



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

HYDROPATHY AT HOME

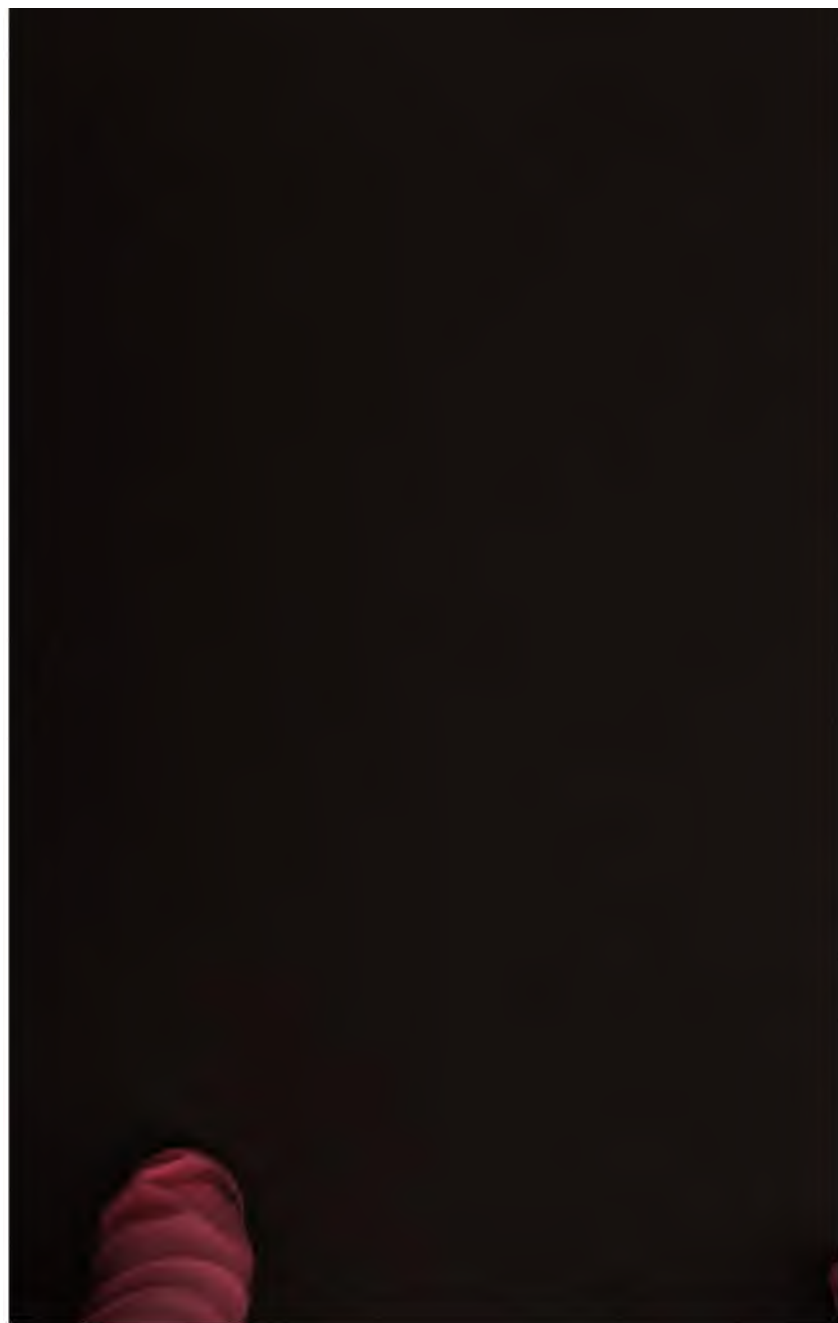
BY

JOSEPH CONSTANTINE



600040700H









PREISSNITZ,
THE FOUNDER OF THE WATER CURE.

HYDROPATHY AT HOME :

The Domestic Practice

OF

THE WATER CURE.

WITH

INSTRUCTIONS FOR THE TREATMENT OF DISEASES,
AFFECTIONS, CASUALTIES, Etc.

WITH A CHAPTER ON THE TREATMENT OF HORSES.

BY

JOSEPH CONSTANTINE,

MANCHESTER.

Third Edition, Revised and Enlarged.

LONDON :

SIMPKIN, MARSHALL, & CO.

MANCHESTER: JOHN HEYWOOD.

AND ALL BOOKSELLERS.

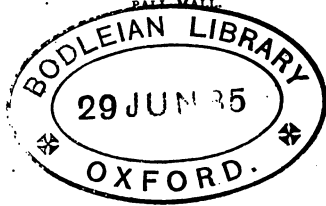
1884.

1074 e 2

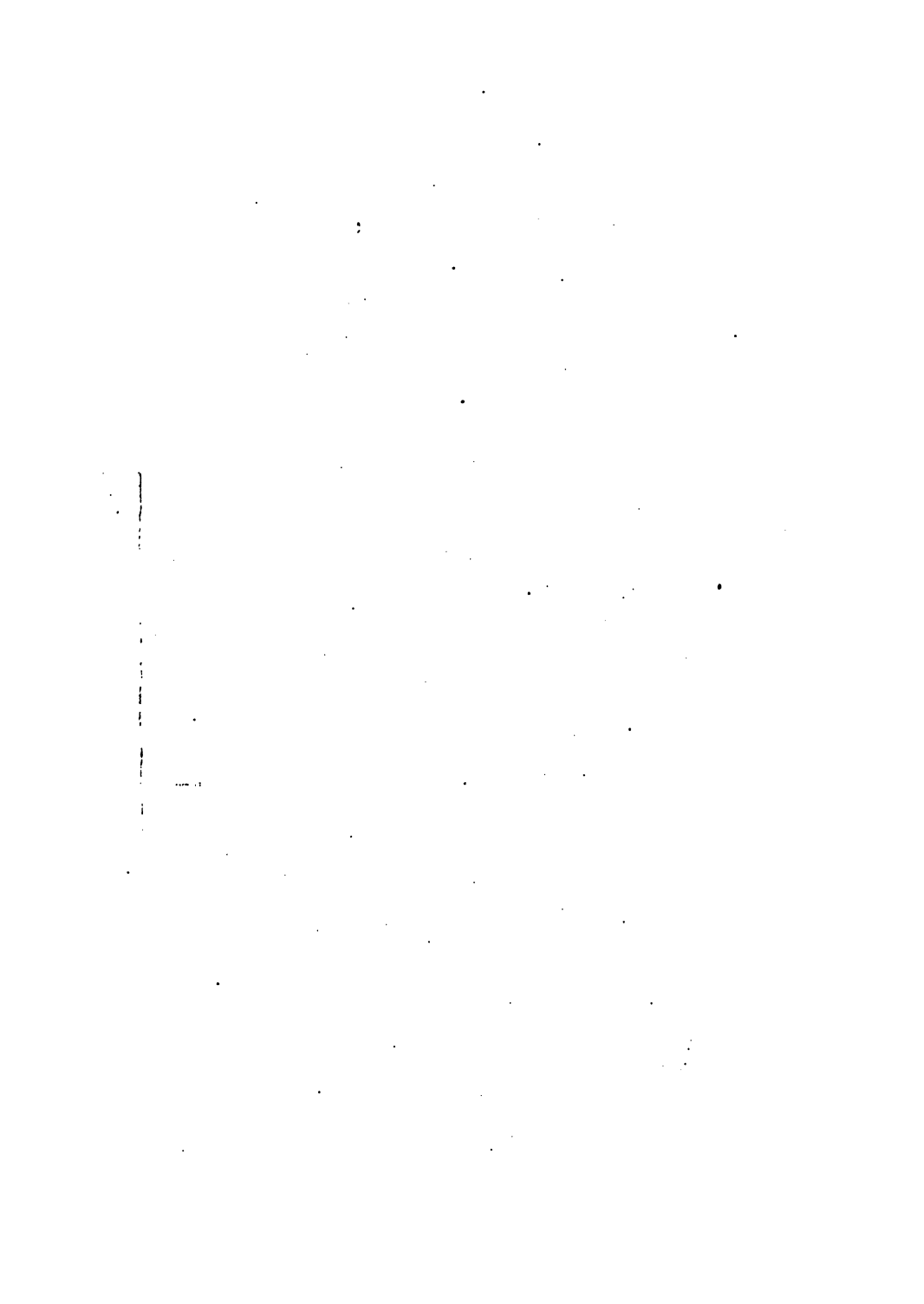
C

MANCHESTER:
PRINTED BY A. IRELAND AND CO.,

PAINT MALL.



TO
ISAAC HOLDEN, Esq., M.P.,
BY WHOSE
INVENTIVE GENIUS AND ENTERPRISE IN PERFECTING
THE WOOL-COMBING MACHINE
THOUSANDS WERE RELEASED FROM A MOST UNWHOLESOME TRADE,
AND TO WHOM
THE AUTHOR IS THUS INDEBTED
FOR MORE AGREEABLE AND USEFUL EMPLOYMENT
AND HIS INTEREST IN HYDROPATHY,
THIS LITTLE BOOK
IS RESPECTFULLY DEDICATED.



P R E F A C E .

I N the spring of the present year a gentleman (who himself owes much to Hydropathic treatment) asked, "How is it that there is no new Hydropathic literature from time to time? The Homœopathists keep pace with the Allopaths, but in literature Hydropathy seems to be standing still." This question was a reminder that it was nearly ten years since the last edition of this little work was issued. Progress has been made in knowledge of baths and their effects, and it seemed that an effort should be made to bring the record up to date. Dr. Fleming's experiments have not before been published in a popular form. Their importance and value will be seen. The *fathers* of Hydropathy are fast passing from among us, and I have gathered together some record of their works which may be valuable to any future writer on the subject.

Hydropathic applications to animals have scarcely been noticed in any work since the publication of Captain Claridge's book in 1842. Messrs. Pickford having had such success in their treatment of horses by the Turkish bath, the subject ought now to become more popular.

Two editions of this little book (each of ten thousand copies) have preceded the present, and have been of great service in the domestic practice of Hydropathy. The *best* appliances have been recommended, but in many cases they are not immediately available. A good substitute, however, is generally indicated, as, for instance, when the vapour or Turkish bath is out of reach, the local vapour with a chair, hot fomentation, or hot wet bottle sweat, can always be used.

JOSEPH CONSTANTINE.

MANCHESTER,

NOVEMBER, 1884.



CONTENTS.

	PAGE
CHAPTER I.—INTRODUCTORY AND HISTORY OF HYDROPATHY -	1
„ II.—HEALTHY LIFE - - - - -	19
„ III.—HYDROPATHIC PROCESSES AND APPLICATIONS -	29
„ IV.—CONDITIONS OF HEALTH AND CAUSES OF DISEASE	70
„ V.—FEVERS, SMALLPOX, &C. - - - - -	82
„ VI.—AFFECTIONS OF THE STOMACH, LIVER, BOWELS, &C. - - - - -	88
„ VII.—AFFECTIONS OF THE CHEST, LUNGS, THROAT, &C.	110
„ VIII.—AFFECTIONS OF THE NERVOUS SYSTEM - -	117
„ IX.—AFFECTIONS OF THE SKIN, &C., PILES, AND FUNCTIONAL DERANGEMENTS - - - - -	129
„ X.—DISEASES OF INFANCY, CHILDHOOD, AND YOUTH	142
„ XI.—HYDROPATHY FOR HORSES - - - - -	150
„ XII.—VENTILATION OF STABLES AND CATTLE SHEDS -	171



HYDROPATHY.

CHAPTER I.

“Place me in the most unfavourable circumstances, viz., in the heart of a large town,—let me have my fair average of all sorts of cases, new and old, acute or chronic, slight and severe; and give me the shallow bath, the sitz, and the wet sheet, and no other bath whatever, and let me have an opportunity of frequently seeing my patient;—I would undertake to cure or relieve more cases than are now cured or relieved by the ordinary drug treatment, in the proportion of two to one.”—*The Domestic Practice of Hydropathy.* By E. JOHNSON, M.D.

MORE than half a century has now elapsed since the introduction to this country of the practice of Hydropathy or the “Water Cure.” Though at the outset it met with great opposition and prejudice, it may now be said to have firmly established itself on a basis which experience is continually enlarging. Since its introduction a marked change has taken place in medical practice generally. The disuse of bleeding,—the diminished employment of drugs,—the increased regard to sanitary conditions,—the more rigidly enforced attention to diet, air, and exercise—may fairly be claimed to indicate the influence of Hydropathic teaching. Enlightened attention to the physiology and chemistry of everyday life, producing and maintaining a higher standard of health, must materially assist in diminishing social evils.

The practice of ablution, and the use of water, as a means of imparting strength and vigour to the constitution, appear to have been almost coeval with the existence of man; and to the present time nations in a savage state are

keenly sensible of the advantages of bathing. We are informed by missionaries who have resided in the numerous groups of islands which stud the Southern Ocean, that the inhabitants immerse their children in the sea soon after birth, and that in their boyhood they are frequently bathing, and early become dexterous swimmers. The custom of plunging new-born infants in cold water was formerly universal, and largely prevails amongst the hardy Highlanders of Scotland to this day. The most costly and magnificent edifices of the nations of antiquity were their public baths, and immense revenues were annually expended on their maintenance and embellishment. It is related of Alexander the Great that he was astonished at the grandeur and luxurious elegance of the Persian baths. In India, their existence can be traced to the remotest ages of history. This is likewise the case in Russia; and it is affirmed that many diseases prevalent in countries where the use of the bath is neglected (known even in our own highly-favoured isle) are quite unknown in Russia. The Romans, above all European nations, were celebrated for the palatial magnificence of their public baths. Bathing seems to have been their passion; and to such excess was it carried, that it was not at all unusual for an individual to take from two to six baths per day. During the period of the Empire, Rome, we are told, contained no less than eight hundred and seventy of these establishments, public and private, some of them finished models of the highest architectural skill. In this and other countries where the Romans exercised dominion, many remains of their baths have been found. The Roman bath combined the action of both hot air and water, and has been revived in this country under the name of the "Turkish bath," and is in general use both publicly and in connection with Hydro-pathic establishments.

John Wesley, had he lived in Preissnitz's time, would have been a strong Hydropathist. In his "Primitive Physic" he says:—

"Observe all the time the greatest exactness in your regimen or manners of living. Abstain from all mixed or high-seasoned food. Use plain diet, easy of digestion, and this as sparingly as you can consistent with ease and strength.

"The air we breathe is of great consequence to our health. Those who have been long abroad in easterly or northerly winds should drink some thin and warm liquor going to bed, or a draught of toast and water.

"Tender people should have those who lie with them, or are much about them, sound, sweet, and healthy.

"Everyone that would preserve health should be as clean and sweet as possible in their houses, clothes, and furniture.

"The great rule of eating and drinking is to suit the quality and quantity of the food to the strength of the digestion; to take always such a sort and such a measure of food as sits light and easy on the stomach.

"All pickles, or smoked or salted food, and all high-seasoned, is unwholesome.

"Water is the wholesomest of all drinks; it quickens the appetite and strengthens the digestion; most strong, and more especially spirituous, liquors are a certain, though slow, poison.

"Coffee and tea are extremely hurtful to persons who have weak nerves.

"Tender persons should eat very light suppers, and that two or three hours before going to bed. They ought constantly to go to bed about nine, and rise at four or five.

"A due degree of exercise is indispensably necessary to health and long life.

"We may strengthen any weak part of the body by constant exercise. Thus the lungs may be strengthened by loud speaking, or walking up an easy ascent; the digestion and the nerves by riding; the arms and hands by strongly rubbing them daily.

"Those who read or write much should learn to do so standing, otherwise it will impair their health.

"Exercise, first, should always be on an empty stomach; secondly, should never be continued to weariness; thirdly, after it we should take care to cool by degrees, otherwise we shall catch cold.

"The fewer clothes anyone wears by day or night the hardier he will be.

"The flesh brush is a most useful exercise, especially to strengthen any part that is weak.

"Cold bathing is of great advantage to health. It prevents abundance of disease. It promotes perspiration and helps the circulation of the blood, and prevents the danger of catching cold. Tender people should pour water upon the head before they go in, and walk swiftly. To jump in with head foremost is too great a shock to nature.

"Costiveness cannot long coexist with health. Therefore, care should be taken to remove it at the beginning; and when it is removed, to prevent its return by soft, cool, and open diet.

"Obstructed perspiration, vulgarly called catching cold, is one great source of disease. Whenever there seems the least sign of this, let it be removed by gentle sweats."

This sound primitive philosophy from one of nature's real nobility is very refreshing, and is worthy a place in any book on hygiene.

Though physicians, from the time of Hippocrates and Galen, have advocated the use of baths in health and disease, and though the value of the vapour bath was

discovered and appreciated at an early period, still they were only supposed to be in a measure beneficial, not absolutely remedial ; and until within the last fifty years the *curative* powers of water do not appear to have been known. It was reserved for the philosophic and reflective genius of Vincent Preissnitz to practically demonstrate and develop a system of hydro-therapeutics, sufficient in itself to grapple with the diseases afflicting humanity, and which is as simple as it is effective. The following interesting details of Preissnitz, from the pen of Captain Claridge, may not be unacceptable :—

“ Vincent Preissnitz, the discoverer of the Water Cure, was born at Gräfenberg, in Silesia, October 4th, 1800. His father farmed 180 acres of his own land. Preissnitz began dabbling in the water cure when only twelve or thirteen years old. Having sprained his wrist, he pumped upon it and applied a wet bandage, which produced an *ausschlag*, or eruption ; he not knowing whether it would be beneficial or otherwise. The question was, however, soon decided ; for the sprain was cured. Finding the same plan, in other sprains, cuts, and bruises, invariably succeed, he recommended its adoption to his neighbours.

“ He next applied the wet bandage to swollen joints and local pains, and was gradually led to its application in gout and rheumatism. Observing that the wet bandage remained cold from want of heat in the part affected, he covered it with a dry one to prevent evaporation and confine the heat. The appearance of eruption in many cases before amelioration or cure, led him to suppose that there was generally some peccant or foreign matter required to be drawn out or eliminated. Thus drawn on to think and reason on the subject, his powers of invention were kept in constant activity to find new expedients for producing the desired effects in the fresh cases presented to him, until the present

complete system, or science, was gradually developed and matured.

“ In treating a cut hand, in one person he found it heal kindly, in another it became angry and inflamed: whence he concluded that the blood of the one was healthy, and of the other impure. Reflecting on the effect of bandages and baths, in attracting and extracting heat and exciting eruptions when applied, he resorted to the elbow bath, and bandaged up the arm, to relieve the hand. Other modes of treatment were progressively discovered and added.

“ When sixteen years of age, after loading a wagon with hay, Preissnitz was standing at the horse's head, whilst his companions were cogging the wheel; before this was effected the horse struggled and overcame him, and rushed down the hill, which was very steep. Unwilling that the animal should destroy itself, Preissnitz would not relinquish his hold, his foot caught in a bush, and he fell between the horse's feet, was dragged, trampled upon, and severely bruised. He was taken up insensible, with two of his front teeth gone, and three ribs on the left side broken; he was carried home and a doctor sent for, who, after causing great pain by probing and punching the side, applied his remedies, at the same time prognosticating that his patient would never perfectly recover. Preissnitz, having no respect for treatment or opinion, declined the doctor's further attendance.

“ He then began to manage himself. By frequently holding his breath, and pressing his abdomen on the side of a table for a painful length of time, he forced back the ribs into their proper position. Wet bandages were constantly applied and changed, and water drunk in abundance. By perseverance in these means he rapidly mended, and in twelve months his health was completely restored.

“His own faith, and that of many of his neighbours, in the power of water was thus established, and, ere long, the peasantry from all sides flocked to him for aid. His reputation rose high and spread far and wide. Strangers from distant parts came to Græfenberg, so that he was compelled to increase the size of his house for their accommodation, and thus his establishment commenced.

“Some thought him endowed with the power of witchcraft; others honoured him as a prophet; all wondering at his success in curing disease. Sponges used by him in washing his patients were regarded as talismans—as containing within them a mysterious and marvellous power.”

In the winter of 1840, Captain Claridge was travelling on the Continent for the benefit of his health, when he met a friend who strongly advised him to go to Græfenberg, and try the *water cure*. Before doing this he consulted a medical man of high standing at the Imperial Court at Vienna, and physician to the British Embassy in that city, who strongly advised him to go. A few months' treatment under Preissnitz restored him to health. He returned to England full of gratitude to Preissnitz, and enthusiasm for the water cure, and resolved to make it known to his countrymen. He lectured upon it wherever he could get an audience, but this did not satisfy him; he wrote a book (published in 1842) in which he gave an account of cures which Preissnitz was making “*without physic*” at Græfenberg. The book was reviewed by the *Times*, and all England was informed of the *new cure*, and many Englishmen quickly found their way to Græfenberg; amongst them was Dr. Wilson, who was more broken down in health than the Captain. He remained under treatment nine months.

Dr. Wilson, writing to a medical friend, says :—

“ For myself it may be said that I am somewhat partial to the water cure, having passed so much time in its study, and having experienced its curative results in my own person.

“ Perhaps the interest you have taken in me would make you curious to know what was really the matter with me when I went to the water cure. Need I say that it is a pleasure to gratify you?

“ After living from six to seven years in hospitals and anatomical rooms, and not attending very particularly to eating and drinking, I established the first stage of a stomach complaint. This was confirmed by about the same period, spent in an extensive private practice, with the same want of attention to diet, &c. When I left London my stomach would hardly digest anything. I had the tic-doloureux, and a skin disease on both legs, which, by way of consolation, in the last consultation I had in London, a physician told me I might expect to see spread all over my body, for there was a slight appearance of it already in the skin under the whiskers. I spent about four years on the Continent, passing the winters in Italy and the summers in Germany, every year becoming worse. During the winter I wore two pair of flannel drawers, ditto waistcoats, and a great coat, and was always on the lookout for draughts and colds. For eighteen months before I went to Gräfenberg I had on an average rejected my dinner four times a week, but without sickness, and merely from its weight, and the *malaise* it caused. I tried dieting, leeching, small plasters and ointments, and lotions of every description. I visited all the capitals of Europe, and consulted the leading men in them.

“ I was altogether fifteen months under treatment by the water cure before the skin disease was completely removed

—nine of these months very actively at Græfenberg. When I left Preissnitz I was robust instead of a skeleton; my tic and skin disease were gone, and I had the appetite and digestion of a ploughman. Whilst in a crisis there, the town of Friwaldow was on fire. I was out all night, wet, &c. This brought on a violent fever. I treated myself with wet sheets, &c., and I *felt* the water cure. I had afterwards intense jaundice from the passage of gall stones, and I again felt the benign influence of the water cure. I have felt it since in being able to undergo labour that I was never before capable of, and I shall feel it to my last day as one of the greatest blessings that modern times has given to ailing man."

Dr. Wilson was the first to open an establishment for the practice of the *water cure* in this country, which must have been early in 1843, for in that year he published his first work on "The Water Cure, &c."

Dr. Wilson's Hydropathic practice grew rapidly, and he soon required an assistant, and engaged Dr. Gully, who remained with him until he obtained a thorough knowledge of the system. Dr. Gully then opened an establishment of his own at Malvern, and he soon became the leading Hydropathic practitioner in England. In 1846 he published his great work, "The Water Cure in Chronic Disease." Up to the present day this work is the ablest exposition we know of the theory and principles of Hydropathy. While in practice, Dr. Gully made a large fortune.

In 1842, Dr. Edward Johnson went to Græfenberg to see for himself what Preissnitz was doing. While there he wrote "The Principles and Practice of Hydropathy." When Dr. Johnson returned to England, he opened a Hydropathic establishment at Blackheath, London; he afterwards removed to Standsteadbury; he then settled down at Umberslade Hall, Warwickshire, where he

remained for many years, and while there he did a great deal of good. In 1851 he published his most useful work, "The Domestic Practice of Hydropathy." His son, Howard F. Johnson, published a very valuable book in 1850, "Researches into the Effects of Cold Water upon the Healthy Body," and in the following year "The Treatment of Incurable Disease." Every Hydropathic student ought to have these works.

Dr. Wilson, Dr. Gully, Dr. Edward Johnson, and Dr. Balbirnie all wrote valuable works explaining the theory. These able men may be said to be the fathers of Hydropathy, as known in England, and they established it on a sound, scientific, physiological basis. Doctors frequently differ, but they agreed entirely. They all adopted the principles as laid down by the founder, Preissnitz; and, as propounded by them, these were accepted by the medical authorities of the day. Sir John Forbes, M.D., at that time editor of the *British and Foreign Medical Quarterly Review*, wrote an article in that journal, and stated "that it was his belief that the water treatment was based on sound physiological and pathological science, and that its practice was both safe and efficient in very many instances where other means fail, and that it behoved the profession to look into and adopt it." The profession did not take Sir John to task for this, nor did they take exception to his opinion, but many of the leading London physicians frequently sent patients to Malvern to be treated Hydropathically.

Since 1843 the practice of Hydropathy has been constantly extending. A great number of large establishments have been erected. True some have failed, but the failures are easily accounted for—either buildings have been erected in a locality not suitable for the purpose, or a medical man has been appointed who had never taken the

trouble to study and master the principles of the water cure, whose advice on such matters the public were not likely to seek, as even a doctor's opinion is not worth anything upon a subject he does not understand. The days of excessive drugging are gone by. The physicians who give least physic are most in request. All intelligent people now understand that swallowing a dose of physic does not mean swallowing so much *health*. The teaching of the great medical authorities, with regard to drugs, has had its effect on the public. Professor A. T. Thompson, speaking on this subject, says:—"I confess my entire ignorance as to how cod-liver oil and strychnia may act, and it may, perhaps, save some trouble if I say, once for all, that I am not prepared to offer any explanation of the action of medicines, for the simple reason that in respect to most of them nothing whatever is known for certain; and as for cloudy conjecture and cabalistic forms of speech, I leave them to those who like them. I am content to admire at a distance the person capable of solving such questions as causes and modes of action, as I quite despair of my own ability to do so." Very much the same thing has been said by other medical authorities. Any medical man to obtain his diploma presumably has had to work hard, and has possibly passed long nights in severe study. If he is to be a successful Hydropathist, in like manner, he must master the subject, and for any medical man who does this there is a grand field of useful and honourable labour with a certain prospect of a successful career.

At the present time Hydropathy forms part of general medical practice, though not to the extent it deserves. Some medical men have difficulty in getting Hydropathic applications properly administered; in all infirmaries, ablutions, water dressings, and wet bandages are regularly used, and

baths would be more used if greater facilities were at hand.

In consequence of Captain Claridge's advocacy of Hydropathy in England, the late Hamer Stansfeld, who was out of health at the time, went to Græfenberg and was restored to health. He returned home, and resolved to do something to promote the "new cure." James Stansfeld, his brother (father to the present member for Halifax), assisted to form a company to build a Hydropathic establishment, and Ben Rhydding was the result of their efforts. The brothers made a very happy selection of a site, the neighbourhood being noted for the purity and abundance of its springs. From the grounds there is a grand view of some of the prettiest landscape scenery in Wharfedale. The house is only one mile distant from the ancient village of Ilkley, which stands on the site of a Roman station, which had a strong fortress.

