *delicate*, and, in fact, *scrofulous*. Every medical man, if any such be present, will immediately recognise

in this account a very common form of scrofulous disease of the hip joint. When I saw the child, however, all these symptoms had disappeared, excepting some remaining enlargement of the hip, and a little limping in the gait, arising from a trifling shortening of the limb. But the account thus given of the child's condition, when she first went to be submitted to the treatment, was fully confirmed by the testimony of more than a dozen persons who saw the child when she was first brought to Gräfenberg, and who had watched her progress, with great interest. But besides this, the shortening of the limb, the appearances of the hip, with the general constitutional aspect of the little patient, were precisely such as would have led any surgeon to foretel, without information, that the patient had suffered, or was about to suffer, the peculiar train of symptoms which the governess mentioned.

When I left Gräfenberg, I saw this child galloping about in the snow, by the side of her governess, without anything to distinguish her from a perfectly healthy child, excepting a little limp in her gait.

No. 2.

The next case is one of ague. A general officer in the British army, well known at the Horse Guards, still staying at Böemischdorf, and whose permission I have to give his name to any private applicant, was attacked with ague. After enduring two or three fits, in the hope that it would leave him, he sent for Priessnitz. When Priessnitz arrived he was in the third or sweating stage. He was immediately placed in a bath at 16 degrees of Reaumur, or 68 of Fahrenheit. Here he was kept for 20 minutes, being well rubbed all the time by two men. After this he walked about the apartment for half an hour, and then went to bed. The ague left him, and never returned.

No. 3.

The next two cases, both of which I had an opportunity of examining *myself*, made a very strong impression on my mind, and are of themselves sufficient to stamp a high value on the efficacy of the treatment of disease by cold water. The first was a fistulous opening into the perineum, of two years' standing, which had resisted all the ordinary modes of surgical treatment. In a mixed meeting like this, I cannot, for obvious reasons, go

into particulars. Every surgeon, however, understands at once both the nature, and importance, and difficulties, of these particular cases ; and fuller information concerning them will be given in the work which I am about to publish. I may only add here that the case got perfectly well under the sole use of the treatment by cold water.

No. 4.

The next is a case not less remarkable and important—a case of *complete* fistula, of the ordinary kind, in the young Count Thun. I proved it to be *complete*, and not what is called a *blind* fistula, beyond the possibility of doubt. This case also got perfectly well—and it is *remarkable* that Priessnitz did *not* order this patient the sitz bath—which, when properly considered, goes to show the *truth* of the *general principles* which I have laid down, concerning the *modus operandi* of the water cure.

No. 5.

Colonel Bowen, late of the Guards, has been residing at Gräfenberg seven months, without the slightest benefit in his own case. He cannot, therefore, be reasonably supposed to be blinded by any violent prejudices in favour of Hydropathy. But he related to me the following circumstances concerning an intimate friend of his own—and it was afterwards confirmed by many others who were themselves under treatment at the same time with the colonel's friend. General Baron Esch, lately dead, but at that time commanding the cavalry at Prague, a gentleman extensively known in the military world, and who made his first campaign with the Duke of York, at Dunkirk, in 1799, was afflicted with deafness, of several years' standing, and which had resisted the most judicious treatment. He was at last prevailed on to submit himself to the water remedy—and in six weeks he had *perfectly* recovered his hearing, in the fullest sense of the word. Witnessing, with his own senses, the singular effect which had thus been wrought on his friend's ears, it was *this* which determined *Colonel Bowen* to try the *same* remedy on his own *eyes*—but hitherto without effect.

No. 6.

The next case is one of paralysis, occurring in the person of a young dragoon officer, under the command of General Esch,

whose case of deafness I have just related. Captain Wardle, of the Fiquelmont dragoons, the nephew of Colonel Wardle, whose name is fresh in the memory of most of us, became the subject of a paralytic stroke, and lost the use of one entire side. He became suddenly blind of one eye, deaf of one ear, while the leg and arm of the same eye were paralyzed. He was 22 years of age, and was also induced, at the solicitation of General Esch, to submit himself to the water treatment. He was perfectly restored, and the last time Colonel Bowen was at Prague, he saw Captain Wardle on duty, the picture of health and strength. He is still on military duty at Prague.