The Brothers Stansfeld purchased sixty-five acres of land for their new scheme. This was in 1843. Hamer Stansfeld while at Græfenberg had met with Dr. Rischanek, who had studied the water cure under its founder. Dr. Rischanek was engaged, and he came to Ilkley the same year. The doctor took lodgings in the village, and commenced practice. He was known at that time as the "Cold Water Doctor." He was very skilful, and was highly appreciated. While Ben Rhydding was in course of erection he was thus forming a connection. When the place was opened in 1844 he was duly installed as the resident physician. Notwithstanding his Hydropathic skill, he had no great capacity for managing a large establishment, and his connection with Ben Rhydding terminated in 1847.

Dr. William Macleod was engaged by the company to succeed Dr. Rischanek, but before entering upon his duties he went to Dr. Gully's establishment to gain some

knowledge of the water cure. Scotchman like, he commenced as a servant, and ended his career there as the sole owner of the whole estate.

In the twenty-eight years Dr. Macleod was at Ben Rhydding he amassed a large fortune, having had a keen eye to the main chance. Before he died he offended some of his old and best customers by obtaining a licence for the sale of alcoholic drink, which did not add to the dignity of the place.

In the Ben Rhydding grounds there is an interesting relic, which begins to show signs of age. It is a marble trough, bearing the following inscription :—

IN MEMORY OF
VINCENT PREISSNITZ,
THE SILESIAN PEASANT, TO WHOM THE WORLD IS
INDEBTED FOR THE BLESSING OF THE
SYSTEM OF CURE BY COLD WATER.
THIS FOUNTAIN
IS GRATEFULLY ERECTED AND INSCRIBED BY
HAMER STANSFELD.
BEN RHYDDING, MAY 29, 1844.

At this fountain the pure crystal stream flows on as vigorously as it did forty years ago, and there is a silver cup, so that all the followers of Rechab may drink to the memory of Vincent Preissnitz, not forgetting Hamer Stansfeld.

It is gratifying to observe that all those who underwent treatment at Græfenberg, medical and laymen alike, held Preissnitz in high esteem ; while the laymen were striving to perpetuate his renown, the medical men honoured him by consistently following out his system.

Dr. Rischaneck, after leaving Ben Rhydding, remained in the village of Ilkley as a consulting physician, and many well-to-do people availed themselves of his skill. A number of friends organised a company to build him an establishment, and they erected the "Wells House," at a cost of about thirty-two thousand pounds. It was opened in 1856, and Dr. Rischaneck was appointed resident physician. Here, again, his connection was not of long duration, as he did not seem to possess the capacity for managing a large establishment. He again took lodgings in the village, and practised as a consulting physician. An old bath man, who clung to him as long as he remained in the neighbourhood, related to the author a rather painful incident concerning him. Hamer Stansfeld, a short time before his death, was very anxious to consult him, and went two or three times to his rooms for that purpose, but the doctor sternly refused to see him; though near twenty years had passed since he had left Ben Rhydding, he was still sore on the matter of his dismissal from thence.

For ten years after its introduction into this country Hydropathy made steady progress in the able hands of its first exponents—Dr. Wilson, Dr. Edward Johnson, and Dr. Gully, all men of high standing, thorough medical education, and great ability. They took the system as set forth by the founder, and with the advantages of modern science established it on a sound physiological basis. In 1853 the late John Smedley, who had been under treatment at Ben Rhydding, opened an establishment at Matlock Bank, and began to use counter-irritants—such as Chili paste and mustard—very freely. He gave mustard baths, applied mustard poultices, and put mustard on the compresses. In short, he prescribed and used mustard in some form for all classes of cases until the whole place, as well as the patients in it, reeked with the fumes of mustard.

Though Mr. Smedley designated his "the mild practice of Hydropathy," it was the most severe system that has ever been attempted under the Hydropathic guise. He gave more baths, and used more compresses and appliances than any other practitioner. This severe treatment had the most terrible effects in many cases. Numbers of patients have been thus treated until the nervous system has been so disturbed and weakened that sleep has become impossible, and they have been brought to the verge of insanity. Indeed, this effect was produced upon Mr. Smedley himself. Like the late Dr. Todd, of London, with his mad "brandy cure," it is to be feared that he fell a victim to his own irrational system. Unfortunately the mischief does not end with these victims. A number of bath men are following in the same track, and prescribing counter-irritants right and left with the most lamentable results. This system is diametrically opposed to the teaching of the scientific exponents of Hydropathy before named, and it has never been adopted or defended by any medical authority. On looking through "Smedley's Practical Hydropathy," no argument or explanation is given for this wholesale use of counter-irritants, though mustard or cayenne is prescribed on almost every page.

While this book was in progress (September, 1884), Joseph Livesey, the founder and father of teetotal societies in England, has just passed away in his ninety-first year. No doubt Hydropathy prolonged his useful life many years. In early life he was delicate, and before he was forty years of age he had four attacks of rheumatic fever. In the *Staunch Teetotaler*, April, 1867, he says: "I know of no secondary agency to the temperance cause more important than Hydropathy, and I think we have scarcely done justice to it in our publications. It has performed cures almost miraculous; and the peasant of Silesia,

Vincent Preissnitz, the great modern discoverer of the beneficial effects of water applications, will be remembered with gratitude by thousands in every part of the world.

“It was the reading of Captain Claridge’s pamphlet, in which he described the establishment at Grafenberg, and the wonderful cures performed there, that first drew my attention to the subject. If I had seen this sixpenny book twenty years sooner, I should have been saved a world of suffering and no little expense. I saw at once that the water treatment was really nature’s cure, moulded into somewhat of an artistic shape.

“It had, as usual, for a long time to incur the hostility of the medical profession, but like every other discovery which is sound and rational, it has borne up, gained strength, defied opposition, silenced its opponents, and now there are few medical men that do not adopt some of its applications or recommend some of their patients to try it. I have great reason to be thankful I ever heard of this system. To me it has been life itself; some of my happiest weeks have been spent among the water patients. Indeed, I never found so cheerful and such agreeable company as I have done at these establishments. Instead of being famished and miserable, as many are led to believe, from the caricatures they have received from its opponents, who speak of the patients being ‘wrapped up in wet sheets all night,’ most of them literally revel in the enjoyment of their baths, and with all their ailments are cheerful and happy.”

When Hydropathy was first introduced into England, Mr. Livesey went through a long course of treatment. He went to Great Malvern, was at the establishments of both Dr. Wilson and Dr. Gully, and afterwards spent nine weeks at an establishment on the Rhine at Rollandsac, near Bond. In consequence his health was materially

improved, and remained good for many years. He was thus enabled to prosecute with greater vigour the philanthropic work which he had so much at heart.

After he adopted the practice of Hydropathy he had no attack of rheumatic fever until March, 1869. In the autumn of 1868, Mrs. Livesey and he were staying at Bowness, and she was taken ill just as they were about leaving for Southport. She never recovered from that illness, and they had to remain at Bowness through a damp winter, the consequence being that Mr. Livesey had a severe attack of rheumatic fever; he was seen twice a day by Mrs. Livesey's medical attendant, and after three weeks' suffering, during which time he had no relief from anything the doctor had given him, he was ordered to take a little brandy. Mr. Livesey said to the doctor, "Have you nothing in your surgery which will do as well?" The doctor answered, No, he had not. "Well," said Mr. Livesey, "you know who I am; I must think about it." An abstaining doctor was written to, but he refused to interfere in the case. The author was then written to by Mr. Alfred Livesey, the facts of the case were stated, and the question asked, could his father's sufferings be relieved by Hydropathic means? The answer was "Yes, undoubtedly, and if you telegraph I will be with you to-night." A telegram was received, and no time was lost in going to Bowness. The same night Mr. Livesey had administered to him a hot wet bottle sweat, continued for nearly two hours; a bed wash followed this; afterwards a broad wet compress was put round the body. It was past midnight before these operations were completed; the following morning a half-sheet pack was given him, and repeated in the afternoon; this, with the wet compress round the body, and with as much toast and water as he could drink, constituted the whole of the treatment until the patient

was convalescent. In eight days the fever was all gone, without one drop of brandy having been taken, and Mr. Livesey soon completely recovered his health. Though he was seventy-five years of age then, he has lived and done fifteen years of valuable work since that time.

Mr. Livesey said to the author about the third day of treatment, "You know, Mr. Constantine, I was not afraid to die, but I was afraid to injure the temperance cause by taking brandy." As proved by the result, there never was any necessity for brandy, and other and better means were as readily available. Supposing Mr. Livesey to have taken brandy and recovered, it would have gone forth to the world that the brandy had saved his life; on the contrary, if he had taken it, and as much of it as the doctor wished, and died (and the brandy might have killed him), it would have been said that he was an old man, that he had lived the allotted term, that everything that medical skill could devise had been tried, that it was not possible to save his life, and this without the possibility of contradiction. This experience only convinced Mr. Livesey more firmly than before (and this view is shared by many competent authorities), that alcoholics are as little required in disease as they have been proved to be in health.

CHAPTER II.

HEALTHY LIFE.

IT will be of the greatest advantage to the general reader to have a clear knowledge of the processes constituting healthy life, and the causes which disturb and destroy health. With such knowledge the curative power of Hydropathy will be better appreciated. Dr. Gully, one of the best authorities on the subject, says :—

“So far as we know, life is a *result*—a series of processes : digestion, blood-making, blood-circulating, respiration, sensation, thinking, locomotion, &c. The sympathy between the organs which perform these different processes is also an *internal* stimulus which maintains their actions ; and so long as each organ sends its due quantity and quality of organic sympathy to all the other organs, the active, healthy life is complete. If, for instance, the stomach receives the exact amount of food which it can digest easily, the process of digestion becomes a stimulus to the brain and spinal marrow, and these organs take on an action, which causes the sensation of refreshment and invigoration : the man thinks and moves with renewed alacrity. The ‘sensation’ here mentioned is not in the brain or spine, but is produced over the whole frame by their agency. For in purely healthy life there is no ‘sensation’ in one organ more than in another. A man in perfect health feels neither head, nor heart, nor lungs, nor stomach : these are all playing harmoniously into each other’s hands, and in the midst the man ‘lives, moves, and has his being ;’ but

he does not *feel* any of them. Youth, and wonderful constitution in more advanced age, exhibit this state of immunity from sensations of the organs ; but in civilised society, as it is called, such instances are rare among those who make up that society, during their pursuit of business or of pleasure. The healthy man *uses* all his organs, but *feels* none of them in particular. He feels that he lives, but none of his organs remind him that it is by them that he lives.

“Reverse this picture of harmonious action between, and no sensation from, the organs, and you have diseased life. From the first moment when one organ retains more blood and nervous circulation than is its due—from the moment, in fact, when the phenomena of having activity are greater in it than in the other organs—from that moment it becomes a source of disordered organic action to the other organs, and disease is present. For instance, when an excessive quantity of food has necessitated an excessive activity of the stomach to digest it, this excessive activity becomes a source of disorder to the other organs, and you may have bad sleep the same night, and on the following morning bad urine, showing the interference of the stomach with the brain, spinal marrow, and kidneys. Or, expose the organ called the skin for a long time to cold and damp until it is no longer able to resist the external impression ; you thereby overload some of the interior organs with blood which ought to be circulating on the skin. The result is excessive organic activity in the lungs, constituting bronchitis or inflammation of the lungs, or inflammation of the belly, or finally, such a *general* distress, and super-activity, of the internal organs as to produce the general tumult to which the name of *fever* is applied. And it is a curious fact that in all such cases of inflammatory and feverish disease arising from excessive cold to the skin, nature's effort is always made

to re-establish the circulation and secretions of the skin ; hence its feverish heat, and the ultimate perspiration which frequently terminates maladies of that kind.

“Again, when the poison secreted by a patient in measles or scarlet fever has been absorbed into the blood by the lungs or the skin, the presence of it in the circulating mass becomes an excessive irritant, and finally a natural tumult is set up to rid the body of it ; not, however, until its presence has compromised the functional integrity of the internal organs, which are the centres of vitality. And this is the reason why animal poisons of the kind alluded to will remain for many days, and several weeks even, without the tumultuous signs of infection.

“These instances will suffice to show that disease is a violent reaction upon excessive or morbid agents, the evil results of which it seeks to redress ; and that during such reaction and effort, the organic sympathy, whose equilibrium constitutes health, is lost. If the organs have not been deprived of much of their organic power by ill-usage of them, or by age, *and are not much meddled with during this effort*, they will, for the most part, come triumphant out of it ; the organic sympathy will be again well balanced as between the different organs, and health will be by that very fact re-established.”

The philosophy of Hydropathic treatment is thus most cogently indicated. It is not claimed that any special powers exist in the water *per se* ; but by its application in various conditions—hot, cold, vapour, &c.—the blood is drawn to or repelled from the various organs, and nature thus assisted in her efforts to throw off disease and to recover equilibrium. This may be further illustrated by reference to the physiology of the skin. Dr. Erasmus Wilson, in his “Practical Treatise on Healthy Skin,” says :—

“To arrive at something like an estimate of the value

of the perspiratory system, in relation to the rest of the organism, I counted the perspiratory *pores* on the palm of the hand, and found 3,528 in a square inch. Now, each of these pores being an aperture of a little tube of about a quarter of an inch long, it follows that in a square inch of skin on the palm of the hand there exists a length of tube equal to 882 inches, or $73\frac{1}{2}$ feet. Surely such an amount of drainage as 73 feet in every square inch of skin, assuming this to be the average for the whole body, is something wonderful, and the thought naturally intrudes itself—*What if this drainage were obstructed?* Could we need a stronger argument for enforcing the necessity of attention to the skin?

“To obtain an estimate of the length of the tube of the perspiratory system of the whole surface, I think 2,800 might be taken as a fair average of the number of pores in a square inch; and 700, consequently, of the number of inches in length. Now, the number of square inches of surface in a man of ordinary height and bulk is 2,500; the number of pores, therefore, 7,000,000; and the number of inches of perspiratory tube 1,750,000; that is 145,833 feet, or 48,600 yards, or nearly 28 miles.”

Through these pores about two pounds of salt, acid, and oily fluid pass off in twenty-four hours, *by ordinary perspiration*, and from two to four pounds of visible perspiration per hour are passed off by a person working very hard in a hot place. Moreover, out of every 96 ounces of food consumed, more than 34 ounces pass off through the pores of the skin. Hence it will be perceived that the skin is the *principal* excretory organ of the body, and in that capacity greatly exceeds that of all the other organs of excretion combined. The importance of the skin being brought into and maintained in healthy action is thus clearly manifested. Hydropathy, by promoting and stimu-

lating this action, is enabled to rapidly subdue inflammation and relieve the various internal organs as required.

A recent writer says :—

“ Four-fifths of the human body are composed of water ; blood, brains, nerves, are nearly all water. Muscle is three-fourths water, and it even enters largely into the composition of the bones. Water cleanses the surface of the body, and restores the healthy action of the skin. The skin itself contains twenty-eight miles in length of tubes, which in health, and in the effort of the system to throw off disease, pour out water. By water all food is dissolved, and so enabled to penetrate the system and nourish its tissues ; by water the waste matter of the body is carried out of the body through the skin, the lungs, and other secreting or excreting organs. We can live much longer without food than without water. No life is possible on earth without it. It is the necessary element of all vegetable and animal life. Is it strange that pure water should be the most powerful agent in producing that purification and invigoration of the body which is the cure of disease ?”

The late Sir John Forbes, M.D., in speaking of Preissnitz and his system, says : “ He (Preissnitz) has so modified the application of water and some very few other means in a manner so ingenious as to render them no imperfect nominal substitutes for most of the drugs of the pharmacopœia. He has his stimulant, his sedative, his tonic, his reducing agent, his purgative, his astringent, his diuretic, his styptic, his febrifuge, his diaphoretic, his alterative, and his counter-irritant.” We may illustrate this remarkable testimony by indicating the properties of the various water applications ; and in order to show in a brief compass how all the medical and chemical properties of drugs are fully comprehended in the water cure, we append the following excellent synopsis by Dr. Goodman :—

THE MEDICAL PROPERTIES OF ALL DRUGS DISCOVERED
IN THE VARIOUS APPLICATIONS OF WATER.

DRUGS.

Medical Properties.

Alteratives.

Mercury, iodine, potassæ hydriod, &c. ; antimony, sarsaparilla, &c.

Antacids.

Soda, potash, chalk, magnesia.

Antiphlogistics.

Alkalies and neutral salts, calomel, antimony, venesection, leeches, &c.

Antispasmodics.

Assafoetida, camphor, musk, sulphuric ether, opium, &c.

Anthelmintics.

Calomel, jalap, scammony, dolichos puriens, stannum, ol. terebinthæ, &c.

Anodynes.

White poppy, lactuca humulus, &c.

Astringents.

Catechu, kino, alum, muriate of iron, plumbi acetas with opium, &c.

Depressants.

Tartar emetic, antimony, digitalis, prussic acid, bleeding, cathartics, &c.

HYDROPATHIC APPLIANCES.

Medical Properties.

No remedies are more rapidly or effectually alterative than a tonic course of hydropathic treatment—wet packings and baths, dry packings, sitz baths, douches, &c.

Hydropathy has no direct antacids, save cold water. Acidity is an effect or symptom of digestive disorder. This system, therefore, attacks and destroys the cause of acidity, and so removes its effects. Even water itself will soon become sour in dyspeptic stomachs.

Wet sheet packings under the bed clothes changed every half hour, tepid baths, and ablutions, hot fomentations, fever compresses ; instead of bleeding, long continued sitz baths, wet packings very frequently changed.

In chronic cases—hot fomentations with ablutions, wet packings, covered compresses, wet frictions, pail douche, &c. In acute cases—compresses, warm baths, fomentations, flannel wrung out of hot turpentine, or spt. camph., &c.

Restore vigorous function and pure secretions. Use coarse bread, little dilution, except with cold water, copious cold water enemas, wet or dry packings, deep sitz baths, cold baths, &c. We have seen several cases of removal of worms during water treatment.

For nerve pain—wet frictions and ablutions, streams of cold water, douching, dry sheet, cold sitz and foot bath, wet packing and abluion, &c. Even cold abluion often induces most tranquil sleep.

Hydropathic astringents are : The application of cold, cooling the surface by cold wet compresses frequently removed, cold injections, hip and foot baths, iced drinks, &c.

The employment of long continued sitz or half baths with constant friction at a given temperature, wet sheet packings frequently changed, wet cold compresses on the part affected, &c.

DRUGS.

*Medical Properties.**Diaphoretics.*

Antimonials, ipecacuanha, neutral salts, liq. ammon. acet, Dover's powder, calomel, serpentary, &c.

Counter-irritants and derivatives.

In medicine, external appliances, issues and setons, blisters, moxas, stimulant, embrocations, cataplasms and other irritants, mustard cataplasms to the feet in fevers, applications of leeches to distant parts, &c. There is no remedy in medicine that can act as a *general derivative*, except the warm bath with mustard in it, and that only during its application.

Drains.

As setons, issues, blisters, &c.

Dermasthenics.

There are no medicinal substances that can fortify the skin against the influence of the atmosphere.

Dispersives.

Water dressing, fomentations, poultices, mercurial applications, iodine, potassæ hydriod, &c.

Diuretics.

Squills, digitalis, nitric ether, acetate of potash, broom tops, dandelion, mercury, &c.

Demulcents and Emollients.

Gum acacia, mist. amygdalæ, althæa, cornu cervi rament, linum, cetaceum, gum tragacanth.

HYDROPATHIC APPLIANCES.

Medical Properties.

Cold water drinks, hot wet sheet packings to perspiration, dripping sheets, long continued fever compresses, steam bath, hot air bath, lamp bath, dry blanket packing to perspiration, &c.

Cold water wherever applied is a counter-irritant and derivative, in proportion to its coldness. For this purpose, foot baths and sitz baths of long duration are employed. The wet sheet packings and all cold baths derive to the skin. After a very cold sitz bath, the skin is as red as though a mustard plaster had been applied. Instead of mustard cataplasms to the feet in the delirium of fevers, extraordinary results are produced by wet socks covered with dry stockings, flannel, &c.

All covered compresses and wet sheet packings derive a large amount of solid animal matter from the circulatory system through the exhalations of the skin. The quantity of drained animal matter which was precipitated in the bath after the wet sheet packing, amounted to no less than half a pint of thick glutinous fluid, or two ounces of solid matter.

All tonic hydropathic appliances tend constantly to this object—all important in chronic disease. The relaxation and susceptibility of this organ is often the prolongation and exasperation of the malady under treatment.

Hot fomentations and compresses, short timed applications of water, steam, tepid and warm baths, water dressings, &c.

Water drinking by dilution. In dropsy—hot air bath, wet packing, &c. No remedies act more powerfully on the kidneys without injury, than incessant dilution, wet sheet packs, hot air baths, &c.

Natural Remedies.—Food—arrow-root, uniritating vegetable diet, sago, rice, &c., milk, gum arabic in solution, or starch taken in enema, &c., and other anodynes, and promoters of

DRUGS.

*Medical Properties.**Emetics.*

Tartar emetic, ipecacuanha, sulphate of zinc, and copper, &c.

Expectorants.

Ipecacuanha, mercury, antimonials, squills, balsam of tolu, &c.

Emmenagogues, promoting uterine secretion.

Iron, myrrh, aloes, sabina, secale, cornutum, colocynth, mercury, &c.

Laxatives, aperients, cathartics.

Manna, magnesia, rhubarb, confection of senna, sulphur, sulphate of magnesia, calomel, colocynth, &c.

Narcotics.

Opium, belladonna, conium, hyoscyamus, aconite, camphor, morphia, &c.

HYDROPATHIC APPLIANCES.

Medical Properties.

bland and healthy secretions, which themselves act as nature's own demulcents.

Mustard emetics, drinking plentifully of warm water, mechanical irritants to the throat, are all employed.

Mild ablutions of cold or tepid water, chest washings, graduated according to the debility of the case, chest compresses worn constantly. Wet sheet packing is an admirable expectorant. Removal of pulmonary congestion by long continued sitz baths, commencing at 80° or so, cooled down.

Long sitz baths daily, with a course of occasional packings, and suitable daily derivative baths surpass all other measures. An extraordinary case occurred at the Hydropathic Hospital here, in 1855. E. K., having had cessation of the menses for six years, they commenced again after a very few applications of the water treatment. This result is not uncommon.

Water drinking, cold water enemas, wet covered abdominal or spinal-abdominal compress and abdominal washings. *Sitz baths, pail douche on the spine and abdomen*, wet sheet packings, and douching the abdomen with shallow baths, &c.—*Exercise* regularly taken, bran and oatmeal in food, ripe fruits, &c. We have known a case where no motion had been produced without medicine for twenty-five years, so the patient stated, and yet considerable effect was produced after each successive packing, without any medicine.

No remedy sooner procures sleep than the wet sheet packing, which is most serene and tranquillising. Hot fomentations to the stomach and bowels. The sitz bath before getting into bed is an admirable soporific agent. To children even, a cold ablution, and to bed, ensures remarkable sleep. We have known some of the most restless little sufferers lulled to a balmy sleep while in the envelope.

DRUGS.

*Medical Properties.**Refrigerants.*

Common vinegar, nitric and other acids, salines, alkalies, &c.

Cold lotions to the head in cases of delirium.

Stimulants.

Alcohol, ether, compound spirit of ammonia, wine, brandy, beer, porter, &c.

Styptics.

Muriat. ferri, acetate of lead, &c., catechu, &c.

Sedatives.

Batley's liq. opii, sedativus, opium in large quantities, morphia, &c.

Tonics.

Bark, iron, quinine, gentian, columba, &c., mineral acids, &c.

HYDROPATHIC APPLIANCES.

Medical Properties.

Water drinking, wearing a large compress in bed, dripping sheets, and wet sheet packing, without much covering, followed by tepid ablation or dripping sheet, are highly valuable refrigerants.

Cold wet uncovered compresses or wet cloths are also employed in hydro-pathy.

The stimulus of cold water, employed in dripping sheets, rain bath, cold bath, and above all in douche baths—with pure air, exercise, &c.—equals the stimulating effects of ardent spirits, and are found to be a complete substitute when these are abruptly and at once discontinued. The hilarity, vivacity, mirth, and cheerfulness produced by water treatment at a hydro-pathic institution, forms a wonderful contrast to the sleepy, dull, and half awake enjoyments of the wine-bibbing residents at an hotel.

Cold wet uncovered appliances, dripping sheets, sitz baths, cold compresses, immersions, &c.

No sedative equals the effect of long-continued sitz baths, wet packings, fomentations, &c. See narcotics, anodynes.

Cold water drinking.—No remedies are equal to *cold baths* as tonic remedies in chronic disease and general debility. If judiciously prescribed and employed, they never disagree, although medicinal tonics often do. No other remedies can fortify the skin from cold. Cold sitz baths of ten minutes.—These tonics act not on the digestive organs only, but on the whole nervous system, producing increased vital energy in every function, and entire renewal of the whole man, to the extent that the constitutional powers and capabilities admit. For producing appetite, an occasional wet sheet pack and cold ablation, in good air, is the most certain remedy known.

Since the foregoing table was prepared many improvements have been made in Hydropathic processes. The

Turkish Bath, for instance, almost unknown a few years ago, is now in very general use.

It must, of course, be remembered that all remedies, however excellent and certain, are but adjuncts to the efforts of constitutional power to throw off disease, for as Dr. Gully remarks—"Whatever the malady may be, if recovery takes place, it does so by the action of the bodily organs themselves, and not as the direct result of the remedies applied. The contrary idea to this is at the bottom of the old system of medication which insisted on the production of certain discharges from the body, and made them the only signal of healthy restoration, and which worried and wearied the organs thus urged to discharge—until all power of self-restoration was lost: the discharges, meantime, being nothing more than the results of the irritation set up by the remedy itself. Fortunately this notion has passed away from the practice of the higher classes of the medical profession, although it prevails still too extensively among the masses in the country districts."

CHAPTER III.
HYDROPATHIC PROCESSES AND
APPLICATIONS.

MOST of these are described separately; and particular attention should be paid to the directions given, to ensure success. This remark is occasioned by the ludicrous attempts at Hydropathy by persons administering it according to their own fancy, to the utter disregard of all rule or reason. A course of sitz baths was prescribed for a female patient by a physician in Manchester; her idea of a sitz bath being very vague, the patient sat with her feet in the bath, instead of giving her body alone the benefit of the water. In another instance, a gentleman, whose ideas of economy were rather novel, packed three of his children at the same time in *one* wet sheet! and this he did regularly. It will scarcely be credited, but it is nevertheless true, that a gentleman who slept with his brother, desiring to give himself a wet sheet pack, immersed his night-gown in water, put it on, got into bed, and though he fortunately sustained no injury himself, he gave his brother a most severe cold. Constant mistakes are made in using wet bandages, by applying four, six, or even more *wet* folds; and the circulation, instead of being stimulated, is impeded, the result being congestion. From these instances it will be seen how necessary it is that Hydropathic applications should be both properly understood and carefully administered.

Before proceeding to describe the various Baths and applications, we would especially direct attention to the aphorism that *sufficient exercise to excite a vigorous reaction must immediately follow every bath*, but PARTICULARLY COLD OR TONIC BATHS. If, however, the weather will not admit of open-air exercise, then muscular exertion within doors ought to be substituted. In cases of violent fevers, severe illness, and in other instances when exercise is out of the question, the temperature of the water must be raised, and reaction excited by immediately putting the patient into a warm-bed with extra covering for a short period.

A description of the sweating bath adopted by Preissnitz will be useful to Hydropaths in out of the way places, and interesting to those who have at command the modern Turkish, Russian, vapour, or lamp baths, showing the progress which has been made in the last forty years.

Captain Claridge says :—

“The invalid is enveloped, naked, in a large coarse blanket, the legs extended, and the arms kept close to the body; the blanket is then wound round it as tight as possible, turning it well under at the feet; over this is placed, and well tucked in, a small feather bed, sometimes two, such as are usually employed in Germany, instead of a number of blankets, finally a counterpane and sheet are spread over all; thus hermetically enveloped, the patient exactly resembles a mummy. Sometimes when perspiration is difficult, the head, with the exception of the face, is also covered, but this expedient is not resorted to in the case of persons who have a tendency of blood to the head. The irritation caused by the blanket, and the closeness and duration of the confinement, render this operation disagreeable, especially, as I have already observed, until perspiration commences, which, in some cases, takes place in half an hour, in others an hour, or even only two hours.

After this, the patient sweats according to the orders of Mr. Preissnitz, for from an half an hour to two hours.

“As soon as perspiration commences, the windows are opened, and the patient, if he wishes it, is allowed a drink of cold water every half hour; this is not only found extremely refreshing, but aids the sweating.”

THE TURKISH BATH.

Dr. Balbirnie writes: “The Turkish Bath is a mighty agency for the prevention and cure of disease. It is a long-sought *desideratum* of practical medicine, and will be hailed by all physiologists and physicians as one of the most potent modifiers of the living organism, whether in health or disease. In this aspect of the subject, the more this new ally of the healing art is tested the more it will be trusted—the more will it vindicate its pretensions to be placed in the arsenal of physic as an orthodox weapon of medical warfare. As such, we believe the day will come that its machinery will be established as an integral and essential part of the equipment of every hospital, dispensary, and asylum—yea, even of every public school of every civilised state. Increasing experience is bringing forth new facts every day to prove its curative powers.”*

We are indebted for the introduction of the Turkish bath into this country to the late David Urquhart. In 1848 he published “The Pillars of Hercules,” in which he gives a description of the Turkish bath. In 1855 or 1856 he was at Cork, and was taken ill, when he sent for Dr. Barter, at that time proprietor of a Hydropathic establishment at St. Ann’s. Mr. Urquhart gave the doctor a copy of his book, and directed his attention more particularly to the Turkish bath. Dr. Barter, after reading the book,

* “The Sweating Cure: The Physiological Basis and Curative Effects of the Turkish Bath.”

resolved to erect a bath, which he completed in 1856, and he became greatly enamoured with it; he afterwards erected another bath in Cork and one in Dublin, also one in London. Through Dr. Barter's energies Ireland for many years, was ahead of England in the matter of Turkish baths.

In the following year, 1857, Mr. Urquhart erected a small bath in Broughton Lane, Manchester; he put Mr. Wm. Potter into it as manager, and it was opened to the public for a number of years. A short time afterwards a small bath was opened at Keighley, Yorkshire. Many others soon followed, and the bath fairly took root in this country. It has steadily advanced in public favour, and is becoming more popular every year. At the present there are a number of grand baths in course of erection in various parts of the country.

The medical profession have taken to the bath kindly; several doctors have made experiments with a view of ascertaining its exact action upon the living body. The most elaborate and accurate of these observations are by Dr. Fleming, of Glasgow, which he printed for private distribution. The following extracts will give some idea of these experiments and the conclusions arrived at:—

“The Physiology of the Turkish Bath: Being an Experimental Inquiry into the Effects of Hot Dry Air upon Man. By WILLIAM JAMES FLEMING, M.B., Lecturer on Physiology, Glasgow.”

“With the exception of a paper in *The Lancet* of May 20, 1876, by Dr. J. C. Bucknill, and another read by Dr. Cameron at the meeting of the British Medical Association in 1877, all accounts of the Turkish bath have been confined to general descriptions of the details of the process, and of the sensations experienced during its use. Except

in these papers I can find no record of any attempts to measure with scientific accuracy any of the various powerful effects which it is universally acknowledged to produce upon the bodily functions. In the hope of determining by experiment the exact action of hot dry air upon man, I have for several years carried on a series of observations.

"I presume that my readers are all acquainted with the details of a Turkish bath. If not, there are many books from which they can be learned—notably that by Professor Erasmus Wilson upon the subject. Suffice it to say, that the essential part of the process consists in the immersion of the body in dry air at a temperature varying from 130° F. to 200° F. for a considerable time (half an hour to an hour generally), and subsequent douching with cold water. The accessories of shampooing, &c., are non-essential.

"Our power of tolerating very great heat, provided the air is dry, without injury or inconvenience, has long been known. Indeed, Drs. Forsyth and Blagden more than a century ago submitted themselves to a temperature of 260° F. (127° C.) without great inconvenience.

"All the experiments were made upon myself, invariably before dinner, say 4 to 6 p.m., and about two hours after lunch. They were performed in the spacious bath of the Arlington Swimming Club, Glasgow; and I may here mention, for it is an important factor, that this is heated by Constantine's system, which consists in an arrangement of stoves by which a constant current of pure air is drawn from the outside atmosphere, heated by passing through a species of oven, and driven into one of the apartments of the bath with such force that it traverses the whole suite of rooms, parting with some of its heat in each, and ultimately passing out from the last into the air. By this means not only is the air for breathing, but also the air in contact with the skin, constantly renewed, so that

a layer of watery vapour does not, as in all baths heated with stationary air, soon cover the body and convert the bath into a vapour one. The freedom from all feeling of oppression, even at very high temperatures, experienced in a bath thus heated is the best proof of the excellence of the system.

"The temperatures at which the experiments were conducted were generally, an initial heat of about 170° F. for a few minutes, to produce diaphoresis rapidly, followed by a subsequent temperature of about 130° F. during the remainder of the time spent in the hot rooms. This, I believe, is the best system for habitual bathers, as perspiration being once freely established in the hottest room, is kept active by the lower degree of heat.

"What I set myself to investigate was the effect of immersion in this hot dry air:—

1. Upon the amount of material eliminated from the body in excess of the normal.
2. The alteration produced in the temperature of the body.
3. The influence upon the pulse rate.
4. The influence on the respiratory rate.
5. The alteration in the composition of the urine.
6. The composition of the sweat.
7. The arterial tension as shown by the sphygmograph."

It is unnecessary here to follow Dr. Fleming in the detail of his experiments. The tables, &c., may be seen in the paper referred to. The conclusions arrived at were as follows:—

"To sum up, it has been shown that a very large quantity of material can be eliminated from the body in a comparatively short time by immersion in hot dry air, and although the greater part of this is water, still solids are present in quantity sufficient to render this a valuable emunctory process.

“The temperature of the body and the pulse rate are markedly raised.

“The respiration falls at first, but afterwards is less influenced than would be expected *prima facie*.

“The urine is increased in density, and deprived of a large portion of its chlorides, while, if anything, an increase in the amount of urea is produced.

“The principal effect upon the arterial tension seems to be an increase produced by the greater rapidity of the heart's action combined with the dilated, we may almost say, gorged, condition of the capillary circulation.

“From these conclusions we may deduce the following practical observations as to the use of the Turkish bath in medicine :—

“Its most important effect is the stimulation of the emunctory action of the skin. By this means we are enabled to wash, as it were, the solid and fluid tissues, and especially the blood and skin, by passing water through them from within out. Hence, in practice, one of the most essential requisites is copious drinking of water during the sweating.

“The elevation of the temperature, and more especially of the pulse-rate and blood-pressure, point to the necessity of caution in cases where the circulatory system is diseased.

“Excessively long duration of the bath seems to produce more or less depression, as shown by the fall of pulse and temperature after fifty-five minutes. It is probable that the time at which this occurs varies with individual idiosyncrasy. In my case, it is accompanied by a distinct feeling, which I can only compare to satiety.

“The great use of the bath seems to be the power it gives us of producing a free action of the skin in persons of sedentary habit, or suffering from disease interfering with fluid excretion, and by its means I believe considerable elimination of morbid matter may also be brought

about. Besides, and along with this, it is an efficient means, if resorted to sufficiently early, of relieving internal congestion, on the same principle and with much greater certainty than the usual diaphoretics; and in rheumatoid affections not only does it act in this way, but by the relaxation of muscles permits of passive movements, rubbing, &c. (shampooing), exercising a much greater influence than they would independently exert."

It will be readily understood that *perfect ventilation* is of the greatest consequence in the Turkish bath—the object of the bath being to quicken exhalation through the pores of the skin—stagnant air soon becomes loaded with impurities and most offensive. This idea of thorough ventilation being possible in the Turkish bath seems to have been startling to some of our scientists, who really ought to have known better. *The Lancet*, in an article dated June 5th, 1880, says:—

"Now that the hot-air bath has been fairly naturalised in England it is necessary to examine the institution critically. One of the most obvious sanitary conditions of the bath, but, unfortunately, that which is most difficult to secure, is the purity of the atmosphere in which the breathing organs of persons in a peculiarly susceptible physiological state are immersed. The breather of impure gases under ordinary circumstances takes his poison largely diluted. If the air of a Turkish bath is laden with germs of disease thrown off from the lungs of a fever or a consumptive patient, there are no currents to carry the particles away. It is a physical certainty that others breathing in the bath must inhale them. This is an evident source of peril, and suggests the wisdom of taking measures to ensure the frequent changing of an *atmosphere* which may be thus easily polluted."

In the next number of *The Lancet* the following reply was published :—

“ When the Turkish bath was first introduced into this country the hot rooms were heated mostly with smoke flues traversing under the floor, and there was no ventilation, certainly no constant change of air. There may be a few baths still so heated (there are some heated by flues in the wall); but at the present time there is no difficulty in steadily maintaining the necessary high temperature in the hot rooms, with a constant change of air equal to thirty cubic feet per minute for each bather, which is more than is insisted upon in the best hospitals. Having been interested in the Turkish bath for many years, I have all along been impressed with the importance of thorough ventilation in the hot rooms, and to that end have made numerous experiments, which have eventually resulted in the production of the CONVOLUTED STOVE, which, owing to its large radiating surface and small grate space, produces an immense volume of moderately warmed air, without the possibility of over-heating; and the air being drawn directly from the outside, the supply of fresh air is constant. Most of the baths in this country are heated by the apparatus named, and ventilated in the manner indicated. In towns or crowded places the air may be filtered in various ways before entering the heating chamber surrounding the apparatus. I may state briefly that by this mode of heating the superficial area of the outlets for vitiated air may be the same, within a fraction, as that of the flue by which the fresh warm air enters, and, no valves being used, an uninterrupted change of atmosphere is insured, and all impurities are immediately carried away.—I am, sir, yours, &c.,

“ JOSEPH CONSTANTINE.

“ Convoluted Stove Works, Chorlton Mills,
Hulme-street, Manchester, June 16th, 1880.”

In a paper read April 30th, 1879, at the Philosophical Society, Glasgow, by J. L. Bruce, Esq., architect, on the Heating and Ventilation of Turkish Baths, some important facts are stated with regard to change of air, at the Arlington Club Baths, Glasgow, which are heated by Constantine's Patent Convolute Stove.

Mr. Bruce states that "the amount of air was exactly measured at the points where it enters the heating apparatus [chamber] in the basement flat. The temperature of the entering air was 52° , the amount for first stove being 790 cubic feet per minute, heated by stove to 312° ; and for second stove, 558 cubic feet, heated to 260° —in all, 1,348 cubic feet, entering at 52° . The actual amount of heat-expanded air entering the hottest room is readily obtained from these data by a well-known formula, which gives for stove No. 1, 1,192 cubic feet; and for No. 2, 788.7 cubic feet—in all, 1,980.7 cubic feet per minute.

"Giving even double the usual *sleeping-room* allowance of 20 cubic feet per head per minute, that is allowing 40 cubic feet per head—this is sufficient for 50 people in those rooms, and seems enough for all practical purposes. With this enormous volume the temperature maintained in the hot room is about 144° , and in the hottest 210° , the latter being readily raised to 230° by closing lower part of central arch between the two rooms."

It will thus be seen that the problem as to ventilation (maintaining all the while the necessary temperature), declared to be "most difficult," is overcome, and by constant change the air can be kept of its normal purity. This ventilation also carries off the moisture from the skin as fast as it exudes, as noticed by Dr. Fleming (page 34 *ante*). The contrary is the case. Where the *air is stationary* the perspiration lodges on the skin,

and patients are often deceived by this into thinking they are perspiring *more freely*, when it is merely the *stagnancy of the air* that does *not evaporate the perspiration* as it is formed.

The idea, which is sometimes entertained, that the Turkish bath is debilitating and enervating, is utterly fallacious. The attendants, who are working in it from morning to night, day by day, and year after year, experience no loss of strength; on the contrary, they enjoy exceptionally good health. The shampooers of the baths in Turkey usually live to a ripe old age; and Mr. Urquhart informs us that the most skilful shampooer he tried there was a man upwards of ninety years old, who had followed this calling the greater part of his life. The author has several men in his employ who have been almost altogether in the bath for from twenty to twenty-five years, who are strong, and have uniformly good health—never having been absent a day because of sickness.

There is scarcely any disease in which this bath, combined with other Hydropathic applications, may not be made useful; but for mere enjoyment, the most favourable period of the year is during the *winter months*.

In cases of spasms, bronchitis, congested liver, &c., the *hot fomentation* in the Turkish bath is a valuable adjunct, frequently giving immediate relief. In cases of inflammation the *half sheet pack* may be applied for twenty minutes immediately on entering the cooling room: this is frequently of great service.

The processes of the Turkish bath are:—

- 1st. The “seasoning” or acclimatising.
- 2nd. The heating or bath proper—producing profuse perspiration.
- 3rd. The manipulation of the muscles, usually termed “shampooing.”

- 4th. The cleansing process ; which is effected by brisk soaping, followed by warm rain and shower baths, graduated to cold, and usually finishing with a plunge bath.
- 5th. The bed of repose and the dry sheet ; during which the open air is freely admitted, that the skin may absorb its oxygen.

Three chambers are necessary for these purposes.

The first, usually called by the Turks the "DIVAN" (the "spoliatorium" of the Romans), is now fashionably termed the "FRIGIDARIUM." It is furnished with couches and conveniences for dressing, and here the bather returns to enjoy the repose which constitutes the last stage of the bath.

The next or middle chamber is termed the "TEPIDARIUM." This is furnished with marble slabs. It is heated to a temperature of from 130° to 135° Fahr. Here the bather reclines until perspiration is gradually but fully induced. This is the "seasoning" or acclimatising process, preparatory to entering—

The third chamber, or "CALIDARIUM" (the "sudatorium" or "laconicum" of the Romans). This is also furnished with marble slabs, and is heated to a temperature of 150° to 155°. The exciting action of the skin, commenced in the tepidarium, is here further continued as long as desired. During this passive perspiration, one or two tumblers of cold water may be taken with great advantage. This chamber must be freely supplied with a continuous current of pure hot air, which constantly expels the vitiated air through the ventilator. The air being dry and pure, no inconvenience is felt in respiration, even by the most delicate.

Most Turkish baths contain another small chamber, heated to from 170° to 180°, and even higher ; but for *ordinary bathers* its use is not desirable.

When the skin is brought into sufficient action, the patient is subjected to the process of "shampooing," or muscular manipulation, which materially assists in removing impurities from the pores, whilst it calls into activity sinews and muscles that otherwise remain inert in many persons during the whole of their lives!

THE RUSSIAN BATH.

"Persons of every age, the young as well as the old, can make use of the Russian bath in every season, for hygienic as well as curative purposes."—*Dr. Roth.*

The Russian bath (as used in Russia) is heated with a combination of hot air and steam. It is a valuable and useful bath, especially for people who have a dry, inactive skin, who cannot readily perspire in dry, hot air. Every Turkish bath ought to have a small room attached partially heated with hot air, with a steam jet to moisten the air. This arrangement is carried out at several baths recently erected in this country, another advantage being that the same rain, shower, and douche baths and shampooing arrangements answer for the two baths.

In Russia, every person, from the noble to the serf, takes this bath at least once a week, and on this account they enjoy a complete immunity from many of the diseases common in this country. For the subsequent cold application, it is a very ordinary thing for them in winter to roll themselves in the snow when they come from the vapour-room, and that, too, with perfect impunity, although Russian winters are proverbial for extreme severity. The temperature of the bath commonly ranges from 130° to 135°, but can be regulated to suit any particular case. It is also extensively used in Norway and Sweden, not only as a cleanser, but also as a remedial agent. Its effect is, to some extent, similar to the vapour bath, but is more

effective in cases of colds in the head and chest. In many cases (of rheumatism, for instance) it is a great advantage that the patient can be shampooed or the part affected can be manipulated while in the bath. It accelerates the circulation, quickens the perspiration, and purifies and cleanses the skin.

VAPOUR BATH.

“The vapour bath is calculated to be extensively useful both as a preservative of health and as a remedial agent. Many a cold and many a rheumatic attack, arising from checked perspiration or long exposure to the weather, might be nipped in the bud by its timely use.”—*Andrew Combe, M.D.*

This is a safe and important bath, and has rendered incalculable service in almost every class of disease. The form of vapour bath most generally used consists of a box having a lid slightly inclined, which admits of being raised like that of a desk, whilst the front portion is a door opening in the ordinary manner. The interior is furnished with a seat, capable of being lowered or elevated at pleasure. The lid has an oval aperture about the size of a hat-brim, through which the head projects, and which can be conveniently packed with towels, round the neck of the patient, to retain the vapour within the box, excluding the external atmosphere. Vapour is introduced by means of a pipe; the tap being inserted within the box the bather can regulate the heat at pleasure, and thus undergo its searching influence. The head being exposed, allows the utmost freedom and comfort in respiration, and the attendant can judge as to the effect of the bath.

DIRECTIONS.—This bath may be taken before breakfast, or at eleven o'clock in the forenoon, or before tea, or in two hours afterwards, and its duration should depend on the condition of the skin and the health of the patient. Usually about twenty minutes is sufficient. On coming out, the patient should immediately take a shower bath,

cold shallow, or dripping sheet, but, if none of these are available, a quick sponging with cold water, from head to foot, which immediately closes the pores of the skin, prevents colds and chills, and excites a vigorous circulation and healthful glow throughout the system. The beneficial influence of this bath is much enhanced by friction with rough towels or sheet, and a brisk walk or other exercise should immediately follow.

Care should be taken in administering the vapour bath to admit but *little vapour* at the commencement, then gradually increase until the bath becomes as warm and full as the patient can *agreeably* bear. By so doing, the action of the bath is rendered more effective, and, after the cold application, the sensation of buoyancy and comfort which pervades the whole system is agreeably increased.

If any patient be affected with a determination of blood to the head, the feet should be placed in hot water and a cold wet cloth on the head, which latter should be frequently renewed.

The effect of the vapour bath as a cleansing and healing process is very remarkable. The infinitesimal particles of vapour penetrate the pores of the skin with the most searching effect, a copious perspiration is stimulated by its genial warmth, the skin is freely relieved of a load of impurities, and more effectually performs its functions as an excretory and absorbing organ.

The vapour bath has been known and its power acknowledged for several centuries, and it has been variously used. It is especially suitable for complaints, such as lumbago, rheumatism, stiffness, glandular affections, swelling of the joints, and many local as well as general affections.

The efficacy of this bath to those of delicate constitutions has suggested its administration in bed-rooms. Perhaps the *following is the safest and most convenient plan* :

place a bucket of boiling water under a cane-seated chair, then place the patient on the chair, and envelope him in blankets. The emission of vapour may be sustained, if desired, by the introduction into the bucket of small pieces of hot brick, at intervals. After this the shower or sponge bath should be taken, and the patient must be well dried.

BED SWEAT WITH HOT WET BOTTLES.

"From the earliest period of medical history the value of perspiration has been admitted, not only as the chief preservative of health, but also as a means of cure in acute and chronic disease."—*Dr. Barter.*

In cases of serious illness when the patient cannot be removed from bed, no mode of inducing perspiration is so efficacious as *hot wet bottles*. The patient has the advantage of being in the most favourable position for enduring a thorough perspiration, and generally it may be prolonged for two hours, whereas about twenty minutes is as long as any one can remain in an ordinary vapour bath.

Two or three applications of this sweating process, alternated with the wet sheet or half-sheet pack (wearing the stomach compress in the intervals), will subdue an attack of rheumatic fever within a week, or a violent attack of inflammation in one or two days.

In a case of scarlet fever of a malignant type, when the throat was making up rapidly in spite of other remedies, we have known one bed sweat to remove all danger. If it is well done, the effect is marvellous.

DIRECTIONS.—First prepare the bottles with good corks—stoneware bottles hold the heat best; have plenty of boiling water in readiness, two oval-shaped, half-gallon bottles, one for each side against the lungs, a half-gallon bottle for the feet, and four pint bottles for the legs. *If the half-gallon bottles are not available, ten or twelve*

pint ink-bottles will answer the purpose; fill them with boiling water, fold each bottle in a flannel or woollen stocking wrung out of boiling water (wring all the flannels out in a large towel together, so that no time shall be lost). Having all in readiness, prepare the bed—if a waterproof sheet is available, spread it over the bed—and spread one blanket on the top of it. The patient may be placed on that and covered with a blanket, then place the bottles on the blanket in their hot damp covers as quickly as possible, and cover them with the spare piece of blanket at each side, being careful not to press the bottles too close to the patient to commence with. Having the bottles all in their places, put plenty of covering over all to keep the heat well in, and in a short time a free perspiration, and probably sleep, will be the result. If there is any tendency to a determination of blood to the head, apply cold wet cloths to the head, and change them from time to time, and wipe the face occasionally with cold wet cloths. Toast and water may be drunk freely all the while. Most patients can remain in this *sweat* for two hours; when it is discontinued, a sponge bath or a *bed wash*, with water at a temperature from 70° to 75°, and when not able to go out for exercise, the patient may be well dried and kept warm in bed. For infants and children up to ten years of age ordinary stoneware ginger-beer bottles will be found sufficient.

THE SPIRIT-LAMP BATH.

This bath was formerly much in vogue in Hydropathic establishments, but is now being superseded by the vapour, Turkish and Russian baths, either of which produce much better results, exciting the excretory action of the skin, and thus *affording* general relief to the system.

It may be administered in a private house, as follows : Take a small teacup or gallipot, about two and a half inches in diameter, filled with spirit of wine—or a spirit lamp (which is manufactured and sold for the purpose), or if these be wanting, a Bunsen's lamp or six of "Child's Night Lights" will answer the purpose. Select four large and heavy blankets, open them out, let the patient be seated on a cane-bottomed chair, on a folded towel, place one blanket round the front, another round the back, and the other two round the sides. This should be done so as to effectually envelope the patient in a complete tent-like covering, and to exclude the external air. Then light the lamp or spirits of wine. The heat of the lamp, with the thick covering blanket, will soon cause the perspiration to exude freely. When desirable to continue the perspiration, the patient should turn into bed immediately with the warm blankets round him ; but it is generally best to finish the bath with a brisk rub down, and sponge with water at 70°.

WET SHEET PACK.

"The point wherein packing claims superiority over affusion consists in this, that the soothing effect on the immense sentient surface or nervous web of the skin by the soaking of its tissues and the prolonged contact of the wet linen, the heat of the body converting the water into vapour, and constituting the sheet, in fact, a great poultice."—*James Wilson, M.D.*

"It seems a positive cruelty to be taken out of this magic girdle, in which pain is lulled, and fever cooled, and watchfulness lapped in slumber."—*Sir Edward Bulwer Lytton.*

Many people who are ignorant of the principles of Hydropathy, on hearing of the wet sheet pack for the first time, confound it with a damp bed. For the sake of popular information we will explain the difference—

When sheets, blankets, and beds are damp, and perhaps walls, and the air of the room in a humid state, there is a *greater amount of moisture* than the natural heat of the

body can possibly warm and overcome—hence, heat is abstracted from the body, and the blood recedes from the surface of the skin, is thrown on the internal organs, and a severe chill and rheumatism, or other illness, is the result.

In the wet sheet pack, *the sheet only is moist*. It is brought in *direct* and immediate contact with the warm skin, and by tight packing with large and thoroughly dry blankets, to the *exclusion of all air*, and the weight of the bed in addition, the patient becomes thoroughly warm in two or three minutes, and afterwards is *much warmer* in the wet sheet, than he would be without it; for the *action of the skin is increased*, and all the *internal organs are relieved*. A very remarkable feature in the wet sheet process is the deep and refreshing sleep it induces; so soothing, as can only be appreciated by those who have tried it, and there are thousands of patients who are continually suffering an agony of restlessness, who would, if packed in the wet sheet, fall asleep immediately.

DIRECTIONS.—Take off the bedding, leaving nothing on the bedstead but the mattress. Select two blankets of large size (for small blankets never admit of proper packing) and spread them on the mattress. Take an *old linen* sheet, if available, but if not, select any other sheet that is *soft* and *thin*; steep it well in cold water, as that has the best effect; then wring the water well out of it—except in cases where the patient is *very* hot and feverish, when more moisture is desirable, and a moderate wringing will suffice. Spread the sheet carefully on the blankets, perfectly smooth, taking care to avoid all folds or unevenness of any kind. The patient must then lie on his back on the sheet, and raise his arms; the portion of the sheet on the off side is then folded over the body. The arms are then brought down to the sides, and the other portion of the sheet is brought over them, and the body, but not drawn

tight. This done, fold and tuck in the blankets well over, *taking particular care to pack the whole tightly, so as to exclude the air.* Then place a *bed* (or thick coverlets) over the patient; press it tight down and tuck it in well all over, particularly down the sides and at the feet; the warmth and the weight of the bed causes the chill to pass off quickly, a glow commences, and usually a deep and refreshing slumber ensues. The proper time to remain in the pack in ordinary cases is about forty-five minutes, and in cases of fever about twenty minutes. In the latter, a cold wet cloth should be laid across the forehead, and it should be renewed by immersion in water, as it becomes warm.