No. 7.

The next case which I shall mention is one of epilepsy. On being introduced to this patient, a young Hungarian of about 27, he told me that he had been the subject of epilepsy for four years, having a recurrence of the fits about every ten days. He had been under treatment for four months, and was kept on a very scanty diet the whole of that time. He is now perfectly recovered, having had only one fit since he commenced the treatment, and that occurred *shortly* after his *first arrival* at the establishment. He was very pale, and considerably wasted, but was then gradually returning to a full diet, with a view to his returning home.

I suppose this case to be one of epilepsy, depending on irritation, set up in the brain, by the presence of some foreign body, probably a clot of blood; and that this body, under the deprivation of food, had entered into combination with oxygen, in order that it might assist in protecting the vital organs from the destructive action of that element, and had quitted the system in the form of oxydised products. The cases of palsy probably depended on similar causes, which are removed by similar means.

This gentleman has made copious notes, both of his case and of his treatment, which he intends to publish as soon as he returns to Pesth.

No. 8.

While I was staying at Gräfenberg, during the first week in January last, Herr Fricks, a young Prussian, aged 27, arrived

from Stettin, accompanied by his father. He had been totally deaf for 10 years, the result of a severe attack of typhus fever. I said *totally* deaf, but I now add that three times, during the 10 years, his hearing returned to him for *one* or *two* days, and then completely left him again. With this exception, he had been totally deaf for ten years, and had had no return of hearing for the last *three years*. As a part of his treatment he was ordered to inhale cold water up his nostrils several times a-day, and with as much force as he could use. At the expiration of twelve days a very considerable discharge of matter suddenly issued from his nose. He regained his hearing, almost immediately, and remained perfectly well up to the time when I left Gräfenberg, that is, on the 27th of February. This case excited great attention, and is perfectly well known to more than 200 persons, who were undergoing the cure when I started for England.

I will relate here an accident which occurred to this young man, in order to illustrate the mischief which may be done, whenever this treatment is attempted to be practised by incompetent persons, who do not know how to accommodate the *force* of the remedy to the *vital force* of individual constitutions. He had been ordered by Priessnitz to take the *tepid* bath; but some over-wise person persuaded him to take the *cold* bath instead, since his health was good, and his complaint only *local*. The consequence of which advice was, that he had scarcely come out of the cold bath, before he fell down on the bath-house floor, perfectly insensible; and remained in that condition for more than an hour, and was with difficulty restored to animation, by incessant friction and the foot-bath.

No. 9.

The next is a case of hypochondriasis, psoriasis, and sciatica.

The gentleman, (an Englishman) about 60 years of age, who was the subject of these three severe afflictions, belonged formerly to the civil service in India. I made his acquaintance at Gräfenberg immediately on my arrival, and am indebted to him for introductions to several valuable cases besides his own. He had laboured under these affections for eight years. Shortly after he had become the subject of sciatica and psoriasis, (which

latter disease his French medical advisers denominated *dartre farineuse*) his mind became excessively excited by some family occurrences, with the particulars of which he did not, of course, think it necessary to acquaint me. In a short time, what with this excitement, the torture arising from his sciatica, (inflammation of the sheath of the great sciatic nerve where it passes through the structure of the hip) and the intolerable *itching* produced by the skin disease, the equilibrium of his mind became so much disturbed that he was not considered in a fit condition to be left by himself. Always in a state of high excitement, there were times when he was perfectly insane.