Immediately after coming out of the wet sheet, the patient should take a cool or cold shallow bath, or the dripping sheet should be used, according to the reactive power or vital heat of the patient, who should then be well dried with a rough sheet thrown over him, and briskly rubbed. It is then necessary to dress as quickly as possible, to drink half a tumbler of water, and take a brisk walk for thirty minutes.

In cases of fever, smallpox, or measles, the patient on coming out of the wet sheet ought to be well sponged with temperate water (75° to 80° Fahr.) and then put into bed again. In very severe cases the bed wash must be resorted to.

It should be borne in mind, that very few persons can pack in the wet sheet well without having first seen it done, and acquiring a little skill and proficiency by practice; but care and painstaking will go far to ensure success.

“This magic girdle, in which pain is lulled, and fever cooled, and watchfulness lapped in slumber,” is not a fancy, but a true description of the effect of the wet sheet pack. *The Turkish and Russian* are powerful baths, but they can

never replace the use of the wet sheet pack. Where it is attempted the patient is the loser thereby. When a patient is hot and parched with fever it gives instant relief, and frequently induces sleep. When the fever rages high it is a positive cruelty not to apply the wet sheet. For bringing into use this bath and the wet compress, if for nothing else, Preissnitz's name ought to be handed down to posterity as a benefactor. A Hydropathic establishment where the wet sheet pack is unknown is not worthy of the name it assumes. A friend of the author's has recently visited two—so-called—where this was the case, and where there was not a bath attendant able to administer it.

THE HALF-SHEET OR TOWEL PACK.

In cases of extreme weakness or of persons advanced in life, when the vital and reactive power is too low for the full wet sheet, the towel or half-sheet pack may be employed with advantage, as it is more quickly warmed. When towels are used, one must be in front, the other to the back; the half-sheet should extend from the arm-pits to the knees; in either case the blankets must be arranged, and the whole body enfolded in them, as in a full pack, and the patient covered with a bed or coverlet. If the disease or complaint be confined to the chest, liver, or bowels, hot fomentations may be applied to the part affected for fifteen or twenty minutes before the half pack. The after treatment should be the same as with the full pack, except in severe cases of fever, when it would not be safe for the patient to take exercise; a bed wash, with water at a temperature of 75° or 80°, should follow, after which it is important that all the damp things should be cleared away and replaced by dry ones. When the patient has returned to bed, some extra blankets may be put upon him for about twenty minutes to assist reaction.

THE VAPOUR BATH AND WET SHEET PACK.

This and other compound baths, such as hot fomentation and half-sheet or full pack, or hot fomentation and shallow bath, or dripping sheet, merit special attention. With these baths an acute attack of bronchitis or pleurisy may usually be subdued within twenty-four hours, and with their continued application, chronic and malignant disease may be cured when other remedies have failed. The vapour and pack is of especial service in protracted and neglected colds. A vapour bath, as previously described, should be taken for fifteen minutes, and in close proximity to the bath should be the usual appliances for a wet sheet pack, so that the patient on emerging from the vapour can be instantly enveloped in the pack, in which he should remain about thirty minutes. On being released, a cold dripping sheet, or a cold shallow bath, should follow, when the patient must be enveloped in a dry rough sheet, and vigorously rubbed. The vapour bath softens the skin, and prepares it for the abstractive power of the wet sheet, which speedily abates inflammatory action, excites the reactive power, and enables the constitution to expel disease. Delicate persons and invalids whose vital power is low should be thoroughly warmed by the vapour bath, and thus fortified against the momentary chill of the wet sheet. The vapour and wet sheet is also efficacious in cases of rheumatism, fever, acute inflammation, &c.

HOT FOMENTATION

Is a very valuable application in conjunction with other treatment. By this process, which can be used in any house, many severe attacks of disease might be anticipated and counteracted, and much suffering avoided.

The hot fomentation is managed by applying three folds of flannel, twelve inches square, immersed in hot water,

wrung, and then placed upon the part affected. The water ought to be boiling hot, and its heat maintained by frequent additions, on account of its rapid cooling. The flannel, being too hot for the hand, must be put in a strong coarse towel, and tightly twisted until thoroughly wrung, and applied as hot as the patient can bear, or, instead of the rather difficult manipulation in boiling water, the pad may be wrung out of hot water and placed in an ordinary potato steamer over boiling water for a few minutes.

If two pads are used, by this method one will always be hot for application; and there is less liability to wet the bedding or clothes of the patient. As the pad is *very hot*, a dry flannel must always be interposed between it and the skin, otherwise the heat would be too great for tender parts of the body. This, though simple, is a most useful application; but if a counter-irritant is required to bring blood to the surface, and relieve internal congestion, the hot flannel ought to be very frequently renewed.

THE TEPID, WARM, AND HOT BATHS.

Tepid and warm baths are very soothing, and, to some extent, lower the pulse; while the hot bath is a stimulant, having a contrary effect, and will cause excessive perspiration, if continued too long. The cold application which ought to follow is not so grateful after the hot water as it is after the vapour or Turkish bath, and the preferable mode is to reduce the temperature *by gradually introducing cold water* into the warm water. The neglect of this by persons in the habit of using this bath for a wash often subjects them to colds, which might be avoided by this simple precaution; colds also are often contracted by remaining too long in the bath—twelve or fifteen minutes being quite

sufficient. In hot weather, the tepid bath from 90° to 94° is very refreshing, especially at night, after perspiring much during the day, and will commonly insure sound sleep; while a hot bath might have precisely the opposite effect.

Dr. Forbes' specification of temperature, which we use in this volume, is as follows:—

Cold Bath, from	36 deg.	to 60 deg.	Fahr.
Cool " "	60 "	75 "	"
Temperate "	75 "	85 "	"
Tepid " "	85 "	94 "	"
Warm " "	94 "	98 "	"
Hot " "	98 "	113 "	"

THE SHALLOW BATH

Is so called on account of the small quantity of water employed. It is perhaps more generally used than any other tonic bath in the Hydropathic treatment, as its effects can be modified to suit the case in hand. In instances where the reactive power is weak, a smaller quantity of water is required and increased friction. A patient, with sufficient strength, ought *himself* to use vigorous friction both in this bath and on getting out of it. This is a simple bath, but it requires a little careful tuition to apply it properly, so as to derive all the benefit it is capable of imparting.

DIRECTIONS.—This bath may be taken either in a slipper bath or an ordinary lounge bath, the water to be eight inches deep, and two rough towels provided. It is best to undress quickly, and thus avoid any chill; before getting into the bath, seize a towel, dip it in the water, bathe the head well, and rub the chest and arms briskly. Then step into the bath, facing the water, and immerse the whole body, turn round and sit down, rub the legs and body vigorously, occasionally

raising the towel full of water, and applying it to the head; the moment the bather sits down, the attendant should perform a similar operation on the back. This brisk rubbing on the front, sides, and back, should be kept up during the time of remaining in the water—which may be from two to ten minutes, according to the nature of the case. On quitting the bath, a large-sized rough sheet should be ready to dry with. After taking the bath in this manner, the skin is quite red, being charged with blood, and a feeling of renovated strength is directly experienced. Whenever the bath is taken without an attendant, the patient ought first to recline on the stomach, and afterwards to sit up, and use friction as described. Whenever possible, a brisk walk of twenty minutes or half an hour should *immediately* follow all cold baths, and if this cannot be done, an equal amount of other exercise should be substituted. After an ordinary morning bath, where the temperature is raised to 75° or upwards, there is not the same need of exercise, as that temperature does not materially affect the circulation of the blood, nor chill the body to any appreciable extent.

THE DRIPPING SHEET.

As among tonic baths the douche is one of the most powerful, so the dripping sheet is one of the mildest and most useful. It is an invaluable bath with which to commence treatment in cases of extreme weakness, or when the skin has become bloodless, and has lost vitality. Few persons are too weak or delicate for the dripping sheet, although its power can be largely increased. When intended to be given with its full strength, a very thick, heavy sheet is used, which will retain a large quantity of water; and when intended to be given mildly, a light sheet is used, and may be partially wrung, making it merely a rubbing

sheet. Some persons use tepid water, but this practice cannot be recommended, as the tonic and stimulating properties of cold do not appertain to tepid water. When necessary it is therefore preferable to use a hot dripping sheet, of say 126° —this, followed by a cold sheet, has a stimulating effect upon the liver, and will no doubt be much used when its peculiar action becomes more generally known. The best mode of giving the dripping sheet is for the patient to stand in the lounge bath; where this is not available, a sitz or sponge bath will answer the purpose. Always take the precaution to first wet the head and chest with cold water. Having immersed the sheet in a pail of water, let the patient bend a little forward, and then throw the sheet right over from behind. The attendant must then rub vigorously over the back, and the patient must do the same in front, with the loose parts of the sheet. A strong, robust person, whose reactive power is good, may have the sheet immersed and thrown over a second time, if one application is not sufficient. Afterwards remove the dripping sheet, and throw a dry rough sheet over in the same manner, and dry well with brisk friction. The dripping sheet is of great service in removing fatigue, after strong physical exercise, such as cricket-playing, horse-riding, long pedestrian rambles, &c. Its effects are electric, tonic, and stimulating.

HOT AND COLD DRIPPING SHEET.

This application is especially suitable when the skin is inactive and bloodless, as by these means it may be excited when other means are not available. The water ought to be 126° , in which the sheet must be immersed and applied in the same manner as a cold one, and should always be *followed by the cold sheet*, as previously described.

THE SITZ BATH

Is somewhat similar to an ordinary hip bath, but not so large, and though deeper than the hip bath, it does not require more than half the quantity of water to immerse a greater portion of the body. This bath is largely used in Hydropathic establishments, as its effects can be very much varied by the length of time it is used, and by changing the temperature of the water. When it is intended as a tonic, with cold water, it may occupy from five to twelve minutes; as a stimulant, from twelve to twenty minutes; and as a derivative, from twenty to forty minutes. The long sitz lowers the pulse very much; and, therefore, must not be used indiscriminately, as during one half-hour the pulse may be reduced from 76 to 50.

In cases of threatened apoplexy, congestion of the brain, or severe headache, the graduated sitz will give immediate relief. The temperature commencing may be 85°, and should be gradually reduced to 70°. In private houses this will be best managed by taking out about a pint of water every two minutes, and replacing with cold. This bath should not be continued more than twenty minutes, and may be followed by dripping sheet or sponge bath. If the patient is too ill to take exercise, he should at once be put into a warm bed to secure reaction.

The sitz bath being of such a simple nature, and easily available, would be most serviceable in cases of piles, weakness of the genital organs and kidneys, and the small of the back. In these cases it should not be applied more than ten minutes. For those who have weak bowels, the sitz and shallow baths are invaluable.

In any private house where there is no lounge bath fixed, a sitz should be procured. It can be used not only as a sitz, but a wash-down or a dripping sheet may be given in it. For the purpose of a sponge bath, it is far superior to

the tin dishes commonly used, and when properly shaped does not occupy half as much space; it is easily carried from one room to another, and is far preferable to the unwieldy, cumbersome tanks sold as hip baths. In cases of colic or gripes a hot sitz will give immediate relief from pain, producing profuse perspiration if the temperature is kept up and gradually increased.

THE RUNNING SITZ BATH.

The only difference between this bath and the preceding one is, that the water, whether hot or cold, should be constantly flowing in and out, and the temperature may be thus kept at a fixed point, or graduated as desired. If cold, its effects are more powerfully tonic than those of the ordinary sitz bath.

THE DOUCHE BATH

Is formed of a single jet of water projected from a pipe, of one or two inches diameter. Cold—it is a strong tonic and stimulant, and from its great power is, perhaps, the least used of any Hydropathic appliance. It should never be allowed to fall on the head or the region of the heart, nor upon any one place or limb for any length of time, as it would produce congestion. It is very effective in certain cases, but should never be used except under competent advice.

THE SPINAL DOUCHE

Is a jet of water passing through a *flexible* tube at a convenient height to admit of its being directly projected on to the spine, &c.; and is very useful in treating spinal weakness, muscular contraction, weak joints, sprained *ankles, &c., &c.*

THE ASCENDING DOUCHE

Is a jet of water rising from the floor like an ordinary fountain, and is very useful in affections of the rectum, such as hæmorrhoids or piles, fistula, &c., &c. This bath is very powerful, and should only be used under competent advice.

THE CAN OR PAIL-DOUCHE

Was first used by Dr. Edward Johnson, and is very good, being a variation from other light tonic applications.

DIRECTIONS.—This bath should consist of four pails of water, the first pailful to be dashed on the front, and the second on the back, and two more in the same manner. It is administered in this manner in the shampooing room of Turkish baths; but when taken in an ordinary lounge bath the patient sits in the bath, the first pail is poured over the front, the next the back, &c.

THE COOL AND COLD FOOT BATHS

Are only used in the course of Hydropathic treatment, though the effects are beneficial, restoring natural warmth to cold feet, and drawing blood from the head. It would, however, be highly injudicious to apply them for either purpose without taking a course of general treatment.

DIRECTIONS.—The ordinary foot bath may be taken with water one inch deep, rubbing one foot against and over the other to produce reaction. In cases of robust constitutions, four inches depth of water may be used. This bath is given from five to fifteen minutes, according to circumstances, and afterwards the feet should be briskly dried with rough towels, being careful to dry between the toes. As with all cold baths, brisk exercise should follow.

THE SPONGE BATH

Can be taken in any vessel large enough to stand in and receive the falling water. For working men, who have not the convenience of a sitz or other bath, a tub twelve inches deep and twenty-two inches wide will answer both as a sponge and as a sitz bath. This form of bath is largely employed by the humbler classes, many of whom use a coarse towel, or a piece of thick, porous cloth, in place of the sponge. If any of our readers are strangers to the regular and constant practice of a morning ablution from head to foot, and its invigorating effects, they would be amply repaid if they immediately commenced this most healthful practice.

DIRECTIONS.—Immerse the sponge or towel in water, then kneel down, holding the head over the bath or vessel, and ply the head abundantly with water, then the neck, arms, and chest. Then sit down in the water, and rub the stomach and abdomen well up to the armpits. Take the towel by each end and draw it briskly round the back, and alternately over each shoulder. Next stand up in the water, and well rub the legs and feet. After stepping out, *wring the towel well, and give the whole body a smart rub down*, so as to induce a quick reaction. When staying at hotels and other places where a proper sponge bath cannot be had, friction with a briskly-applied damp towel will be found a very good substitute.

BED WASH.

When it is inconvenient to remove a patient from the bed, a wash may be given as follows:—first slip a dry sheet over the patient to prevent wetting the bed clothes, and a dry towel on each side to protect the sheet upon which the *patient lies*; remove the night-dress before commencing

operations; soak a towel in water at a temperature of from 70° to 80°, and wring it partially out. Wash the face and forehead first, then the neck and chest, next the arms, afterwards the abdomen, then the legs. The patient may then be turned on one side and the back washed. Each part must be dried as soon as washed, and covered to prevent a chill. When this wash follows the bottle sweat, or the half-sheet or full wet sheet pack, it may be done before the blankets that have been used are changed.

THE SHOWER BATH.

This bath is so familiar to most of our readers as to render a particular description superfluous. It has, however, been very unjustly condemned, its opponents alleging that in cases where a determination of blood to the head exists, it has a strong tendency to aggravate that evil. This notion has been set forth by many principals of Hydro-pathic establishments, and the bath has been, in some instances, totally discarded. This is totally fallacious, and is entirely founded on the abuse of the bath; and the same objection might be raised to any other form of bath not taken in a proper manner. Long experience has convinced us that the shower bath is highly beneficial in many cases. It is a very convenient, light, tonic bath, occupying but little space, as it will often stand in a small recess in a bedroom, which cannot otherwise be used. Another advantage is that of dispensing with the services of an attendant.

DIRECTIONS.—Before pulling the cord, elevate the head, so that the water may first descend on the face and forehead; release the cord and commence rubbing. Then incline the head forward, so that the water may fall almost exclusively on the back and shoulders, and as slightly as possible on the back of the head. After this, another

brisk rub should follow, then more water on the chest and stomach; dry briskly with towels, and the bath is completed. If these directions are complied with, the shower bath need have no terrors, and will be found both useful and agreeable.

RAIN BATH.

This bath, though of recent invention, is now, on account of its extraordinary power, very generally used in Hydro-pathic treatment. In general appearance, it resembles a fixed shower bath, which latter can be conveniently combined with it. It may be made either square or round (the latter form is, in many respects, preferable), with an opening to admit the bather. The inside of the bath, to the height of five feet, is surrounded by successive tiers of pipes, about two inches apart. Each of these pipes is pierced with innumerable small holes, from each of which a very fine jet of water is projected horizontally on the body of the bather. A peculiar apparatus of pipes and taps is attached to this bath, so that hot water gradually diminishing to a tepid temperature, and that in turn diminishing to intensely cold, can be applied at pleasure, whilst the quantity of water can be regulated with the greatest nicety, and at the same time the shower bath above can be simultaneously brought into operation, and its water also subject to the same gradations of heat and cold.

In its action, the rain bath is highly electric, and is invaluable in neuralgia, nervous affections, debility, sciatica, paralysis, spinal weakness, hysteria, &c.

This bath is the ordinary cold application after the Turkish bath, but as it is so nearly allied to the shower bath in its character, it has been deemed advisable to class *it here.*

THE PLUNGE OR SWIMMING BATH,

For those in the enjoyment of robust health, is very bracing. It is an advantage to exercise the limbs whilst in the water, and swimming is most invigorating. The number of cases in which health has been injured by the use of this bath is very surprising—chiefly from remaining in the water too long; ten to fifteen minutes is quite sufficient, even in summer, and a longer period is sure to be attended with injury, even to the most robust, for although this bath, when prudently used, is tonic, by remaining in it too long its action becomes strongly sedative, and by abstracting heat from the body, it disturbs the regular action of the heart, lungs, and stomach.

THE ENEMA.

As the enema is a very important and in some cases an invaluable application, some notice of it here may be desirable.

Various kinds of enema apparatus, with or without the cistern attached, are sold by chemists and surgical instrument makers.

Many chemists prepare medicated injection fluids, which are frequently injurious, and at all times exceedingly questionable in their tendency. Pure water will always be found efficacious and depurative!

When the bowels are dry and constipated, the enema may be used with advantage. Preissnitz found it most valuable in cases of cholera. In commencing its use, the water should be tepid, a pint of water should be injected at each operation, which will usually answer the purpose, but a greater quantity is sometimes necessary. This being an artificial method of relieving the bowels, should not be used unless there is special necessity, but will, in any case, be better *than* a resort to aperients.

THE SULPHUR BATHS (VAPOUR AND WATER)

Are exceedingly powerful in their action, and are chiefly prescribed for cutaneous diseases, such as prurigo, scurvy, &c. In these diseases their power is very great. Old standing cases of scurvy cannot be so effectually removed by any other means. Frequently four or five baths have not only cleared away the old coating of scurf, but completely dispelled the diseased matter in the blood, by which the offensive eruption was generated.

Being strong alteratives, the greatest care and judgment are requisite in the administration of these baths.

THE ALKALINE BATHS

Are of great service in some particular cases of skin disease, in which other baths do not seem to have the desired effect. The alkalies, of course, have to be specially prepared for each particular case. These, of course, should only be used under medical prescription.

THE ACID BATHS.

These baths are composed of dilutions of various acids. Their action on the skin is mostly astringent and alterative. We have heard much of what is termed the *Acid Cure*, but now it seems to be dying a natural death.

THE BRAN BATH.

This bath is extensively used in France and Germany, and is very soothing and efficacious in various affections, and in some kinds of skin diseases.

DIRECTIONS.—Take three pounds of bran, tie it up in a coarse canvas or linen bag, put it into a bucket of boiling water, press it well with a stick for three or four minutes,

then put the whole into a lounge bath (the bag with the bran in it) heated to a temperature of 98°, and it is ready for use.

THE WET BANDAGE OR COMPRESS.

It is to be regretted that the exceeding efficacy of this most simple application is not better known and appreciated. There are few ailments or casualties in which it cannot be applied with advantage, and it will often afford instantaneous relief. Its timely application will often save a world of trouble, suffering, and expense. It is the best possible *poultice*—a local application of the wet sheet pack. It assists digestion, quickens the action of the liver, and relieves the bowels. A broad compress on the stomach will produce all these effects, but when specially intended to act on the bowels, it should be placed directly on the abdomen. Two or three applications, on successive nights, will generally suffice to create a healthy action, without any risk of a return of constipation—the invariable and natural consequence of the administration of purgatives. If mothers were but aware of the soothing power of a piece of wet rag, they might avoid many sleepless nights both for themselves and their offspring, for the skin of infants and children being tender, they are keenly susceptible of the influence of water treatment. Innumerable instances have come under observation where infants, when racked with violent pain, after the application of the compress, have gone to sleep in a few minutes.

From the introduction of the water cure, by Preissnitz, wet compresses have been classified as *heating* and *cooling* bandages, but these designations do not adequately express the qualities of the compress of the present day. It ought now to be classified in three varieties, as the *heating*, the *soothing*, and the *cooling*, and these may be thus defined.

THE SOOTHING BANDAGE OR COMPRESS,

Most generally known and the easiest to manage by the uninitiated, is a piece of cloth (for an adult) at least seven feet long and ten or twelve inches broad, with strings attached at one end, long enough to go round the body, to keep it in its proper position. Wet as much of it as will reach across the front of the body, from hip to hip, or if it be intended to apply to the back at the same time, then wet as much as will go entirely round the body. Wring the water well out, and wrap it round the body, keeping it as straight and even as possible, just tight enough to feel comfortable without being oppressive.

THE HEATING BANDAGE OR COMPRESS

Is constituted by placing immediately over the wet portion, or first layer of the bandage, a piece, of Mackintosh fabric, oiled skin, or sheet gutta percha (which may be stitched on the bandage) about 1ft. 9in. long, the full width. The dry portion then wraps over as before.

THE COOLING BANDAGE OR COMPRESS,

Chiefly used for scalds, burns, &c., is simply a wet cloth the size required, repeatedly moistened *without being taken off*, and without any dry covering whatever. If this be immediately applied to a burn or scald, no blistering will follow, and therefore no wound will be left.

DRINKING WATER.

Dr. Balbirnie says: "Drink is as important to the economy as food, and the craving for it is a more imperious impulse. It is necessary both to repair the waste of the *fluids*, to *liquefy* the nutritive matters, and to dilute the

chymous pulp in the stomach. It is questionable if much of it passes into the duodenum or bowels, unless when a great overdose is taken ; otherwise, its usual route into the circulation is by direct absorption from the coats of the stomach. Errors of drink have been, amongst civilised society, the most prolific source of its physical as well as its moral evils, produced diseases that slaughter more than ever fell victims to sword, famine, and pestilence combined."

Water is the most powerful natural solvent, and all changes in organic life are principally effected by its medium. Morbid matters are dislodged and carried out of the system, and inflammation reduced and expelled by its aid, and its importance as a beverage cannot be overrated. The drinking of water during Hydropathic treatment greatly assists the external applications.

About seventy-five per cent or three-fourths of the human body is composed of water, and if we examine the physiology of the vegetable kingdom, we find that there also it is a primary constituent. Suppose the supply of this vital element were but temporarily suspended, how soon would all animal and vegetable life become extinct ! How utterly feeble and inadequate then must be our utmost endeavours to appreciate the value and power of this pure and genial element ?

Yet there are very many who will not *condescend* to drink this—the first, the most natural, refreshing, and wholesome liquid, because of its gratuitous abundance. It is, after the boon of life, the highest of all the physical blessings which Providence has bestowed upon the human race, and yet there are millions who shuffle down to the grave and never imbibe it in its pure and unmixed state, but will only receive it in the suspicious form of adulterated wines, spirits, ale, and porter, which, though they may

stimulate and excite for a time, do so by making a large discount from the term of natural life, besides crowding an age of disease, decrepitude, and pain into the little portion left of embittered existence.

Water drinking was an important agency of cure with Preissnitz, but he always had his patients under his own eye. He stopped all luxuries in diet and artificial habits, and enforced upon all who were capable a great deal of outdoor exercise. In the home practice of Hydropathy a great amount of water drinking is neither necessary nor desirable in ordinary cases. Half a tumbler taken early in the morning will often clear the stomach and gently relieve the bowels. A tumbler may be taken to dinner, if required.

With delicate persons it is necessary to be guarded in drinking cold water, as the sudden chill to the stomach lowers the temperature and diminishes the vital heat and tone of the system. Dr. Gully recommends that, in some cases, water should not be drank of less temperature than 55°. When thirsty a copious draught of water is usually unobjectionable, if the body is not overheated by exercise. When persons are in health, to drink no more fluid of any kind than absolutely necessary and agreeable is the most sensible and judicious course. When under Hydropathic treatment, a tumbler or half tumbler may be taken after each bath, and immediately before the walk or exercise; all chilling effects are thus avoided, and the advantages of the purifying effects of the water are secured.

MEDICAL PROPERTIES OF THE VARIOUS BATHS.

The effects of many of the baths are very similar, only varying in degree. For instance, the Turkish, vapour, and Russian baths, and the hot wet bottle sweat are all more or less sudorific, diaphoretic, antiseptic, depurative, *discussant*, and *stimulant*.

The Turkish bath arouses the vital power, and thus enables the system to throw off disease at the outset.

The wet sheet pack, the half sheet pack, the vapour and pack, and fomentation and pack are antiphlogistic, febrifuge, and anodyne. The hot fomentation continued for some time is a powerful counter-irritant.

The tepid and graduated sitz baths lower the pulse, and are therefore sedative and derivative, and may be made decidedly depressant. The cold sitz is tonic, stimulant, and counter-irritant.

The shallow bath, the dripping sheet, sponge bath, shower bath, pail and douche baths are all "dispersive stimulants," and tonic.

Hydrotherapy is not a system of "*specifics*." The whole of the tissues of the body in healthy life are renewed in the course of seven years. If this process of waste and rebuilding is interfered with disease ensues. Hydrotherapy skilfully applied quickens this double process, and at the same time strengthens all the vital functions. Baron Liebig, being asked his opinion, replied: "The water cure *enables nature* to do in one year what she usually requires seven to accomplish."

By thus *assisting nature*, Hydrotherapy is of especial value to persons who from increasing age or delicacy of constitution are sluggish in their functions. We constantly meet with persons who, though *never ill*, are *never well*. In these cases light tonic treatment (such as could easily be taken at home without interfering with business pursuits) would always be of the greatest possible advantage. If the *cold* bath in the morning cannot be borne, the temperature may be raised 10 or 15 degrees, and this is often advisable for persons who, from advancing years, or other reason, find they are not able to produce vigorous reaction. Many persons neglect their daily bath in the winter, and health perceptibly suffers, when if they had merely raised the

temperature, as indicated, they might have gained all the advantage without any risk.

With advancing age the skin should never be neglected. An occasional sweating bath—Turkish, Russian, or vapour, as may be most agreeable and convenient, and the use of the morning bath very much aids nature's excretory processes, reducing the tendency to disease, prolonging life, and making it a pleasure instead of a burden.

REACTION.

It may be desirable to illustrate this term in its Hydropathic and physiological sense.

The first momentary effect of cold, applied to the skin, is to drive the blood inwards. It immediately rebounds to the surface, and the skin becomes warm or hot in proportion to the vital power, and also to the degree and duration of the cold. This has been technically termed REACTION. Hydropathic treatment must be nicely regulated to the vital or reactive power of the patient. Thus, if a patient be extremely weak and delicate, a well-wrung light dripping sheet is the mildest form of cold application, and quite as much as would be safe to apply; whereas a robust person could take the most powerful douche with advantage. Most persons will remember the sensation produced by handling snow—the hands are at first benumbed, and afterwards become very hot, from *reaction*. In Canada, Russia, &c., where cold is intense in winter, frost-bites of the nose and ears are very frequent, and persons are often unconscious of the attack, though visible to the eyes of others. In Canada, if even a stranger meeting you observes your nose or ears frost-bitten, he immediately takes a handful of snow, rubs the part well, excites *reaction*, and thus saves you from *disfigurement* and great subsequent suffering.

"CRISIS."

With Preissnitz, and also with Doctors Wilson, Johnson, and Gully, the crisis was an important event, and all these practitioners treated very severe cases, many of which had been given up as hopeless and required a long course of treatment. These patients did have the crisis in some form or other, more or less severe, and it was looked for and hoped for by both doctor and patient. When it appeared it was a great event, very different to the mere inflammation of the skin produced by mustard or Chili paste, regarded as "crisis" by some so-called Hydropaths.

Speaking of true crisis, Dr. Edward Johnson says: "That the system, by virtue of its own inherent energies, does sometimes purge itself of morbid matters by a crisis, that is, by establishing some temporary outlet through which such morbid matter may and does escape, is perfectly certain."

"The crisis" (Dr. Gully observes), "being the result of the extrinsic efforts of the vital organs, is to be viewed as the *signal* of their relief—NOT as the *instrument* of their relief."

A real crisis, as before named, is an important matter, often involving disturbance of the functions, and attended by boils and carbuncles, through which great quantities of matter are discharged. The term "crisis" has rather come to be ridiculed from its absurd use in connection with the small blisters and eruptions produced by some unscrupulous proprietors of establishments in order to detain patients under their treatment, and which have no more claim to be designated a crisis than has an ordinary surgical blister or seton.

CHAPTER IV.
 CONDITIONS OF HEALTH, AND CAUSES
 OF DISEASE.

DIET.

“There is no kind of alimentary substance of which it can be said absolutely that it is always proper for the sustenance of man. To be serviceable, the food must be adapted to the age, constitution, state of health, and mode of life of the individual, and to the climate and season of the year. The same diet, which, administered to an adult, is healthful and nutritious, may prove irritating and injurious to a child; in like manner, the stimulating animal diet, which in winter is highly grateful to the system of a hard-working unexcitable labourer, may prove utterly destructive of health when indulged in during summer by an inactive and excitable female. It becomes, therefore, an object of deep interest to determine the principal causes and states of the system which render modifications of diet necessary.”—*Andrew Combe, M.D., on “Digestion and Dietetics.”*

WE eat and drink to *live*: those who *live* to eat and drink injure their health, and must sooner or later pay the penalty. Plain wholesome food is necessary to maintain health: a healthy stomach craves not for dainties nor for food at irregular hours. Imperfect digestion soon produces bad health. For adults a varied and moderately nutritious diet is best: it is an equal error to take too concentrated as too coarse food. For invalids especially food should be light and of easy digestion.

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

“The cardinal rule for weak or dyspeptic subjects to avoid overloading the stomach is to eat slowly, to masticate thoroughly, and to attend carefully to the first feeling of satiety—the first feeling of repletion. The relish given by the appetite then ceases, and every mouthful after this accumulates materials more than the stomach can master, and which will oppress and annoy for hours, incapacitate for the due digestion of the next meal, and probably disorder the system of the susceptible for days.

“Most persons eat more than is requisite or good for health. The stomach and humours of the body are equally surcharged—the supply far exceeds the waste; elements accumulate in the system which should be eliminated; unhealthy plethora ensues. The faculties of the mind are blunted, and the seeds of innumerable diseases are sown.”

The food of growing children should always contain a portion of phosphate of lime, which forms the principal part of the earthy matter of bone. For want of this substance many children have small or weak bones. Of ordinary foods, whole-wheat flour and oatmeal contain phosphate of lime in greatest abundance. The natural—and therefore best—food for infants is the mother’s milk; failing this, the substance nearest approaching it in chemical qualities.

Many theories have been formed as to the nutritive value of various kinds of food and the period required for their digestion, but an opportunity was once afforded of observing exactly a number of the phenomena of digestion.

A young Canadian voyageur, Alexis St. Martin, eighteen years of age, was accidentally wounded on the 6th of June, 1822, by the discharge of a musket loaded with duck-shot. It carried away the interior half of the sixth rib, and fractured the fifth, lacerating the lower portion of the left lobe of the lungs and the diaphragm, and perforated the stomach. Under the unremitting care of Dr. Beaumont in

the course of twelve months St. Martin was restored to health, but an opening into the stomach, of two and a half inches in circumference, remained. A small curtain formed inside this opening, which pushed back easily, and allowed the action of the stomach to be observed. Dr. Beaumont was thus enabled to perform some valuable experiments, and to ascertain with certainty the time various kinds of food took to digest. The following table is the condensed result of his observations:—

		H.	M.
Pork: fat and lean...	Roasted	5	15
„ recently salted	Boiled	4	30
„ „	Fried	4	15
Beef: fresh lean ...	Roasted	3	0
„ dry ...	„	3	30
„ steak...	Broiled	3	0
„ with salt only	„	2	45
„ with mustard, &c....	„	3	30
Mutton: fresh ...	Roasted	3	15
„ „	Broiled	3	0
„ „	Boiled	3	0
Fowls: domestic ...	„	4	0
„ „	Roasted	4	0
Ducks: „	„	4	0
„ wild	„	4	30
Turkey: domestic ...	„	2	30
Goose ...	„	2	30
Veal: fresh...	Fried	4	30
Chickens: full grown	Fricassé	2	45
Trout (Salmon): fresh	Boiled	1	30
„ „	Fried	1	30
Salmon: salted ...	Boiled	4	0
Oyster: fresh ...	Raw	2	55
Soups (Beef, vegetable, and bread	Boiled	4	0
„ (marrow bones) ...	„	4	15
„ (Mutton) ...	„	3	30
Chicken Soup ...	„	3	0
Hash meat and vegetable ...	Warmed	2	30
Sausage: fresh ...	Broiled	3	20
Rice ...	Boiled	1	0
Sago ...	„	1	45
Tapioca ...	„	2	0
Barley ...	„	2	0
Milk... ..	„	2	0
„ „	Raw	2	15
Apples: sour and hard	„	2	50
„ mellow ...	„	2	0
„ sweet ...	„	1	30

	H.	M.
Parsnips	Boiled	2 30
Beet	"	3 45
Carrot	"	3 15
Turnip	"	3 30
Potatoes	"	3 30
"	Roasted	2 30
"	Baked	2 30
Cabbage (head)	Raw	2 20
" with vinegar	Boiled	4 30
" with vinegar	Raw	2 30
Bread (wheaten)	Fresh baked	3 30
Eggs (fresh)	Hard boiled	3 30
" "	Soft boiled	3 0

Dr. Beaumont, also, in the course of his observations, found that alcoholic liquors, even in small quantity, *always* irritated the stomach, and if used for several successive days, produced positive disorder. It will be noticed, too, that condiments always hindered digestion.

SLEEP.

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

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

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

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

“A horse-hair mattress is every way preferable to a feather bed. Overload or deficiency of bed-clothes is equally to be avoided. During the day they should be taken off and left to air on the backs of chairs, etc., with the windows of the room thrown up, as is the usage in Italy.”

LIGHT.

“Light is an agent indispensable to health. Vegetables, as well as human beings, deprived of its influence are blanched. The former, also, are changed in their taste *and other properties*. The flesh of the latter is rendered

soft, flabby, pasty, and sallow. The tissues are infiltrated with pale liquids; the blood abounds unduly in serum; the fibrine and colouring matter are in defect. This is observed in persons who work underground, in prisoners immured in dungeons, in the inhabitants of narrow, dark streets and lanes, in the crétins of deep-shaded Alpine valleys, and in the natives of the Polar regions, who are half the year without the light of the sun. Those, on the other hand, who are constantly exposed to the rays of the sun, or who go entirely naked, as the New Zealanders, the Mexicans, the Peruvians, the North American Indians, have thick, rough, freckled, deep-red, tawny skins, florid blood, muscular bodies, perfect forms. These facts ought not to be lost sight of."

AIR.

Dr. Angus Smith says: "When we are children, air is to us nothing. A vessel of air is a vessel with nothing in it. Early nations thought in the same way. Instead of thinking it nothing, we are now inclined to go nearer to the other extreme. We have learnt that its condition as to warmth, speed, and weight is so important that we appoint institutions over all the world for the purpose of measuring the frequent variations, whilst the moisture has the most wonderful influence on our lives. We have learnt that there are many bodies invisible as air; and of these there are two mainly found in the atmosphere, although there are many others in small quantities. Of these latter, one, namely, carbonic acid, influences all the neighbourhood of men and animals, and wherever combustion takes place; whilst hydrogen and its compounds are the consequence of frequent natural phenomena. Besides these, the increasing activity of manufactures brings before us prominently the fact that gases are found in abundance, and some of them

deleterious to plants and animals, being at the same time offensive to the senses."

Breathing, like the circulation of the blood, is constantly going on. There is no intermission, no rest; the heart is always at work, pumping the venous blood to the lungs to be purified and vitalised. The purer the air the purer the blood, and *vice versa*, and if a person is compelled to inhale for a length of time air loaded with poison disease will be the consequence. A few years ago there was great excitement in England on account of the Prince of Wales's life having been endangered by an attack of typhoid fever caused by inhaling impure air, the result of bad drainage. There is a great amount of *slow* poisoning done by impure air; the effect, though not so striking, is none the less certain than in cases where fever is *at once* induced.

In large towns and cities, where human beings and animals live in large numbers within limited space, there are numerous sources of vitiation of air. The authorities are supposed to exercise control over the various and main sources of pollution, but the people, with the necessary knowledge, can do a great deal for themselves. The quantity of air which passes through the lungs is enormous.

Professor Huxley, a high authority, says: "From three hundred and fifty to four hundred cubic feet of air are passed through the lungs of an adult man, taking little or no exercise, in the course of twenty-four hours, and are charged with carbonic acid, and deprived of oxygen to the extent of nearly five per cent. This amounts to about eighteen cubic feet of the one gas taken in and the other given out. Thus, if a man be shut up in a close room, having the form of a tube seven feet in the side, every particle of air in that room will have passed through his lungs in twenty-four hours, and a fourth of the oxygen it *contained* will be replaced by carbonic acid."

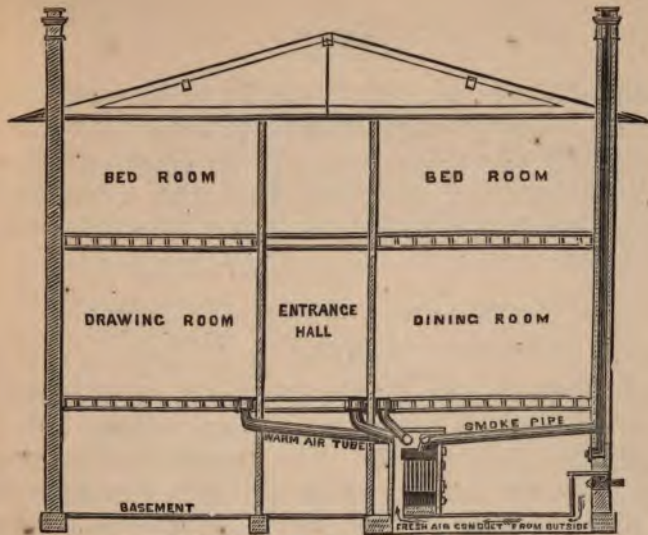
At the Social Science Congress, and at the meetings of other learned bodies, of late years, there has been a great deal said on the subject of ventilation—*i.e.*, the supply of fresh air and the removal of vitiated air—and much has been written, yet buildings, both public and private, are being erected every day in the construction of which the matter is not considered at all. The most remarkable instance of this short-sightedness which has occurred recently was on the occasion of the Right Hon. W. E. Gladstone's visit to Leeds, October, 1881. An immense wooden structure was erected in the Cloth Hall Yard, capable of holding about thirty thousand people. Ventilation was entirely neglected; and, on the occasion of the first meeting, the building quickly filled. Very soon people began to faint; and men were set to work forthwith to cut large openings for inlet and outlet of air. In such a building ample ventilation could have been provided with very little additional cost. The natural laws aid ventilation; air is always moving, always mixing with and purifying that vitiated and preventing stagnation. There is fresh, free, life-giving air in abundance everywhere, and yet we take some trouble to shut it out of our dwelling-houses until we are sick for the want of it; when, instead of arranging for good ventilation, we go to the seaside or some mountain district for a term to recruit our health. Fresh pure air and an ample supply of it being the first necessity of healthy life, it will be readily seen how important it is that invalids and delicate persons should be out of doors as much as possible, and that no means should be neglected of affording a free supply to both bedrooms and living-rooms. A number of persons who go from home each year might get almost the same benefit to health if they would spend the same time in the open air at home as they do as a matter of course in the country.

A WARM, DRY HOUSE.

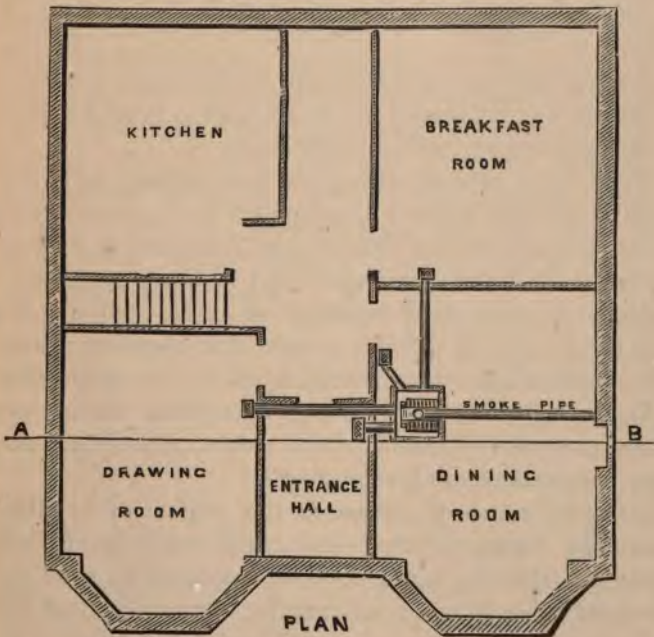
Persons in weak health, who of necessity must have a fire in their bedrooms, often suffer from having to pass through cold passages or into cold rooms, and it is a great advantage to them to have the whole house thoroughly warmed.

In large houses a proper system of warming the whole house from one centre is necessary. It not only gives greater comfort, but is more effective and more economical than the ordinary open fire-place in each room. In large entertaining rooms which are occasionally filled with visitors, special appliances for ventilation are also essential, and to prevent disfiguring the walls, &c., should be provided for when the building is being erected. There is no difficulty whatever in warming any house without disfigurement. The warm air system can be adapted to any place which is cellared. A Convoluted Stove may be fixed in the basement, the smoke-pipe taken to the nearest chimney, and a separate delivery of warm air to the dining-room, drawing-room, breakfast-room, and the hall ; from the hall the warm air finds its way to the bedrooms, and raises their temperature eight or ten degrees. The plan and section of house show the arrangement. An apparatus with four deliveries fixed as shown will not consume more fuel than one open fire-place ; the fire will remain good through the night, so that the rooms are never cold even in winter, and a house fresh from the builder's hands can be perfectly dried in a fortnight.

This system of warming has the advantage of giving a constant supply of fresh air from the outside, which is warmed in the apparatus chamber on its way to the various rooms, and where no outlet has been provided, the ordinary chimney flues act as ventilating shafts. If a cavity is *formed in the outside walls*, the various rooms may be



SECTION THROUGH A.B.



PLAN

ventilated into it ; the outlet from the cavity ought to be made at a high point, underneath the eaves. It is a very good rule to have the bedroom windows slightly open both day and night, and have them fitted with a high bead. Fresh air from the outside can, then be admitted without draughts.

GENERAL.

The master-rule for the foundation and encouragement of robust health is that of early rising, bathing, and an immediate walk afterwards. The expansion of the chest and lungs, the inhaling of the delicious, free, fresh air (which early in the morning always contains the greatest amount of oxygen) awakens all the vital functions, and ensures serenity, cheerfulness, and energy throughout the day.

Always keep the appetite both for food and drink well under control. When desire is allowed to take the place of reason serious mischief is the result.

The practice of early rising and cold bathing, cultivated in childhood, will become a permanent and pleasant habit in after life, and not an irksome and disagreeable duty (in which light it is too often regarded) ; and adults who have neglected it, either from indolence or apathy, will find it a more genial and less difficult practice than they anticipate.

A collateral advantage will be found in the early retirement, necessary when early rising is practised. Late hours, heated assemblies in rooms with a vitiated atmosphere, and many temptations are thus avoided.

A fruitful cause of disease is the neglect of healthful precaution during infancy and childhood. Insufficient, injudicious clothing, improper food, exposure to cold and *wet*, want of early open-air exercise, densely-packed and

ill-ventilated rooms, and other evils of similar nature, lay the foundation of many deadly diseases in the system.

The skin must not be neglected. Daily ablutions from head to foot ought to be rigidly practised, and the vital necessity for this will be at once evident by the consideration of the functions of the skin.

To maintain health, we must certainly avoid all pernicious habits or indulgences. The habit of taking alcoholic liquors, without doubt, is the cause in thousands of cases of serious diseases of the digestive organs, liver, brain, and the whole nervous system. Without mentioning the disastrous moral results, the social system, which forces intoxicants under the name of hospitality, is responsible for incalculable suffering and unnumbered deaths.

Scarcely less destructive to health is the filthy habit of smoking. By it, the essential oil of tobacco, a deadly poison, becomes lodged in the body. This injures the nervous system, lowers the vital tone, deranges the liver, weakens the powers of digestion, and is a fruitful cause of impaired vision, hearing, and taste; and, in connection with alcoholic stimulants, is the frequent originator and certain promoter of apoplexy, paralysis, heart, brain, and lung diseases. If the habit is contracted in boyhood it brings premature old age.

CHAPTER V.

FEVERS, SMALLPOX, ETC.

TYPHUS FEVER.

THIS dreadful malady is happily one which very readily yields to Hydropathic treatment. It is caused by blood poisoning, and Hydropathy is successful by going to the root of the matter at once—stimulating the excretory functions of the skin and thus eliminating the poison from the system. This may be effected, when taken at the onset, by two or three days' treatment (where no complication with other diseases exists), as we have repeatedly seen; but, if the disease is allowed to have, say a week's continuance, the patient becomes greatly reduced, and the preservation of life may be uncertain.

SYMPTOMS.—Languor, weariness, sighing and moaning, pulse hard, but small and rapid, oppression at the chest, intense thirst, the tongue, mouth, lips, and teeth are covered with a brown or black tenacious fur, the breath and stools are offensive, pain in the head and back, skin dry and hot, speech inarticulate and the patient mutters a good deal, and, if the disease is not checked, delirium ensues, and there is a tendency to putrefaction of the fluids.

This last stage ought never to be allowed to supervene, and it never would if recourse were had to Hydropathic treatment at the commencement.

TREATMENT.—The Vapour, Russian or Hot Wet Bottle Sweat should be given on the first symptoms, keeping the *head cool with wet cloths, &c.* Wear the heating compress,

changing every hour and half. If the fever increase in spite of all efforts, the half sheet pack may be given twice a day, wearing the compress as above. Throughout the treatment the patient may drink freely of toast and water. When convalescent, the dripping sheet or wash-down twice a day, and occasionally a pail douche until health is re-established.

TYPHOID FEVER

Partakes very much of the nature of Typhus Fever, the symptoms being very similar to those above described, and may be similarly treated. If the Prince of Wales had been thus treated in the severe attack of fever which caused such alarm to the nation, it is almost safe to say that his life would never have been in any danger.

SCARLET FEVER.

So decided and certain are the effects of Hydropathic treatment in this otherwise frightful malady, that it is greatly to be deplored that all medical practitioners do not at once resort to its use.

SYMPTOMS.—It usually commences with languor, lassitude, chills, and shiverings, alternating with intervals of heat. It is attended with considerable thirst, dryness of the skin, sharp quick pulse, nausea, vomiting, &c. About the second or third day the scarlet efflorescence appears on the skin, but without occasioning any abatement of the fever. The most dangerous cases are evidenced by an intensely hot and dry skin, indicating that all excretion by that organ has ceased.

TREATMENT.—On the first day, administer a vapour (or other sweating bath)—the hot wet bottle sweat being usually the most easily administered. This excites and

relieves the skin, facilitating the after treatment. Apply the heating compress to the stomach immediately after the bath. This must be worn day and night, and changed every two hours. Next day, early in the morning, apply wet sheet pack for thirty minutes, followed by a wash-down with water at 75°. If the fever ranges high, the pack must be repeated in four hours. During the pack, apply a cold wet cloth to the head. As the throat is in danger of being closed up by swelling, a wet compress must be constantly worn round it, and renewed every hour. If there is a tendency to congestion of the brain, administer two or three hot foot baths during the day, which can be given while the patient reclines in bed. Continue the packs day by day till the fever is subdued; then give the dripping sheet or a wash-down daily with water at 70°. Throughout let the patient drink plentifully of toast and water.

Even in cases of malignant type, and where the fever has fully developed, Hydropathic treatment can never do harm, and may be the means of saving the patient when all other remedies have been abandoned. A remarkable case may be instanced. A gentleman of this city had two children attacked by this disease in its worst form. In spite of all the efforts of skilful medication, the first died, and the second was rapidly sinking. An additional physician was called in, but was unable to give any help, and as a last resort, almost without hope, Hydropathic treatment was submitted to. In a very short time relief was given, and in thirty-six hours the patient was pronounced out of danger, and in a week was quite convalescent. The medical attendant (who had abandoned all hope of recovery) was a passive but interested spectator of the treatment, and with the parents freely ascribed what they considered *the almost miraculous cure to Hydropathy.*

GASTRIC FEVER.

SYMPTOMS.—Violent burning pain in the stomach, with great soreness and distention, accompanied by flatulence, much vomiting after taking food, distressing thirst, restlessness, anxiety, and much tossing of the body, constant watching, great debility, and a frequent, hard, and contracted pulse; in some cases severe purging occurs.

TREATMENT.—Foment with hot flannel the whole of the belly for forty minutes; immediately after give the wet sheet pack for thirty minutes, and a wash-down with water at 75°; then apply the soothing compress to the stomach. In three hours a sitz bath of 70° should be taken for about twelve minutes. A wet sheet pack and a sitz bath should be taken every three hours, alternating as above. This treatment should be continued night and day until the fever is subdued, when light tonic baths should be administered to recruit the strength. The diet, when the patient is able to take food, must be very light and sparing.

SMALLPOX.

This disease has been of late the terror of everyone, and the trouble of the doctors. Scheme after scheme has been proposed for its prevention and cure; vaccination and isolation, however, are the points on which the chief reliance has had to be placed. Very little progress has been made in the mode of treatment; the fact of the disease resulting from blood poisoning seems not to have been practically recognised, and no attempt seems to be made to eliminate the poison from the body. Humiliating indeed it must be to the physician to have to stand by and watch, instead of helping in the fight between the vital power and the enemy in possession. The Hydropathist, on the contrary, is able at once to help the excretory functions, to draw out the

poison, and to give immediate relief. Under Hydropathic treatment the disease is shorn of more than half its terrors.

SYMPTOMS.—Shivering, intense pain in the head, loins, and limbs, nausea and vomiting, skin hot and dry ; on the third day pustules form, and by the eleventh are in full suppuration.

TREATMENT.—This disease may be effectually treated in a similar manner to cases of scarlet fever. Great care, however, must be taken not to allow the blood to flow too freely to the head. When the patient is in the wet sheet pack, should his face become much flushed, and the fever is raging at its height, he must be taken out, and the wet sheet must be renewed. Let the patient drink freely of toast and water, and the minor directions given with respect to scarlet fever must be observed until the patient is convalescent. If the disease be treated hydropathically *at the outset*, a rapid recovery may be expected, and *pitting* need not be feared, the morbid matter being thrown off as formed.

CHICKEN POX.

SYMPTOMS.—Consist of a few straggling spots very similar to smallpox, but they are dry, and unattended with fever.

TREATMENT.—One or two sweating baths, and two or three days' application of the soothing compress to the stomach, with sparing and simple diet, and rest, will generally effect a cure. Should this not be the case, a wet sheet pack, followed by a dripping sheet, may be given.

MEASLES.

SYMPTOMS.—Measles are preceded by drowsiness, dry cough, and frequent sneezing. The eruption usually makes *its appearance* about the third or fourth day. Measles are

not usually dangerous. If treated hydropathically and with proper care, cure is as easy and certain as in any case of severe cold.

TREATMENT.—Should commence with a bottle sweat or vapour bath, then the wet sheet pack on the two following days for about forty minutes each time; the heating bandage worn round the body day and night for a week, renewed three or four times daily. This will usually be sufficient. Eleven o'clock in the forenoon or thereabouts is the best time for the pack. After—sometimes during—the first application the eruption will be perceived much more fully developed. A wet cloth should be applied to the head when in the sweat or pack.

LOW FEVER.

In cities and towns this is frequently caused by slight poisoning by the water which has remained in the lead pipes over night. There is more suffering from this cause than most people are aware of.

Water for cooking food should be drawn when the lead pipe has been well cleared, and it is advisable to have a good-sized vessel to hold a quantity of water for drinking and cooking purposes.

TREATMENT.—Take any sweating bath and wet sheet pack on alternate days. A dripping sheet may be taken in the morning on rising; light farinaceous food; drink freely of toast and water. In all cases of fever the wet sheet pack acts upon the patient like water upon a plant which has been left too dry.

CHAPTER VI.

AFFECTIONS OF THE STOMACH, LIVER,
BOWELS, ETC.

INDIGESTION.

SYMP TOMS.—Heartburn, foul tongue, flatulency, pain in the stomach before and after eating, are certain indications of indigestion. Another frequent symptom, but which is erroneously considered an evidence of health by the patient, is an inordinate craving for food, which induces eating at short intervals; distention of the stomach follows, with lassitude and languor.