For eight years the sufferings of this poor gentleman, bodily and mental, were indeed awful. When I asked him to give me a detailed account of his sufferings, he sat thoughtful for a moment, and then, going to a table, he took up a small pocket book, and opening it at a particular page, and placing his forefinger between the leaves, he re-seated himself. "Some time ago," said he, "I was perusing the book of Deuteronomy; and in the course of my reading, the passages which I have copied into this pocket book riveted my attention. They were so exactly characteristic of my sufferings that I almost fancied myself the particular object of the divine wrath, and that I was even then realizing the fearful denunciations which those passages of scripture contained. No language of mine can so truthfully or so forcibly convey to you the horrors under which I was labouring both in body and mind. Read them," continued he, "and judge whether I have not great reason to be thankful that I am *now* such as you see me." He handed me the book and I read as follows: "The Lord will smite thee with the botch of Egypt and with the emerods, and with the scab, and with the itch, whereof thou canst not be healed. The Lord shall smite thee with madness, and blindness, and astonishment of heart. The Lord shall smite thee in the knees, and in the legs, with a sore botch that cannot be healed, from the sole of thy foot to the top of thy head: and thy life shall hang in doubt before thee; and thou shalt fear day and night, and shalt have none assurance of thy life. In the morning thou shalt say, 'Would God it were even;' and at even thou shalt say, 'Would God it were morning.!' "

"At the time," continued he, when I had done reading, "that I was perusing those passages, those terrible denunciations were most of them actually realized in my person. I trembled as I read—for at that moment I was covered '*from the sole of my foot to the top of my head*' with an intolerable itching botch. I was even then '*smitten in the knees and in the legs with a sore botch*,' and was covered with *scabs*. Madness, and blindness of the understanding, and astonishment of heart, were also mine. I had indeed '*no assurance of my life*,' for I was often sorely tempted to destroy it; and every morning I wished it were night, and at night I longed for the morning—and every effort I had made to get '*healed*' had been utterly in vain."

This gentleman had then been under the water cure about three months. His sciatica had entirely left him—the eruption was nearly gone—the itching had wholly ceased—while the state of his mind was perfectly calm, cheerful, rational, and full of thankfulness.

So fully satisfied was he that he should get entirely well, that he left Gräfenberg about a week before myself, in order to bring the whole of his family back with him—partly that he might have the comfort of their society for the rest of the time that it would be necessary for him to remain under the cure, and partly in order to submit his daughter, who had ill health, to the same remedy which had proved so signal a blessing to himself.

No. 10.

I will conclude with a case of chronic rheumatism, and one of ordinary catarrh.

Captain Vogt, a fine, tall, soldierly looking man, apparently in excellent health, had been under treatment for eight months when I was introduced to him. On requesting him to give me the particulars of his case, he said he would do so with pleasure; but that he knew very little about the matter, excepting that he had suffered most horribly for thirteen years with pains, more or less, in all his bones, but chiefly in those of the ankles, knees, and wrists—that these were always weak and painful, but that, every three or four months, they generally became so much aggravated, as to confine him to bed—that he got gradually

worse, from year to year, until at last he was reduced to the alternative of two sticks—that he came to Gräfenberg, eight months ago—that they had nearly washed the soul out of his body, (I use his own words) but that he *didn't care*, since they had washed away *all his pains* along with it, and made him as strong as a horse. On examining his joints, I found his wrists and ankles very slightly distorted, but he declared himself, in all respects, perfectly strong, healthy, and active.

No. 11.

The last case which I have time to mention is one of that ordinary form of cold sometimes called influenza.

Mrs. A., who is now residing at Gräfenberg, on her husband's account, had been, for several years, attacked, every three or four months, with a catarrhal affection, accompanied by sore throat and a defluxion from the nose, with cough, and a sense of universal soreness. Shortly after her arrival at Gräfenberg, she had her ordinary attack. She was put under treatment by Priessnitz, and was perfectly well on the fourth day—since which, a period of eight months, she has had no recurrence, but has taken a cold bath, every morning, ever since.

I have now only to apologize for having detained the meeting so long, and to render my hearty thanks for the marked attention with which I have been honoured.

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