TR E A T M E N T.—Take a dripping sheet each morning and a sitz bath, 70°, for fifteen minutes each day. A vapour or any sweating bath or a wet sheet pack should be taken frequently, and the wet compress should be applied to the stomach day and night. Each time the compress is taken off for re-moistening, the stomach should be briskly rubbed with the cold wet hand. Diet, &c., as prescribed for dyspepsia.

DYSPEPSIA.

This is a very common disease of the organs of digestion, and, if neglected, frequently becomes the initiative of other disorders, and in some instances of consumption. The principal causes of dyspepsia are intense study, sedentary occupations, confinement, irregular and high

living, excessive grief, or strong mental emotion, hard drinking—especially spirits, strong tea and coffee, the use of tobacco, opium, and other narcotics, over-feeding, prolonged exposure to cold, neglect of the skin. In many constitutions *any one* of the preceding causes may occasion dyspepsia. It may be added that all artificial condiments, pickles, sauces, and other pungent preparations aggravate this complaint, and ought to be avoided.

SYMPTOMS.—The symptoms are various and distressing, heartburn, nausea, flatulency, loss of appetite; sometimes this last peculiarity will be reversed, the appetite being ravenous and capricious in the extreme, acid eructations, a gnawing in the stomach when empty, a sense of constriction and uneasiness in the throat, with pain in the left side, so that at times the patient can only lie on his right side, costiveness, habitual chilliness, paleness of the countenance, languor, unwillingness to move about or to take exercise, depression of spirits, palpitation of the heart, disturbed sleep, and frightful dreams.

TREATMENT.—May be commenced with a vapour or other sweating bath to get the skin into active order. This should be repeated every fourth day, with a wet sheet pack each second day. The heating compress should be worn day and night, and re-wetted, if possible, every two or three hours. A sitz bath, about 75°, for ten or twelve minutes, may be taken twice a day. A dripping sheet or sponge bath should be taken every morning, immediately on rising, while the body is warm. Half a tumbler of water must be taken after each bath and before the walk, which should invariably be taken to promote reaction. The diet should be light and nourishing, and sparing in quantity, avoiding all confectionery, pastry, or hot greasy dishes, strong tea or coffee. All kinds of condiments, alcoholic liquors, and suppers must be especially eschewed.

HYPOCHONDRIASIS

Is frequently caused by the general derangement of the digestive organs.

SYMPTOMS.—Lowness of spirits, nervous debility, and morbid fancies.

TREATMENT.—For ordinary cases the same as indigestion. Now and again it is met with in an aggravated form, the brain being affected, in which case the patient has to be put into restraint.

PAIN AT THE STOMACH

Most frequently arises through a fit of indigestion. To remove, sip a teaspoonful of cold water every five minutes, and practice the "hand-saw exercise" two or three minutes. This movement usually starts digestion, and the pain ceases.

OFFENSIVE BREATH.

Very often the breath loses its sweetness entirely, in consequence of the teeth and mouth not being regularly cleansed, but when the breath is habitually offensive it arises from a morbid condition of the stomach, in which case a few half-sheet packs, with the stomach compress at nights, with a spare diet of light digestible food, will soon effect a cure.

SICK HEADACHE

Always arises from derangement of the stomach or liver.

TREATMENT.—Sponge the head well with tepid water, and take a graduated sitz bath for twelve minutes, followed by tepid and cold rain bath. Take brisk exercise after *each bath.*

OBESITY, FATTY DEGENERATION.

It is hard to make some people understand that "fat is disease." There are a large number of people who, when they find themselves increasing in bulk, look upon the matter with great complacency, and being ignorant of the danger they are incurring continue to indulge freely in the habits which are causing the increase in weight—thus shortening their lives possibly twenty or thirty years. To put the facts briefly: fatty matter is not the material to build up the tissues or to repair the natural waste which is always going on in a state of health. Obesity is caused by the superabundance of supply over demand. In other words, as more is taken into the system than is required to maintain the equilibrium, the extra matter has to be stowed away in the most convenient places where it is least likely to do mischief; the surface of the belly is one of those places. There is a limit to accommodation of this kind, and the fat begins to accumulate over the whole body; it is then that the danger begins. Soon there is some deposited about the heart, where, of course, it is an intruder, and much in the way. The heart is always at work; it never gets any absolute rest. "With a force equal to the pressure of sixty pounds it propels into the arteries two ounces of blood at every contraction. It contracts four thousand times in an hour. There passes through the heart, therefore, every hour, eight thousand ounces or seven hundred pounds of blood. The whole mass of blood in an adult is about twenty-eight pounds. On an average the entire circulation is complete in two minutes and a half; consequently a quantity of blood equal to the whole mass passes through the heart from twenty to twenty-four times in an hour."

Accumulation of fat about the heart frequently causes sudden death, but the mischief is not confined to this organ. Nutrition is interfered with, and the nerve or vital force

is weakened, making the patient liable to apoplexy and paralysis.

In ninety-nine cases out of a hundred obesity may be avoided. It is only a question of determination to adhere to certain simple rules as to diet and habits. It may be said almost with certainty that it is curable, but not without the assistance of the patient. If the same habits which have produced corpulency are continued, cure is impossible, whatever the "treatment."

The authorities are pretty well agreed that if a man weighs 150 pounds, 130 pounds of that is water. Bearing this fact in mind, it would seem that if a man is too heavy it would be an easy matter to lighten him, since so large a proportion of the whole is water. But man is not a large sponge; he is "fearfully and wonderfully made," and there are a number of processes going on which keep the organism in a living state. These processes can only be interfered with to a certain limited extent, or serious mischief may be done to some part of the machine, so that while the bulk is being reduced the vital power must be conserved and increased to bring about the change to health.

TREATMENT.—Half a pound a day may be taken off with perfect safety; and this is frequently done. A recent case will illustrate. Mr. B. weighed seventeen stones four ounces without clothes. He had been cautioned by his medical adviser that he must not on any account hurry for a train, and even had to be supported in walking short distances. He began the treatment by taking three Turkish baths a week, was not allowed more than three half-pints of fluid *all told* in the twenty-four hours; in his diet he avoided sugar and fatty matter, otherwise he took a fair share of nutritious food. Under this regimen he was in nine months reduced to twelve stones four pounds. It *ought to be stated* that while under treatment Mr. B. gave

up all alcoholic liquors. Long before he got down to twelve stones he could walk ten or fifteen miles at the rate of four miles an hour without any difficulty. He now rejoices in his new-found liberty, and would have great pleasure in giving particulars of his cure to any one burdened as he was. (Mr. B.'s address may be obtained on application to the author.)

Observing the same rules with regard to liquid and diet, where the Turkish bath is not available or is objected to, three wet sheet packs a week with the heating stomach compress at nights will produce a like result.

INFLAMMATION OF THE STOMACH

Is sometimes produced by improper food, but generally by acrid poisons, as arsenic, corrosive sublimate, &c., or by taking large draughts of cold liquor when much heated by exercise, as dancing, &c.

SYMPTOMS.—Heat and pain in the stomatal region, increased when food is taken. Anxiety, hiccup, vomiting, and prostration, small and hard pulse.

TREATMENT.—Very hot fomentation, followed by half sheet pack twice a day, afterwards wash-down or sponge bath. If this does not give immediate relief, the sitz, for fifteen minutes, commencing at 85° and working down to 70°, two hours after the pack. The heating compress to be worn continuously. If the above be persevered in, it will be effectual. Diet as light and sparing as possible.

DISEASE OF THE LIVER.

SYMPTOMS.—Are generally nausea, sour or bitter mouth, headache, foul breath, flatulence, retching, turbid or dark-coloured urine, bowels constipated, irritability of temper or gloom, skin feverish and yellow, and the white of the

eyes yellowish, aversion to or craving for food, sometimes thirst, &c. The most frequent causes of this disease are indulgence in alcoholic stimulants and in the so-called pleasures of the table, irregular living, want of open-air exercise, &c.

TREATMENT.—If the patient be robust, vigorous treatment may at once be proceeded with. A vapour bath and wet sheet pack should be given on alternate days, about eleven o'clock in the forenoon; a Turkish or any sweating bath the other day; a hot and cold dripping sheet, and a cold sitz bath for fifteen minutes in the afternoon, daily; and the heating compress round the liver and stomach should be worn continuously. Abundance of water must be drunk, and exercise in the open air freely taken. If the patient be delicate and weakly, a milder course of treatment may be adopted, as follows: a dripping sheet on rising in the morning, the vapour or Turkish bath twice weekly, and the wet sheet pack once a week. On those days that the vapour and wet sheet are not taken, a hot dripping sheet at a temperature of 126° may be given, followed by a cold one. A sitz bath at 60° or 65° must be taken ten or twelve minutes before tea, and the heating and soothing compresses should be worn alternately, with moderate exercise.

BILIOUS FEVER.

SYMPTOMS.—Sickness, vomiting, and severe headache, intense pain about the region of the liver, puffiness of the features, the white of the eye yellowish, and discolouration under the eyes. The sufferings of the patient are sometimes very acute.

TREATMENT.—A sitz bath, heated to 100°, must be taken, and whilst in it the temperature must be gradually *increased as much as the patient can bear*. A cold wet

cloth must be placed on the head during the bath, which may be extended to three-quarters of an hour. The perspiration will be very profuse, but the pain will certainly be relieved. Should the sitz bath not be available, apply a hot fomentation, renewing every ten or twelve minutes—or the bottle sweat—until pain is relieved. The heating compress must be applied on leaving the bath, the patient covered well with a blanket, and put into bed. On rising in the morning a hot dripping sheet, at 126°, followed by a cold one. Resume the heating compress, to restore the patient to full strength. A few dripping sheets may be taken, say, one on rising in the morning, and another before dinner. This course should be persevered in for a week, when the patient's health should be re-established.

JAUNDICE.

This disease frequently defies the ablest skill with drug medication, but, in most cases, a single week of Hydro-pathic treatment is sufficient for complete cure, even in the most aggravated cases.

SYMPTOMS.—Yellowness of skin and eyes, confined bowels, clayey or white stools, bitter taste in the mouth, foul tongue, high-coloured urine and perspiration, which tinges the linen yellow, sickness, and sometimes vomiting, &c.

TREATMENT.—First day: a sweating bath in the morning, in the afternoon hot and cold dripping sheet; the heating compress must be worn on the stomach and liver, and must be renewed every two hours until the cure is complete. Second day: in the morning a vapour and wet sheet pack, in the afternoon a hot and cold dripping sheet. The third day, the same as the preceding. The fourth day, a sweating bath and cold shallow bath. The fifth day, the wet sheet pack and cold shallow bath.

This course will generally be found sufficient for a perfect cure, but, if otherwise, the treatment of the last two days should be repeated.

DROPSY

Is a disease peculiarly amenable to Hydropathic treatment. It is of two distinct kinds, local and general. The parts generally affected are the abdomen (*ascites*), brain (*hydrocephalus*), chest (*hydrothorax*), heart (*hydropericardium*), testicles (*hydrocele*), joints (*hydrops articuleum*) and ankles. Dropsy is an accumulation of serous watery fluid in the cavities of the body, and under the skin, sometimes resulting from disease of the liver or kidneys, and always accompanied by obstructed action of the skin.

SYMPTOMS.—Pale, puffy, dry skin, which pits beneath the pressure of the finger. Sometimes it is hot, at other times cold, with shivering, prostration, difficulty of breathing, feeble and irregular pulse.

TREATMENT.—Take the Turkish, Russian, vapour, or other sweating bath, three days in succession, with wet sheet pack in the afternoon. On the fourth day omit the sweating bath, but take the wet sheet pack, and then resume the sweating bath for three days as before. Continue this treatment until the disease is overcome. The heating compress on the stomach must be worn continuously, day and night. When the patient is convalescent discontinue the sweating baths and compresses, and take a dripping sheet every morning until the tone of the system is restored, and health fully re-established.

OFFENSIVE ODOUR OF THE PERSPIRATION.

Offensive odour of the perspiration arising from the whole body, and sometimes locally, from the armpits and feet, often annoys persons of bilious temperament, and

also those whose habits are of a sedentary and unhealthy character. It must be confessed, even at the expense of gallantry, that the trouble is greatest among the gentler sex. Most people, so affected, are painfully conscious, and, generally speaking, would spare neither time nor expense to divest themselves of this trouble. It is always worse when the body is heated with exercise, especially during dancing. Every man, woman, and child, ought to be well washed from head to foot *at least* ONCE every day, and that immediately on getting out of bed. This will render the perspiration easy and odourless.

TREATMENT.—A Turkish, Russian, or vapour bath, alternating with the vapour and pack each twice a week for a fortnight, with the dripping sheet or sponge bath, on rising, will soon put all right; this latter should be persevered with as a means of promoting health.

SUPPRESSED MENSTRUATION.

A great amount of suffering and anxiety might be saved if the simple and certain Hydropathic remedy for this complaint was known and used.

TREATMENT.—A vapour or other sweating bath must be taken every other day. The vapour must be followed by a shower bath, shallow bath, or dripping sheet, and, after being well dried, the patient should take a cold sitz bath for two minutes, covered with a blanket. The heating bandage to be applied round the abdomen and loins, and worn only during the night. In the majority of instances the preceding treatment will have the desired effect, but in long neglected cases, a dripping sheet every morning, and a cold sitz bath for seven minutes must be given before dinner, on those days when the vapour bath is omitted. A moderate quantity of cold water may be taken, and plenty of exercise in the open air.

COLIC OR GRIPES.

SYMPTOMS.—Pain at the pit of the stomach, extending to the bowels, accompanied with eructations, slight sickness at the stomach, thirst, anxiety, obstinate costiveness, and a quick, contracted pulse; after a time, the pains increase considerably in violence, the whole region of the belly is highly painful to the touch, and the muscles of the abdomen are contracted into hard, irregular knots. If these symptoms be not quickly alleviated, inflammation of the intestines ensues.

TREATMENT.—A hot sitz bath should be taken for half an hour, to commence at 100°, and increased in heat from time to time, as the patient can bear it, up to 110° or 115°. If the sitz bath is not available, very hot fomentations rapidly renewed will have the same effect. In most cases this will give immediate relief. The heating compress should then be applied immediately; if the pain be not quite removed, the hot application may be renewed for half an hour, and after that, the enema, with the water heated to 70°.

INFLAMMATION OF THE BOWELS.

The cause of this disease is usually long continued costiveness, through errors of diet; but another and very general cause is sudden change of temperature aggravated by use of alcoholics. It is a disease which most generally manifests itself at advanced periods of life, and those who have been once affected with it are liable to its recurrence.

SYMPTOMS.—Acute pain, generally extending over the whole of the abdomen, but more especially round the navel. It is accompanied by eructations, sickness at the *stomach*, vomiting of bilious matter, obstinate costiveness,

thirst, heat, great anxiety, and a quick, hard pulse. After a short time, the pain becomes still more severe, the abdomen is excessively painful to the touch, the bowels seem drawn together in lumpy contractions, and the urine is voided with great difficulty and pain.

TREATMENT.—A hot fomentation with a vapour or other sweating bath (if available) will at once afford relief, after which apply the heating compress. Then administer the enema with the water heated to 80°. If the pain be not quite relieved in half an hour, apply the hot fomentation again to the bowels for half an hour, followed by half-sheet packs, and afterwards resume the heating compress. In the course of four or five hours a half-sheet pack may be given. If the patient is still uneasy, the hot fomentation must be repeated. When all pain is gone, give the patient the advantage of undisturbed repose and tranquillity.

HYDROPHOBIA.

Both Symptoms and Treatment will be found amply detailed in the following remarkable cases:—"Hydrophobia," says Dr. Buisson, "is indigenous to certain animals, such as the dog, wolf, cat, &c. ; in a word, in those animals which do not perspire. Animals that perspire, such as man, the horse, &c., are never subject to this disease, except by the absorption of the *rabid virus*. Until the present day no means were known of curing this terrible disease ; even cauterization of the wounded parts was not always a sure preventive. A vapour bath *prevents* hydrophobia, and a vapour bath will also *cure* it. One bath may not accomplish a cure ; for greater safety it may be prudent to employ several, varying from 38° to 41° (Reaumer), according to the constitution of individuals and the facility with which they perspire. I cause the

patient to lie between two feather beds, and during the day to drink large quantities of warm *bourache*. I make no restrictions as to diet, and avoid such conversations as are calculated to unnerve the patient by reminding him of the accident. Preventive measures should always be adopted. We should not wait for the appearance of the disease, but apply the vapour bath at once; as the disease never manifests itself before the seventh day, there is ample time for obtaining the vapour or Russian bath. Having been summoned to attend a woman labouring under hydrophobia, after bleeding her, I wiped my hands upon her handkerchief, which was saturated with saliva; having a wound on the first finger of my left hand, on the ninth day I felt a pain proceed from it by the radical which communicates with the brain. The attacks continued about three minutes, with intervals of seven or eight. The eyes were extremely painful, and appeared to be starting from their orbits. Light affected me acutely, and, as a consequence, all luminous bodies, such as glass, metals, &c.; my hairs became so sensible that it appeared to me that I could count them without seeing them. The effect of a current of air was not only painful, but prolonged the attacks. My body appeared to be lighter than air. I fancied that by leaping from the earth I should rise to a prodigious height, and that by leaping from a window I should not touch the ground. The glottis was painful, and a slight inflammation also existed in the epiglottis. I secreted much saliva, and continually expectorated. I perceived that the glands were choked up, and wishing to assure myself of it, I was unable so to do; to such an extent was my sight affected, that I finally gave up the attempt. I experienced an incessant desire to run, and even to bite, and felt myself relieved when walking up and down my chamber, biting my handkerchief. I drank

with difficulty ; the horror which I had of water appeared to be owing to its lucidity, for I could drink with my eyes shut. Thinking of nothing but death, I sought the most speedy and least painful. I had long believed that a vapour bath would prevent hydrophobia, but not cure it. Resolved as I was to die in a vapour bath, I took Reaumer's thermometer in my hand, fearing that I should be refused the heat which I desired, 42° (127 Fahr.). I WAS CURED. I did not expect it. I did not believe in a cure ; my preconceived opinions were against it. I merely expected to experience a long intermission from the attacks by being shielded from the air. Nevertheless, I went out, dined, and drank copiously, returned to bed and slept well. From that moment I have never had a single sensation of the disease."

Thus ends the history of this remarkable cure, which, from its importance, merits even more consideration than the learned doctor has given it. He has previously said that the disease was indigenous to such animals as do not perspire, and that when the disease is transmitted to man, he loses the ability to do so. From this fact we are naturally led to infer that to open the pores and thus eliminate the poison from the system at once is the only rational way to promote a cure. In 1866 hydrophobia was unusually prevalent, and vast numbers of people were bitten by dogs in the rabid state. Dr. Buisson's case was inserted in the newspapers, and many of those who had been bitten resorted to the Russian and vapour baths. Not one of those who did so had any attack of hydrophobia ; while several, who had been bitten by the same dogs, but did not take the baths, died of that disease. One gentleman being bitten by his own dog, which had to be shot, hydrophobia set in with such decisive symptoms that his two medical attendants had no doubt of the commencement of the disease.

He was made to take a course of seven vapour baths, and, though several years have elapsed, he continues in good health. There is no doubt any sweating bath taken immediately will eliminate the poison from the system and prevent any danger.

DYSENTERY OR FLUX

Prevails to a much greater extent in tropical than in temperate or cold climates. The principal cause is miasma generated by excessive heat and damp; in this country noxious exhalations, from foul drains, and from decomposed animal and vegetable matter. Damp and confined dwellings, with unwholesome food, will often occasion it.

SYMPTOMS.—Chill, followed by quick pulse, hot skin, flushed face, often pain in the head, nausea and vomiting, griping, irregular pains in the abdomen, constant desire to go to stool, but the patient unable to pass anything but a little mucus and blood, and sometimes balls of hardened fæces.

TREATMENT.—Excite, at once, free and copious perspiration, which will allay the irritation in the bowels. This may be done by a vapour or other sweating bath; put on a good broad heating compress round the abdomen; in two hours foment the belly for half an hour, then apply the heating compress, and change it every two hours. A dripping sheet or wash-down may be given after both vapour bath and fomentation, and if the patient is able he should walk about the room. This treatment should be repeated each day. The enema, with one pint of water at 70°, may be given three times a day for the first two days, at the end of which time the patient will usually be convalescent. He should then daily have a dripping *sheet on rising* in the morning, and should also take a sitz

bath about eleven o'clock in the forenoon until thoroughly recovered. Throughout the treatment the patient should drink freely of toast and water, and the diet must be light farinaceous food, taken sparingly.

CONSTIPATION

In many cases is the result of drug treatment, and often of irregular habits and vicious living. To open the bowels with drastic purgatives, thus torturing and stimulating them beyond their natural functions and strength, was the grand panacea of the old school of medical practitioners. Aperient medicines inflame and irritate, and when their effects have subsided, they leave the vital tone and power of the bowels weakened, and the bowels more constipated than before. Easy and regular motions are a certain indication that the bowels are healthy, but there is a great difference in constitutions. Many persons naturally do not excrete so much from the bowels, but possibly more by the skin or kidneys, &c. A daily action of the bowels is usually desirable, but *not invariably essential*; but if the motions are not easy, the bowels ought to have immediate attention.

SYMPTOMS.—Dry, difficult, and scanty motions, with often a sensation of tension and fulness in the bowels, headache, feverishness, depression. If constipation is persistent, it may be attended with vomiting.

TREATMENT.—A vapour bath and one wet sheet pack should be taken during each week of the treatment; a tepid sitz bath in the afternoon, for fifteen minutes (the last few minutes reduced to cold), twice during the week. The heating compress should be worn on the abdomen, day and night. Four half tumblers of cold water should be taken at intervals each day, and as much active exercise in the open air as the condition

of the patient will permit. Most scrupulous attention should be paid to diet, and if the patient's stomach will admit of it, oatmeal, or wheatmeal porridge, very well boiled, should constitute his breakfast. Bread and milk, plain meats, such as beef and mutton, rice pudding, weak black tea, brown bread, with a very sparing use of butter, and free use of fruits and vegetables, should constitute the fare for each day. Stewed French plums or figs are particularly good. Persons of a constipated habit should adopt the above diet regularly.

ASIATIC CHOLERA.

In days gone by this terrible plague swept all before it—reaping a rich death harvest—and the doctors were helpless, completely in the dark both as to the cause and the remedy. Light has, however, been thrown on the cause, and recently Dr. Koch has discovered that the minute organism producing the cholera which has lately so alarmed all Europe is identical with the microbe always present in true Asiatic cholera.

Dr. Koch, who has been engaged at Toulon in researches into the character, symptoms, and origin of the cholera outbreak there, in an interview with a newspaper correspondent, made the following statements:—"My mind is quite made up. All the autopsies that I have made have corroborated the result of the first, which left no doubt as to the Asiatic character of the scourge. The phenomena are exactly the same as those which I observed in India. The microbes are also the same. I found greater quantities of them in the body of the soldier Bernard, dissected on Sunday night, than I had found in Egypt. MM. Strauss and Roux, who were present, also attested the presence of the *Indian microbe* in Egypt, and said that they had always

found it mixed with others. In this case the Indian microbes had a great preponderance. The microbe is but seldom found in the stomach. During an epidemic the digestive functions are deranged, the gastric embarrassments are unfavourable to it, and it takes refuge in the great intestine. It there multiplies *ad infinitum*, in the coats and liquids of the intestine. It causes motions and vomitings, whence there arises a concentration of the blood, which impedes its circulation. The consequence is a chill. The microbe, moreover, secretes a veritable poison, causing a state of the body which produces the cholera—I mean the dry, immediately fatal cholera, without dejections. You say that with such indications the microbe ought soon to be destroyed; but I am not a healer, I am merely an observer. It is for others to profit by my observations and advice. The infection, as I have already stated, is not conveyed by the air, but by the absorption of the microbes in eating, thus introducing them into the digestive canal. This is done both by means of drinks and of solid food. Hence my advice to the authorities to close the wells, and for people to drink water which has been boiled, or comes from spots distant from the infected centres, or waters slightly mineral. Hence, also, the necessity of only eating things cooked at a high temperature, such as vegetables, and fruits deprived of their skins, or boiled down. The microbe dies when exposed to a high, and especially a dry temperature. It is solely transmissible by direct dejections, or articles soiled by them. The first precaution, therefore, is to expose the linen of patients to dry heat, or carbolic acid, somewhat strong, for the microbe cannot live in strong solutions of carbolic acid, or in great dryness. It likes moisture and flourishes in it. It has been found in ponds in the countries where cholera exists. A high wind—the mistral, for instance—would destroy it.

in rooms, linen, &c. Any soiled article when once dried is not dangerous, for the microbe is dead and incapable of reproduction. This is why I recommend the closing and drying for some hours of infected rooms. The disinfecting of passengers, their luggage, or letters, is an illusory precaution. I cannot understand how it can be taken seriously. The watering of the streets is very bad, for it gives a greater chance to the reproduction and development of the microbe. Dust is better than damp. As to the origin of the epidemic, considering the precautions taken by the navy, I am inclined to think it was brought by a merchant vessel—some English ship, which does not scruple to hush up deaths occurring during the passage, and to falsify the log. I strongly deprecate crowds. The holding of fairs and markets should be stopped, and consequently the Bastille *fête* also."

It has been observed that cholera never broke out in the immediate neighbourhood of gas works, where sulphurous gases are abundant. However low the locality where brimstone matches were made, cholera never appeared there; and Harrogate with its sulphurous springs has never been visited by cholera. It is thus safe to conclude that the fumes of sulphur destroy the germs which cause the disease, and no better disinfectant can be employed.

Dr. Koch's discovery throws some light on the success of Preissnitz in his treatment of cholera. Though the cause was not then known, it had been found from *post-mortem* examination that the bowels, stomach, liver, and spleen were always congested. Preissnitz and other Hydropaths, in 1854, directed their attention to those parts, and were very successful in saving patients, as the following table, taken from Dr. Eadon's pamphlet on "Cholera," will show:—

STATISTICS OF CHOLERA BY WATER TREATMENT, WITH THE NAMES OF THE PHYSICIANS WHO TREATED THE CASES

Preissnitz.		Oertel.		Caspari.		Meyer.		Francke.		Harder.	
Disease.	Deaths.	Disease.	Deaths.	Disease.	Deaths.	Disease.	Deaths.	Disease.	Deaths.	Disease.	Deaths.
56	0	113	0	215	0	29	0	35	0	173	0

Here are 621 cases, and not a single death. The mere statement of the facts will be the strongest form of argument.

Water, even when used without any pretension to a scientific mode, can accomplish wonders. The following statement was communicated to Dr. Hunting Sherill by one who was an eye-witness :—" During the prevalence of the epidemic cholera in the Duchess County Poorhouse, a maniac, who was confined in a cell, got a violent attack of this disease. The officers and medical attendants concluded that as they had a great deal to do, and as this was a very boisterous, troublesome subject, they would pass him over, and not give him any medical attendance. Some one, moved by compassion from hearing his moaning for water, set a bucketful in his cell, which he drank freely of, and as freely discharged by emesis and dejections. This done, he was supplied with another bucket of water, and drank as much as he wanted. It turned out that this poor fellow, by following the dictates of nature, prescribed for and cured himself. HE GOT WELL. This was one of the ten cases out of 106 which recovered in the institution."

Whatever the mode of treatment, the main object is to remove internal congestions, restore the paralysis of the pneumo-gastric nerve, and bring into action, and intensify,

the entire functions of the skin. This once accomplished, the danger is over. The water treatment has accomplished this marvellously well, as the foregoing statistics prove, and, we may add, in the safest and least injurious manner to the general vital power of the body.

It must be observed that the names given along with Preissnitz's in the above table were all disciples of his. Perhaps all of them had studied Hydropathy under him.

The method adopted by Preissnitz was to place the patient in a tepid sitz bath, with long-continued friction whilst in it, using a sheet wrung out of cold water, wearing the heating compress round the body, and the frequent application of the enema with tepid water. The particular object of Preissnitz seems to have been to clear the bowels by enemas and free water drinking, arouse the vital energy of the system, to restore animation and circulation in the skin and extremities, and thus enable the power of nature to throw off the disease. The vapour, Russian, or other sweating bath may be used with the greatest advantage.

DIARRHŒA, OR ENGLISH CHOLERA,

Most prevalent in unusually hot weather, is generally caused by improper diet, unripe fruit, and iced drinks when heated, &c. The symptoms are very alarming, but not at all dangerous, if treated at once.

SYMPTOMS.—Severe griping pains, with spasms of the abdominal muscles, sickness, and purging. Usually with symptoms of indigestion, foul tongue, &c.

TREATMENT.—If the patient is very much prostrated and cannot be moved from bed, apply to the abdomen a foment as hot as can be borne. A vapour bath or bottle sweat, succeeded by a bed wash or shallow bath, accompanied with brisk and vigorous friction, till the skin is quite

red, should follow in an hour or two; then apply the heating compress to the abdomen. If not quite recovered next day, a half-sheet pack followed by a dripping sheet before dinner; drink freely of toast and water. Instances have occurred in which the drinking of two tumblers of water, one immediately after the other, has completely stopped diarrhœa.

PATENT MEDICINES.

It is most astonishing to find what a great number of persons are constantly and habitually taking self-prescribed medicines—mostly purgative. In England and America there seems to be always a market for pills and draughts, which always go down if they are only purgative in their action; and the makers of these quack medicines have, in two or three notable instances, from very small beginnings become millionaires and philanthropists! The habitual use of purgatives of any kind is most injurious; it irritates and weakens the bowels, and prepares the way for frequent attacks of diarrhœa. It should always be remembered that with judicious diet and regular bathing there is no difficulty in keeping the bowels in healthy action, and even if they should get out of order simple hydropathic means will always put them right. (See page 103 *et seq.*)

CHAPTER VII.

AFFECTIONS OF THE CHEST, LUNGS,
THROAT, ETC.

CONSUMPTION.

THIS scourge of civilised life, it has been calculated, destroys prematurely one-fourth of the population of Europe. This need not be, since most of the *causes* of consumption are removable.

An eminent medical authority states that most of the deaths from consumption occur before the age of 25. Of course a large proportion of consumptives inherit the disease, or a tendency thereto. And here allusion must be made to the reprehensible carelessness of persons who have this hereditary taint marrying, and thus transmitting it to posterity. Many young men just developing their vital powers, and released from or setting at defiance parental control, madly plunge into dissipation, undermine their constitutions, and only desist from their folly and profligacy when it is too late, and consumption has them in its deadly grasp. In the upper and middle classes a fruitful source of consumption among the ladies is the habit of attending ball-rooms, concerts, theatres, &c., where the air is vitiated by large and crowded assemblies, in light and insufficient dress, bare neck and chest, and the sudden transition from the heated room to the cold outside. It may be "*only a cold*" which is taken, and almost disregarded, but in a short time the dry, hollow cough is heard,

the face becomes flushed, the hands hot and dry, and respiration difficult and laborious ; and emaciation, debility, pain in the side, sleepless nights, the hollow cheek, the wan face, the alternately dull and bright lustrous eye, too surely attest the presence of the fell destroyer !

TREATMENT.—In this terrible disease most reliance is to be placed on general preventive treatment and good habits as to diet, &c. The immediate removal from the impure, sulphur-laden atmosphere of a large town to a pure mild climate will generally save the patient. New Zealand and Australia (our own colonies) offer great advantages in this respect. In the majority of cases very little can be done *when the disease is developed*, except to afford temporary relief from suffering. If taken in the outset, hydropathic treatment, under the supervision of a skilful practitioner, may be of great service.

ASTHMA,

According to Dr. Gully, “consists essentially in a chronic irritation at the root of the eighth pair of nerves.” The attacks are generally spasmodic, and usually preceded by symptoms of indigestion.

SYMPTOMS.—Difficult respiration, returning at intervals, with a sense of stricture across the breast and in the lungs, a wheezing hard cough, which is relieved by a discharge of mucus, when the paroxysm will subside.

TREATMENT.—During the paroxysm, take a tepid sitz, about 85°, rub the chest, shoulder blade and nape of neck, and arms with a cold wet towel, or the wet hand, until quite red, and then carefully dry them. Put the heating compress on the chest ; when this is changed, apply friction as above.

Each morning take a dripping sheet or cold shallow,

and once or twice in the week a Turkish, Russian, or vapour bath, and when practicable, steam the chest when in the bath. The diet should be light and very sparing.

BRONCHITIS.

Inflammation of the bronchial tubes usually arises from cold, and is most common in elderly people and young children. When it is allowed to reach the chronic form, the change to a milder climate is invariably of great benefit. Patients in this district have the advantage of easy access to Llandudno, which is noted for its mild and equable climate, especially in winter; in fact, many persons with bronchial affections habitually spend the whole of the winter at the Hydropathic establishment there, having the advantage of Dr. Thomas' skill and attention.

SYMPTOMS.—Difficult respiration, hoarseness, accompanied by a feeling of tightness or constriction across the chest, wheezing and severe cough, with expectoration.

TREATMENT.—For an acute attack, apply hot fomentations for ten or twelve minutes to the chest every three or four hours, followed by half-sheet pack for twenty minutes, rubbing after each application with the wet hand, and inhaling steam from hot water freely during the fomentations. The heating compress must be worn constantly.

In chronic cases, the Turkish, Russian, or vapour bath must be taken twice a week, and the chest vapour bath or fomentation daily. A dripping sheet must be given afterwards, and the chest well rubbed for five minutes with the cold wet hand. The heating compress must then be applied to the chest, and worn both day and night. A sitz bath of 70° must be given daily for fifteen minutes, taking a moderate amount of out-door exercise afterwards. The compressed air bath is a most valuable remedy in this disease; in Russia it is much relied on.

COLDS.

We now come to treat of one of the commonest causes of disease, yet one so insidious that its existence is hardly noticed until the mischief is done. "*Only a cold!*" is a very common reply to the conventional query. "Yes, *only a cold!*"—but what does it lead to? Ask yourself what your most intimate friend died of in the prime of life—INFLAMMATION OF THE LUNGS; it was brought on by "*only a cold.*" What caused the death of your lovely little boy?—BRAIN FEVER; in the commencement it was "*only a cold.*" What hastened the death of your venerable and respected friend?—BRONCHITIS; but at first it was "*only a cold.*" What occasioned the death of that beautiful creature, the belle of the city, the pride of her parents, the joy of her friends, the charm of every circle, the light of every ball-room? What caused her to fade like a flower, to wither day by day, until consigned to a premature tomb?—CONSUMPTION! This commenced with "*only a cold!*" The instances of violent acute and inflammatory disorders induced by taking cold are innumerable, and it is within the experience of all that a simple cold has often produced chronic suffering, from which death was a welcome relief. In a word, colds cannot be neglected with impunity, even by the strong and robust.

GENERAL TREATMENT.—The causes, symptoms, and peculiarities of colds are so varied and assume such opposite forms that a uniform system of treatment cannot be laid down. In some cases the skin is dry and burning, with a quick and irritable pulse; in others the skin is cold and clammy, with low and weak pulse. In the former the vapour bath and wet sheet pack is decidedly the most efficacious. For the latter, the Turkish, Russian, or vapour bath or bottle sweat may be taken daily until relieved. In both instances, however, a dripping sheet once a day

should be taken, and every night the heating compress should be worn round the body.

INFLUENZA, CATARRH, OR COLD IN THE HEAD.

The symptoms commence with an increased secretion of mucus from the membranes of the nose, fauces, and bronchia, attended with sniffing of the nostrils, sneezing, irritating cough, shivering heat of the skin, feeling of weight and pressure across the forehead, watery eyes, depression, lassitude, want of appetite, &c., whilst the discharge from the nose painfully irritates the lips. If this affection be neglected and allowed to take its course, it may continue several weeks (especially with delicate constitutions), and when apparently cured, will leave a memento of its visit in the form of a low, frequent, irritating cough. The folly of neglect in such cases is apparent, and much suffering may be avoided by prompt recourse to the following.

TREATMENT.—The Turkish bath with the hot fomentation applied to the chest, or the vapour and wet sheet pack every morning, followed by the dripping sheet, after which vigorous friction with dry towels; at eleven o'clock in the forenoon another dripping sheet may be taken. If neither the Turkish nor the vapour bath are available, the bottle sweat, or other sweating bath may be given with advantage, followed by a wash down with cold water. The heating compress to be worn at nights only, round the stomach. If there is a desire water may be drank freely.

COUGHS.

When all the internal organs of the body are perfectly healthy, there can be no cough. A cough is an indication of some derangement of the respiratory organs, or of the *stomach*. Whenever a cough begins, immediate measures

ought to be taken, for any delay as neglect may seriously aggravate impending mischief. It may only be the result of a very slight cold, which can easily be removed by promptly stimulating and restoring the action of the skin.

TREATMENT.—Same as for Influenza, &c.

SORE THROAT

Is usually the result of some cold or derangement of the stomach. This may generally be cured at once, by one or two Turkish, vapour, or, Russian baths, and the heating compress to the throat and stomach. In cases of ULCERATED OR MALIGNANT SORE THROAT more elaborate treatment may be required.

TREATMENT.—Fomentation, as hot as possible, twice a day, to the throat and chest, and rub with cold wet hand ; on alternate days, after the fomentation, a half-sheet pack, followed by cold shallow bath. Apply the heating compress to the stomach, and one to the throat, and every time they are renewed use friction with the cold wet hand ; several times during the day gargle with tepid water ; on rising in the morning take a dripping sheet, and every second day a sitz bath of 70° for ten minutes, and every third day a Russian or vapour bath, inhaling the steam.

GLANDULAR SWELLINGS.

Glandular swellings, when not scrofulous, are often caused by colds which have been neglected ; the functions are sluggish and obstructed, the fluids become thick and the glands are gorged ; hence the swelling.

TREATMENT.—Take the vapour or the Turkish bath twice and the wet sheet pack once a week ; a dripping sheet every morning on rising ; twice each day fomentations, hot as possible ; wear the heating compress on the part affected day and night.

MUMPS.

SYMPTOMS.—A swelling of the cheek, extending under the jaw and over the neck. It arises from inflammation of the parotid and other salivary glands.

TREATMENT.—A sweating bath or hot fomentation each day, and the heating compress worn over the part affected, frequently renewed. These measures will generally subdue the disease at once.

QUINSY,

If treated in the early stage, is readily subdued, but preventive treatment is very desirable, as quinsy is more easily averted than cured.

SYMPTOMS.—Great swelling of the mucous membrane, of the fauces and tonsils, so that respiration is very difficult, and swallowing gives great pain; and, in very severe cases, there is danger of suffocation.

TREATMENT.—Vapour or Turkish bath and wet sheet pack every morning, and a sitz at 70° for ten minutes, at eleven o'clock, with the dripping sheet each afternoon. A hot fomentation should be applied twice each day. The heating compress to be worn round the throat, and one round the body; gargle with tepid water several times each day.

DIPHThERIA.

The name is borrowed from the French, with whom it has been in vogue more than fifty years, and is used to characterise malignant sore throat, with the formation of a false membrane in the throat, which usually comes away in pieces.

TREATMENT.—The same as for Ulcerated Sore Throat.

CHAPTER VIII.

AFFECTIONS OF THE NERVOUS SYSTEM, ETC.

HYSTERIA.

A DERANGEMENT of the nervous system, formerly supposed to be peculiar to women, but very often produced in men by nervous exhaustion—from overwork of the brain—irritation to the nerves of the stomach from the use of stimulating food, alcoholic liquors or narcotics—excessive bodily fatigue, or powerful emotion—so-called youthful follies, or anything which unduly disturbs the equilibrium of the nervous system.

SYMPTOMS.—The hysteric condition in women is unfortunately so well known that it is hardly necessary to describe its innumerable forms, but (with men especially) “hysterical symptoms are not always limited to violent and spasmodic convulsive movements, weeping, laughter, &c. There is the hysterical condition of mind independent of these, in which the man has lost his moral courage and hopefulness, in which all appears dark and full of pathos to him—in which fictions portraying states of human distress or deeds of human grandeur or wickedness are intolerable, and choke him with excess of feeling such as forms no part of his ordinary nature, and invades him spite of all moral efforts to control it; whilst he calls himself a fool for giving way to it—in which he rises in the morning to wretchedness of contemplation, and goes to his bed

hating and fearing it. This is the kind of hysteria most seen in the male sex, and arising from stomach irritation."

TREATMENT.—In cases of great nervous susceptibility, it is always necessary not to *overdo* any treatment. It is best to commence with a graduated sitz bath from 85° to 70° for ten minutes, the head to be first well washed in water at 85°. On leaving the sitz, one or two buckets of water at 70° should be poured over the spine, with a cold dripping sheet to follow. This treatment should be taken daily, and on alternate days a half-sheet pack should be taken several hours after. When the nervous excitement is subdued, the cold dripping sheet or any light tonic bath should be taken daily on rising. After each bath fifteen to twenty minutes' brisk walk should be taken. Diet should be nourishing but light. Condiments and alcoholic liquors and all excitement must be strictly avoided. As much exercise in the open air as the patient can bear should be taken, and the brain should have as much rest as possible—novel reading, particularly, should be eschewed.

MENTAL OR NERVOUS IRRITABILITY.

So intimately connected is the mind with the body that the action of the former cannot be healthy if the latter be out of order. In fact, in all cases of insanity and mental deficiency it is the malformed, diseased, or deranged body that prevents the intellectual and moral development. Hence a little reflection will show how greatly intemperate living must tend to blunt and destroy the reflective faculties and moral sympathies of our nature. The harmonious action of the bodily functions is frequently disturbed either by indigestion, constipated bowels, gorged liver, over-worked brain, or obstructed action of the skin. Any of these *derangements* will, in many persons, produce great mental

irritability, so that they may even (for the time) lose all self-control, and often, from very trivial causes—sometimes from no cause at all—they will storm and burst into fits of ungovernable passion, of which, on their subsidence, they are heartily ashamed. In such cases Hydropathy may render the greatest possible help.

TREATMENT.—A slow vapour bath, succeeded by a shallow bath at 70°, for four minutes, and, after being well dried, the soothing compress applied. This to be re-moistened and re-applied on going to bed. The following morning a wet sheet pack for thirty-five minutes, followed by a dripping sheet and a brisk walk before breakfast. This to be repeated every morning for a week, and the irritability will certainly disappear, if the first cause be carefully avoided. Especially must the diet be simple and nourishing, and alcoholics and condiments be avoided.

APOPLEXY.

This dreadful disease is much more easily prevented than cured; and whenever any tendency to it exists, it is indeed madness to neglect precautionary measures. A sudden death is its frequent result—but this does not usually occur without the unfortunate victim having experienced frequent warnings of its approach—still, in spite of premonitions, many persist in their reckless course of living, until they fall a sacrifice. It is worthy of note that it is not always persons of a full habit who are the victims of apoplexy, though this condition may be generally regarded (especially with intemperate and irregular living), as a probable indication of an apoplectic tendency. Too much blood, or diseased blood acting on the brain, may produce it, and its crisis is frequently accelerated by violent and sudden mental emotions, and particularly if the stomach be deranged. Insanity and

mental imbecility are frequent results of apoplexy. The premonitory symptoms of apoplexy are feelings of fulness and oppression of the head, giddiness, sensation of falling, or shaking tremors, broken rest, loss of memory, disconnection of thought, faltering and vacancy of speech, nervous terror, appalling dreams, &c. The apoplectic seizure is characterised by sudden insensibility and deprivation of all voluntary motion; the countenance has a peculiar bloated appearance, and is often congested, surface warm and perspiring, stertorous breathing.

TREATMENT.—In the fit, let the patient be immediately conveyed into a spacious room, with the windows open; keep in a reclining position, but with the head well elevated. Soak well a towel in cold water, roll it up, and bind it round the head like a turban. A half-sheet pack must be immediately given. On leaving the pack, rub the skin vigorously over with cold damp towels to excite reaction. The patient must then be well dried. Again dip the cloth in cold water, and wrap it round the head, redipping it every ten minutes. On leaving the wet sheet apply the heating compress round the body, which should be frequently renewed and worn for some days. Two half-sheet packs should be given daily until the patient is out of danger. If the feet be chilled bathe them in hot water. When the patient recovers, proceed as with the preventive treatment. A course of sweating baths as indicated for obesity is of great advantage.

PREVENTIVE TREATMENT.—A course of full Hydro-pathic treatment is of the greatest possible service; thus, on rising, a dripping sheet or shallow bath, with wet sheet or half-sheet pack in the forenoon; a cold sitz bath, ten or fifteen minutes, in the afternoon, with exercise after each bath, freely drinking water. Diet plain and sparing, avoiding highly seasoned food and alcoholics.

PARALYSIS.

Paralysis and apoplexy are identical in their origin and nature ; their distinction consists merely in the symptoms manifested in different constitutions—the same causes which produce apoplexy in one person producing paralysis in another. Some constitutions, however, are subject to disease in the *combined form* of apoplexy and paralysis. Paralysis is not the herald of apoplexy, but often the indelible memento of its visit. Few cases of paralysis are thoroughly cured ; but if vigorous Hydropathic treatment be *early* adopted, the chances are much more favourable by this than by any other system.

TREATMENT.—Immediately after the attack, let the patient recline on that side which is not affected, and keep the affected side upwards. Two or three persons should rub the entire side as briskly as possible for half an hour with the cold wet hand, keeping a cold wet cloth on the patient's head. The patient should then be thoroughly dried with a rough towel and dressed, and, if able, should walk about the room. Repeat the same course twice next day, and use light tonic applications, such as the dripping sheet and sponge bath, with an occasional vapour bath, and apply galvanism (if accessible) to the feet and hands. Let the patient also take as much exercise as can be borne.

LOCAL PARALYSIS.

SYMPTOMS.—A numbness, partial or total loss of power in the part affected, which is sometimes the hand, arm, leg, one side of the face, an eye, &c. This affection often occurs in an unaccountable manner with persons who have no apoplectic tendency.

TREATMENT.—Take the vapour or the Turkish bath every third day ; let the paralysed part be well rubbed

with the cold wet hand ; the dripping sheet every morning on rising, and friction with the cold wet hand twice daily for ten minutes ; and let the part affected be well exercised.

NEURALGIA.

SYMPTOMS.—Sharp, darting, or shooting pains recurring in paroxysms, often at regular intervals, affected by atmospheric changes. The pains are occasioned by inflammation of the fibrous covering of the nerves.

TREATMENT.—First, a gentle vapour or any sweating bath, to soften and cleanse the skin ; and afterwards the heating compress applied to the part affected. The next day, a half-sheet pack, followed by the dripping sheet, with friction ; a sitz bath at 70°, for fifteen minutes in the afternoon, and friction vigorously applied to the back with the wet hand. The third day, a wet sheet pack in the morning ; and in the afternoon a sitz bath of 70°, with friction on the spine as before. The succeeding day the same treatment ; after which another vapour and sitz bath, with friction. The same course may be continued until convalescence, wearing the heating compress all the time.

TIC DOLOUREUX.

This is a neuralgic affection of the fifth pair of nerves, or the nerves of sensation of the face, arising from a low state of health. In the majority of cases the immediate cause is the immoderate use of high-seasoned food, strong tea and coffee, &c., the viscera becoming irritated and the nerves inflamed, hence the pain.

TREATMENT.—Wet sheet pack for half an hour in the morning. In the afternoon a graduated sitz bath for twenty minutes, commencing at 85° and reduced to 70°, with a cold damp cloth to the head. The heating com-

press over the stomach must be worn day and night, and removed as often as it becomes dry. Friction should be applied two or three times each day with the cold wet hand, to the part affected. The above treatment, with an occasional vapour bath, and four half tumblers of water taken daily, especially when the stomach is empty, will soon be productive of satisfactory effects.

TOOTHACHE.

If from a decayed tooth or some mischief at the root of a tooth, apply to a qualified dentist. Frequently there is a small hole in the tooth, and the cold air irritates the sensitive nerve. When this is the case it is easily remedied by proper stopping. The aching may arise, however, from derangement of the digestive organs or from simple nervous debility or disturbance.

TREATMENT.—Take a very gentle vapour bath, and a dripping sheet afterwards, with plenty of friction with the cold wet hand, at the same time holding hot water in the mouth, and apply the heating compress to the stomach. The next day take a half-sheet pack, followed by the dripping sheet, and friction to the part affected ; continue the dripping sheet a few days, and apply the heating compress during the night. The teeth ought, at least once a day, to be thoroughly cleansed with pure water, but if they have been neglected, a little salt and water may be used. Afterwards, the mouth should be well rinsed with cold water.

SCIATICA.

This is an affection of the sciatic nerve, commencing near the hip joint, and is a local form of neuralgia, proceeding from inflammation, irritation, &c. It is frequently accompanied by lumbago, though both may exist separately, and frequently arises from the same cause. *Sciatica* has

long baffled drug treatment. Formerly it was the custom to sear the leg and hip with a red-hot iron, with the intention of drawing the irritation from the nerve to the surface, but this formidable process was ineffectual. The worst cases, however, may be confidently expected to yield to Hydropathic treatment.

TREATMENT.—The wet sheet pack should be given every alternate day for twenty minutes, or, at the most, half an hour. This must be particularly observed, as a longer pack would aggravate, instead of diminishing the pain, and the soothing compress should be applied to the part affected, for half an hour, twice a day. If this course be persevered in, with the addition of a dripping sheet each morning, it will be found effectual. Avoid all condiments and stimulating food or drink.

RHEUMATISM.

In damp, marshy, undrained (therefore unhealthy) districts rheumatism is common. The symptoms vary considerably. In some cases the character of the disease is dull, sluggish, and cold; while in others it is acute, violent, and inflammatory, and develops into rheumatic fever. In all cases the fluids of the body are unhealthy, which is the real cause of mischief. It is generally caused by a long course of bad habits, improper diet, or hard drinking. A thorough wetting or a severe chill may have caused the pain to be felt for the first time, but that was only the exciting, not the primary cause; the disease being already in the system.

RHEUMATIC FEVER.

There is a great and febrile disturbance of the whole system, and restlessness and considerable inflammation of *the sheaths* of the muscles. Fever seizes the whole body;

the face is flushed, the head aches, the most excruciating pains shoot from limb to limb, the weight of the bed clothes become intolerable, the patient is unable to sleep, and a peculiar sour-smelling perspiration is freely excreted. Nature makes a great effort to throw off the poisonous matter which is causing the mischief. Hydropathy is especially adapted for assisting nature in this effort.

TREATMENT.—The bottle sweat should be given immediately the symptoms are developed, with tepid bed wash to follow. A broad heating compress should cover the body from the hips to the armpits, and be changed every hour and half, being thoroughly rinsed out each time; after four or five hours, a half-sheet pack, followed by bed wash. This treatment to be repeated until the fever is subdued, drinking freely of toast and water, with lemon juice squeezed into it. There need be no hesitation in pursuing this treatment, it is grateful to the patient, and there can be no doubt of its efficacy. It has been proved in the case of a man 75 years of age, who had been three weeks under drug treatment without any relief.

ACUTE RHEUMATISM

Is very much of the same nature, and may arise from the same causes as rheumatic fever, but it is in a modified form. It is very changeable in the time and location of its attack. It frequently affects one or more of the large joints, and will one day leave a limb entirely and show itself in quite a fresh place. This is rather a hopeful sign, indicating that the enemy may be soon expelled. For the neglect of acute rheumatism there is no excuse, as it is readily cured by Hydropathic treatment; but when it has been allowed to become chronic, there is little hope of recovery, except by a long course of treatment.

TREATMENT.—For hot or inflammatory rheumatism a half-sheet pack may be taken once a day, and the heating compress worn night and day, with a sweating bath (vapour, Turkish, or Russian) twice a week, and occasionally the vapour and pack. Friction with the wet hand for ten minutes once or twice daily is very beneficial.

ORDINARY MUSCULAR RHEUMATISM

Usually attacks its victim in an insidious manner. It may come like a thief in the night, not with violence or great heat. A slight pain is felt in some weak part of the body for the first time. If at any time a limb has been injured or a joint sprained, the pain will most likely be there. The pain as it increases is dull and heavy, and the part affected cold to the touch, and shows a sluggish circulation of the blood.

TREATMENT.—The sweating bath—Turkish, Russian, or vapour, as may be most available—may be taken on alternate days. Twice a week the vapour and pack, and apply the heating compress to the part affected. Friction with the wet hand to the part affected will be of service. The heating stomach compress may be worn at nights. All condiments and alcoholic stimulants must be avoided.

CHRONIC RHEUMATISM

May be and frequently is the result of neglect of one of the foregoing forms of rheumatism. A sharp attack of rheumatic fever allowed to run its course usually terminates in the chronic stage; in nine cases out of ten the vital power unaided is too weak to throw it off, and it becomes a permanent, but disagreeable, companion. Any ordinary case of rheumatism left to itself, or only treated with a little physic, and the affected parts swathed in flannel, will come to *this*, and the patient must "grin and abide," the enemy

claiming a right to remain. When the first pains are felt and there has not been much mischief done, then is the golden opportunity for assisting nature by every possible means to throw off the disease ; but even when this opportunity has been missed an effort must be made to check its progress, or it will get worse and worse, the joints fill up with a chalky deposit and become deformed, and life is a burden.

TREATMENT.—When practicable, and the patient can afford it, it is best to go at once to a Hydropathic establishment, where there is a skilful practitioner, and submit to even a long course of treatment until the disease is completely eradicated. When this cannot be done sweating baths may be taken freely, Turkish, Russian, vapour, or the hot wet bottle sweat are all suitable and beneficial, three or four a week, varied with vapour and pack. A dripping sheet may be taken on rising ; plenty of friction should follow each bath, with as much exercise afterwards as the patient can take with comfort. The stomach compress ought to be worn at nights. Diet, light farinaceous, but nutritious ; lemon or lime juice must be taken freely.

LUMBAGO

Is frequently found with rheumatism, and is often the forerunner of sciatica, and, therefore, should be treated as soon as it develops itself.

SYMPTOMS.—Pain, more or less severe, with sudden loss of power in the lower region of the back ; the bowels in some cases are affected, in which case the fæces are dry and difficult to pass.

TREATMENT.—Take the Turkish or vapour bath for three or four days in succession, and wear the heating compress over the small of the back, renewed every two hours.

GOUT.

The gourmand who indulges freely in animal food and fermented liquors, and lives a lazy, indolent life, is almost sure to be a victim to this disease. It is one of those diseases which are transmitted from generation to generation, where the sins of the fathers are visited on the children.

Gout may be distinguished from rheumatism by its commencement in the small instead of the large joints—it attacks the toes and fingers, and deforms and stiffens them. The pain from a sharp attack is excruciating. It is an advantage to the patient when it is so, as a warning; if it attacks the brain or heart, or concentrates in the stomach, it may be at once fatal, in which case it is termed suppressed gout. Like rheumatism, it varies considerably in different individuals, its mildness or severity depending on the extent of the internal mischief and the amount of acid in the blood.

TREATMENT.—Full Hydropathic treatment must be taken at once. A vapour and pack every alternate day, a vapour or Turkish bath on the other day, or, if the attack is violent, a hot wet bottle sweat or hot fomentation and wet sheet pack. If there is much swelling at the joints apply a large soothing compress to the parts affected. Local steaming two or three times a day is beneficial, and the stomach compress must be worn day and night. When the patient is thoroughly relieved proceed with about half the above treatment; a dripping sheet every morning on rising. An entire change must be made in the diet; no intoxicating drinks must be allowed; as in the case of rheumatism, lemon and lime juice is about the best antidote for the acid in the blood.

CHAPTER IX.

AFFECTIONS OF THE SKIN, ETC., PILES, AND
FUNCTIONAL DERANGEMENTS.

MOST skin diseases are merely indications of impurity of the blood, and in order to effect a radical cure, it is necessary to adopt such treatment as will not only purify the blood, but thoroughly change the condition of the fluids generally.

SCURVY.

Sailors and others who undertake long voyages are particularly subject to scurvy. This is in consequence of the impossibility of procuring fresh, wholesome vegetable food; and the liability to attack is greatly increased by the insufficient accommodation for personal cleanliness and proper attention to the skin. The cases of this disease which occur on land are not so aggravated as those on board ship, but are usually comparatively slight.

SYMPTOMS.—Discoloured patches, with scaly eruptions, on various parts of the body, and sponginess of the gums, &c.

TREATMENT.—Scurvy cannot be cured without rigid attention to diet. All fatty and salted meats must be avoided, and the vegetables in season should be taken freely. One or two oranges may be taken before breakfast and another before dinner. When oranges are not in season lime or lemon-juice may be substituted, with two

or three glasses of water each day; two wet sheet packs and two vapour baths per week, with cold bath or dripping sheet to follow; a dripping sheet on rising in the morning must be taken on those days when neither the vapour bath nor the wet sheet pack is administered. Apply the heating compress to the stomach and the abdomen each night, but not during the day. Abundant out-door exercise should be taken. The sulphur-vapour or sulphur-water bath, when available, is of immense service as an alterative, and will expedite the cure.

PRURIGO.

Professor A. T. Thompson says:—"No age, no sex is exempt from the attacks of prurigo; it is observed to make its appearance in all seasons, and to find its victims in every rank of life in all its varieties, the itching is intolerable, augmenting in comparative severity according to the age of the patient. It must be acknowledged that this troublesome affliction often resists every treatment that has been suggested!" This, however, refers exclusively to treatment with drugs.

In its aggravated form prurigo is often mistaken for itch, which it much resembles. One simple feature of the disease is, that the worst cases are usually the most easily cured, probably because they are more developed.

SYMPTOMS.—An elevation of the skin in patches which, when the finger is passed over them, feel thickened and rough; the colour of the part affected is yellowish or dirty; an intolerable itching when the skin is exposed to the air, on undressing, or when warm in bed, &c. It is usually very local in its attacks.

TREATMENT.—The sulphur-vapour bath is an infallible cure, and should be taken every third day until the cure is

complete. Wash the skin well with warm water and soft soap the day before taking the sulphur bath. For very young children the sulphur-water bath may be substituted for the sulphur-vapour. Highly seasoned food must be avoided, as well as all alcoholic liquors.

ECZEMA.

Dr. Ruddock says : " This is one of the most common eruptions, constituting one-third, or more, of all skin affections ; it lasts a varying time in consequence of successive local developments, and its tendency is to spread. After its disappearance no traces are left of the disease.

" The skin is irritable; occasionally excoriations or cracking of the part occur, and sometimes the part around the patch inflames, probably from the irritating nature of the discharge."

Grocers, confectioners, and others, who have to handle raw sugar, are frequently troubled with it in the hands (caused in these cases by an *acarus* resembling that producing itch) ; but, usually, eczema is the result of the impure state of the fluids of the body, caused by indigestion. In many cases there is only a very short distance between eczema and the rheumatic state of the fluids.

TREATMENT.—Any error of diet must at once be corrected, and alcoholic drinks strictly avoided ; two vapour baths a week, and two half-sheet packs a week, wearing the stomach compress at night, will usually be effectual. When the hands alone are affected, the fumes of sulphur locally will effect a cure. When convenient, a change of air is of service.

ITCH.

Of all skin diseases, this is at once the most loathsome, and yet, strange as it may appear, it is the most easily

cured. The disease is occasioned by the presence of animalculæ, which, effecting a lodgment on the skin, by contact or otherwise, increase and diffuse themselves with a wonderful fecundity. The scarf-skin very soon shows symptoms of their presence by its surface being ruffled and raised, but with the scratching it becomes ragged, and small sores may be observed between the fingers, the favourite haunts of the insect.

TREATMENT.—Two sulphur-vapour baths are sufficient to cure an ordinary case of itch. On going to the bath, the patient should be provided with an entire change of underclothing, as, on undressing, the adhesion of some of the acari to the underclothing, might, if that were resumed, replace them on the body. The baths must be taken on alternate days, and when the itching has entirely ceased, take a good wash-down, with a profuse application of soap. In cases of attack to young children, the sulphur-water bath must be administered, as it would not be safe to give sulphur-vapour baths, since they are liable to inhale the vapour. This complaint is becoming more and more rare, in consequence of the increased attention to personal cleanliness by all grades of society.

ITCHING OF THE SKIN

Is most prevalent in the winter and the spring, during which period many persons disuse the bath altogether, and the action of the skin becomes most injuriously obstructed, whilst it is seriously interfered with by the prevalence of dry east winds, which make it feel particularly harsh and uncomfortable.

TREATMENT.—A vapour or Russian bath, every other day for a week, should be taken, with ordinary attention to *ablutions, &c.*

NETTLE RASH

Is thus named on account of the stinging sensation attending it, and which closely resembles that produced by the common nettle. There is no possibility of mistaking the symptoms, the skin showing small white elevations on a scarlet ground.

The chief cause of the nettle rash is a disordered state of the digestive organs, sometimes occasioned by peculiar descriptions of food, such as mussels, oysters, crab, lobster, and other varieties of shell fish.

TREATMENT.—Three vapour, or other sweating baths, on alternate days, with the heating compress round the stomach at night, will be all that is needed to effect a cure. Diet should be light and sparing.

SHINGLES.

An eruption which forms a belt half way round the body. Usually there is also a good deal of nervous disturbance accompanying the eruption—very alarming to the patient. Two or three vapour baths will entirely remove this unpleasant disorder. Diet must be light and sparing.

ERYSIPELAS, OR ST. ANTHONY'S FIRE.

Not much is known of the cause of erysipelas; usually, sickness and nausea precede it, and the patient feels unwell. It is an effort of nature to throw off poison which has entered the blood in some form or another.

SYMPTOMS.—Great swelling and fiery eruption of the parts affected, which are usually the face and head, accompanied more or less with feverishness.

TREATMENT.—A gentle vapour bath for half an hour, followed by a dripping sheet or wash-down, then apply the heating compress to the stomach, and also to the parts

affected. If the head, and it is much swollen, it may be necessary to cut off the hair, so that the wet bandage may act on the skin ; if necessary, the head and face must be completely enveloped, leaving small apertures for the mouth and nostrils, for respiration. The wet sheet and the vapour bath should be administered alternately at intervals of six or eight hours, until inflammation is subdued. Between each wet sheet and vapour, a sitz bath of 70° should be taken for twenty minutes.

DRY PIMPLES

Are not so easily dispelled as the watery pimples. The dry pimples are mostly peculiar to children and young persons who may have irritation of the stomach from taking high-seasoned food. The same rigid attention to diet as recommended in case of scurvy is necessary. Two Russian or vapour baths per week, two dripping sheets daily, with plenty of friction.

WATERY PIMPLES.

For this affection four or five sweating baths—either the vapour or Turkish baths, as may be most convenient ; and the soothing compress worn over the stomach a few nights will be all that is necessary.

MERCURIAL ERUPTIONS ON THE SKIN.

SYMPTOMS.—A copper-coloured tinge on some portion of the skin. On examining the discolouration with a microscope, the cuticle will be perceived to be a little rough and elevated, and on its first appearance is dry, and (in some cases) subsequently becomes humid ; it is accompanied by itching and tenderness.

TREATMENT.—The speediest cure is a course of sulphur-vapour baths, one every third day ; ten or twelve baths will usually suffice. To those who can afford the time a full course of Hydropathic treatment will effect a cure more pleasantly.

BOILS.

Notwithstanding the pain and annoyance occasioned to the sufferer by boils, their appearance indicates a sound and healthy constitution. They are the result of nature's effort to throw off morbid humours, and may often prevent serious illness. When a number appear together, after Hydropathic treatment, it is termed *a crisis* ;—often anxiously anticipated, and accepted as a certain presage of future health.

TREATMENT.—If elicited by Hydropathic treatment, most of the baths should be discontinued, with the exception of the vapour bath, which will soothe and allay the irritation. A vapour bath may be taken each day till the boils burst, then poultice them with linseed meal until the entire matter is extracted, for if any be left in, the formation of new and equally troublesome boils may result. The poulticing should be continued for a day or two until the opening is large, and the boil should be repeatedly pressed from time to time to squeeze out all the matter. When this is done, the soothing compress should be worn till the sore is healed.

CARBUNCLE.

SYMPTOMS.—It commences as a hard, flattened tumour ; it differs from a boil, as it has no core or centre ; it extends an inch or more into cutaneous tissue, and is dangerous when it comes in contact with an important artery ; it is

red in colour, the redness being more or less livid or dark, at first often being of a mahogany tint, then becoming more or less purple. After the suppuration and the healing of the skin, it leaves behind a chronic redness or a deep brown stain, which lasts some time. The pain of the carbuncle is severe ; throbbing and sometimes burning.

TREATMENT.—The vapour bath must be taken every day, followed by a wash-down, shower bath, or dripping sheet. The carbuncle should be steamed twice a day ; apply a linseed poultice till it bursts, and continue it till the matter is all cleared out, then apply the soothing compress to heal it. A practice prevails of lancing the carbuncle to let out the matter, but this should not be done on any account, as it prevents the carbuncle maturing, and instead of assisting nature, only retards her operation.

ULCERS.

Ulcers may arise from a variety of causes ; from a bruise of the skin when the body is in an unhealthy condition, from scurvy, or from scrofulous taint.

TREATMENT.—From whatever cause the ulcer may have arisen, a course of Hydropathic treatment may be taken with advantage, to excite exhalation by the skin, and purify the fluids ; steam the ulcer twice each day, wash it well after, and apply the soothing compress continuously until quite healed.

ULCERATED AND DISCOLOURED LEGS.

Bad legs with people in country districts often throw off matter which ought to leave the system by the pores if the skin was kept in healthy condition ; persons so affected taking baths for rheumatism, have often at the same time *been unexpectedly cured* of their ulcerated legs.

TREATMENT.—One or two Turkish or other sweating baths each week, with wash-down or dripping sheet, every morning, and heating compress to the part affected. When healing commences, the soothing should be substituted for the heating compress. When cured, great attention should be paid to keeping the skin in good order.

ABSCESS.

On the first appearance, vigorous treatment should be immediately resorted to, as in the early stage an abscess is much more easily cured than when further developed, and the idea entertained by many that Hydropathic applications may drive the mischief inwards is purely chimerical. The water treatment always tends to abstract disease by exciting healthy action of the whole body, thus promoting the elimination of effete matter, and particularly from the part affected, and, if assisted by plain wholesome diet, drinking pure cold water, and inhaling fresh and bracing air, must be successful.

SYMPTOMS.—An abscess is a collection of pus formed or deposited in some tissue or organ, and if allowed to accumulate undisturbed, it becomes large and hard, and ultimately breaks out into a very disagreeable sore, from which very unhealthy matter is discharged, impregnated with a curd-like substance, which has to be pressed through the opening with the hand.

TREATMENT.—The Russian, vapour, or other sweating bath each day, and one wet sheet pack in the course of the week, with the dripping sheet every morning on rising. The heating compress should be continuously applied to the abscess, and the part should be steamed twice a day. Plain food, abundance of fresh air, and copious drinking of cold water are indispensable.

CHILBLAINS

Are caused sometimes by a diseased state of the fluids, or by sluggish and defective circulation of the blood in the part during the winter season.

TREATMENT.—Steam the part affected three times a day; take two or three vapour or other sweating baths, and apply a small heating compress to the part affected.

WHITLOWS

Are very similar to chilblains in their origin, and the preceding mode of treatment is equally suitable and efficacious.

HÆMORRHOIDS OR PILES.

REMARKS.—Piles are usually caused by obstructed circulation in the large intestines and in the liver, occasioned by sedentary habits, want of out-door exercise, constipated bowels, &c. Violent or protracted horse exercise will sometimes originate the disorder. They may be frequently averted by washing the part well with soap and water every morning (and particularly after going to stool) or by often sitting in water. While any disease of this part exists, the use of paper is insufficient for the purpose of proper cleanliness. In some very bad cases of neglected external piles, an operation will be necessary.

SYMPTOMS.—Pricking, itching, and uneasy sensation at the seat, small pinkish tumours just outside or within the anal aperture—with great fulness and inflammation—sometimes they bleed, when they are termed “bleeding piles,” otherwise “blind piles.”

TREATMENT.—Local steaming, over a bucket of boiling water, will always give immediate relief from pain. This

should be followed by a sitz at 75°; the abdomen must be well rubbed while in the water. For general treatment, a sweating bath (the vapour by preference) should be taken on alternate days, with a half-sheet pack. A dripping sheet on rising every morning, and each day a sitz bath at 75°, for ten minutes, washing the part and the abdomen well. The heating compress to be worn continuously round the body. Avoid all aperient medicines, and any food which may have a constipating tendency.

HERNIA, OR RUPTURE,

Is often caused by a sudden exertion of strength, as in lifting a great weight, a heavy fall, jumping, concussion of the body, and other violent muscular exercise; but more frequently it occurs without any definite or assignable cause otherwise than natural weakness of the membrane itself.

SYMPTOMS.—A protrusion of the intestine through the containing membrane, causing a swelling of the part. With children the rupture is often near the navel; but with adults is usually in the groin or scrotum. Occasionally the pain is only slight, but if the rupture be caused by violence the pain is generally severe.

TREATMENT.—When rupture occurs from sudden causes, care should be taken to place the patient immediately on his back; the intestines should be pressed firmly but gently into their proper position; and the region of the rupture should be bandaged so as to sustain them effectually. If there is any difficulty in getting the bowel back, a surgeon should be at once summoned, as danger may ensue from strangulation or inflammation. The soothing compress must be worn continuously day and night, and changed at intervals of two hours and a half. A bandage should be

made for the purpose of securing the intestines well in their position until a proper truss can be procured. A cold sitz bath of not more than four minutes' duration should be taken twice a day. Before leaving the sitz bath the patient should well splash the affected part. A dripping sheet or cold sponge bath must be taken every morning on rising.

SPRAINS AND BRUISES

Of the knee, wrist, ankle, or other part of the body may be treated hydropathically with great advantage.

TREATMENT.—In all cases steam the part as soon as possible ; where steam is not available, apply hot fomentation ; the heating compress should be worn on the part continuously. As the swelling subsides, rub the part twice a day for five minutes with the cold wet hand. When the sprain is cured, to restore vigour to the part it may be douched with cold water several times a day. A sweating bath once or twice a week will help the general health.

SCALDS AND BURNS.

If the part affected can be instantly plunged into cold water before the atmosphere has had time to act upon it no blister will arise ; it should be kept in the water twenty minutes. If, after this, any doubt should exist as to the inflammation being subdued, then apply the cooling bandage, which should consist of a linen rag, well soaked in water. Only one fold or one layer should envelope the part affected ; and it should be frequently re-moistened. If applied to one or more fingers, or to the hand, arm, foot, or leg, the bandage should not be taken off for re-moistening, but immerse it and the part affected in cold *water*.

BLEEDING AT THE NOSE.

The hydropathist has a certain cure for this complaint at all times; but occasionally there may be cases, such as apoplectic fulness, in which it would be undesirable to apply it.

TREATMENT.—When desirable to stop the bleeding soak a towel well in cold spring water, and apply it to the generative organs. This will usually stop it almost instantly, but if not, a cold sitz must be taken at once.

ADVANCED AGE.

If at fifty years of age any person has acquired the habit of taking a sweating bath once or twice a week, no matter whether it be Turkish, Russian, or vapour, it will never willingly be given up. There is no doubt that persons retain their elasticity and agility, cheerfulness and health to a much longer age when they regularly use these baths. The baths do not abstract heat from the body, but rather impart it. It has been said that "heat is life." We may say, then, that these baths impart life; at any rate, they seem to prolong it, and to prolong the useful period of life. At the present time we are acquainted with several gentlemen, eighty years of age and upwards, who are quite nimble, and attend to business with an alacrity that puts to shame men not half their age, with intellects as clear as in youth, who ascribe the praise for this to the sweating baths they have been regularly taking for about forty years.

If all bath proprietors took note of these matters, some valuable facts would be brought to light.

CHAPTER X.

DISEASES OF INFANCY, CHILDHOOD, AND
YOUTH, ETC.

IT is a startling fact that out of the total number of children born in the United Kingdom, one-fourth die within eleven months; one-third die within twenty-three months; one-half before reaching eight years of age. This appalling rate of infant mortality tells a mournful tale of mismanagement, and calls loudly for the introduction of a better system. Every child ought to be bathed or washed at least once a day—in the morning. It is a decided advantage if the bath can be repeated in the evening, with tepid water. With infants, soap should be sparingly used, as it deprives the skin of its oily secretion, and has a tendency to make it very sensitive, and susceptible to cold. Great care should be taken in commencing the bathing of infants, to do it as gently as possible, not to splash their faces, or otherwise frighten them with the water, then they will look for and enjoy the bath. After each bath, a thoroughly dry sheet ought to be used, in which they should be enveloped and gently rubbed. It should be remembered that the milk from its mother's breast is the infant's natural food, and the first milk is necessary to cause its bowels to act. It is sometimes a practice to get another child to suck the first milk, in order to facilitate its flow; this practice cannot be too strongly condemned, for the *first milk* is the birth-right of the infant, and is especially

adapted to its necessity, and it may even endanger the *life*, and certainly will injure the *health* of a strange child. It is of the greatest importance that the child should be suckled at regular intervals, say every three hours; if this is observed, the digestive organs will always be kept healthy. It is a common practice whenever a child is restless to give it the breast, when perhaps it only requires change of position, or a little exercise. When children begin to eat, stated and regular meal times ought to be observed, for irregular feeding, by deranging and overloading the stomach, occasions endless mischief.

TEETHING.

When children are regularly bathed, and fed on proper food and at regular times, they do not suffer so much from teething as those with whom these conditions have been neglected. All irritation and restlessness may generally be allayed by the use of the soothing compress on the stomach. In some cases, the half-sheet pack of thirty minutes' duration may be necessary.

CONVULSIONS.

Put the child into a warm water bath at 98° (this temperature is necessary to excite the circulation). The water should come up to the chin, and while the child is in it should be well rubbed with the hand. On coming out it should be enveloped in a thoroughly dry sheet, and the heating compress applied to the stomach.

PAINS AND SPASMS.

For pains and spasms put the child immediately in a warm bath, 98°, up to the chin, for ten or fifteen minutes,

and after it is taken out and well dried, apply the heating compress to the stomach. If the bath is not at once available, hot fomentation of the abdomen is of great service, with compress, &c., as before. If the child still seems suffering, in the course of two hours afterwards give a half-sheet pack, for thirty minutes, and again put on the heating compress.

SPINAL WEAKNESS, RICKETS, &c.

Children of ordinary constitution, who are regularly bathed and otherwise well attended to, will never be affected with spinal weakness or with rickets. As a remedy nothing can surpass the cold plunge bath. Before the bath, the head and chest of the child should be cooled with the cold wet hand, then plunge it in the water twice or thrice, and take it out quickly. In addition to the plunge bath, for spinal weakness, the spine ought to be rubbed twice a day with the cold wet hand for ten minutes. When the plunge bath is not available, a good substitute is to sponge the child with cold water, twice a day, with friction to the spine. After each bath the child should be enveloped in a dry sheet and well rubbed. The child ought to be exercised at intervals during the day.

SCALD HEAD.

SYMPTOMS.—This disease is characterised by innumerable small ulcers at the roots of the hair, which are covered with a white incrustation (the matter discharged from the ulcers). This disease spreads very rapidly, the skin becoming inoculated by simple contact with the matter.

TREATMENT.—Cut off the hair as closely as possible, *if the case be a bad one*; dissolve four ounces of soft soap

in six gallons of water at blood heat, and with this give the head a thorough washing with a flesh brush. This must be persisted in whilst there is a speck of the white scurf or incrustation left, and must be repeated every third day, and continued as long as any of the white scurf appears. The soap being well washed out, a scull-cap of fine thin old linen, fitting close to the head, should be provided; this should be dipped in cold spring water, well wrung, and applied to the head. Another cap, made of two or three thicknesses of linen or calico, closely fitting, but dry, should be drawn over the wet cap. The wet cap must be re-moistened and re-applied every hour until the head is healed. Great benefit will result from the use of the Russian or vapour bath, if available.

RINGWORM

Is caused by a parasite under the skin, and it is very contagious.

SYMPTOMS.—Circular patches on the scalp, varying from half an inch to several inches in diameter, the hair withered and dry, scurfy eruptions often in a ring form.

TREATMENT.—Wash the head well with soft soap in warm water, and paint the patches with dilute acetic acid. Two dressings are often sufficient, but continue daily until cured.

WORMS.

If a child is brought up under healthy conditions, and with proper food, it can never be troubled with worms. When the bowels get sluggish or torpid there is danger from this source, and if the germs have been introduced they will develope.

SYMPTOMS.—Pain and uneasiness in the belly, difficulty and straining in voiding urine, variable bowels, both loose

and constipated; scratching and tickling at the nose and seat, grinding the teeth during sleep, hollow eyes, wasting, fretfulness, &c. If the child can be induced to eat a small quantity of raw carrot, from time to time, the worms will be killed, and will come away generally in a fibrous mass. Dr. Ed. Johnson recommends four drops of turpentine in a little mucilage. Three or four doses of this have been found very effective. Copious injections from time to time will clear the bowels and remove all germs, &c.

CANKER IN THE GUMS.

SYMPTOMS.—The gums shrink from and leave the teeth, exposing the roots, and sometimes there is suppuration and soreness of the mouth. Children frequently contract it by putting pins, copper coin, &c., into their mouths.

This disease should not be neglected, for it corrodes the enamel of the teeth and induces decay. Tincture of myrrh and Peruvian bark in equal quantities form an efficacious lotion, which, after the teeth have been well washed with cold water, ought to be applied to the gums with the tip of the finger or a soft brush twice a day. The teeth should be afterwards well cleansed daily with pure water and dental soap.

HOOPING COUGH

Is mostly confined to children; but adults who have not had it in infancy may be liable to its attack. Any person who has once had hooping cough will never be troubled with it again.

SYMPTOMS.—Severe cold, with feverishness, laborious and restricted breathing, and difficulty in expectorating. In a short time the distressing and peculiar sounding cough *is developed.*

TREATMENT.—Hot fomentations to the throat and chest twice a day for twenty minutes. The heating compress must be continuously applied to the chest and close up to the throat both day and night. Every morning on rising a brisk friction with a wet towel or the vigorous application of the cold wet hand over the entire system, but most particularly to the chest, and water should be drunk copiously. If there be any neighbouring locality within easy distance, where strong, pure, and bracing air can be inhaled, the patient should be well wrapped up in thick clothing, and taken there, if only for an hour daily. Care must be taken to keep thoroughly warm.

CROUP.

SYMPTOMS.—This disease usually attacks children, who are suddenly seized with a difficulty of breathing, attended with a peculiar noise. It is an inflammation of the mucous membrane of the trachea that induces the secretion of a very tenacious coagulated lymph, which lines the trachea and bronchiæ, and impedes respiration. When it proves fatal it is by suffocation, induced either by spasms affecting the glottis, or by a quantity of matter blocking up the trachea or bronchial tubes.

TREATMENT.—In cases of emergency apply the hot foment to the throat and chest, allowing the patient to inhale steam freely. Give the vapour bath or bottle sweat, immediately followed by a dripping sheet or wash-down, and afterwards apply the heating bandage to the throat. Repeat this treatment in a few hours; this will usually remove all danger, but to make the cure certain, continue the treatment for a few days, until the patient is thoroughly recovered.

CROOKED LEGS

Are usually the result of bad nursing. If a child is fastened in a chair, or kept in the cradle and rocked to keep it quiet, or kept in one position too long together, it will not be well. It needs change of position and much handling to keep a child in good health, and to enable it to develop its strength. When about eight weeks old a child can be taught to lie on its stomach; a broad pillow may be laid on the floor, and the child placed on it with its toys on the floor within reach and in sight. In this position the child takes a certain amount of exercise, and soon learns to strike out, and keep its legs almost constantly on the move, which strengthens them as well as the spine. If a child is made to *sit* on the floor it is a strain upon the spine, and there is danger of the legs becoming weakened and deformed. When the legs are bowed there is usually a widening of the pelvis. This expansion is easily brought about, but, even when it has occurred, there is no difficulty in restoring the natural form and straightening the legs. When the legs are in-kneed the pelvis is generally contracted, and there is a tendency, both when sleeping and waking, for one thigh to lap over the other. To prevent this and open the pelvis and straighten the legs, fix a thin pillow betwixt the thighs when the child is put to bed for the night. If persevered with the legs will become straight. When the legs are bowed, let the child sleep with a dry bandage round both thighs down to the knees. This should not be made uncomfortably tight, especially to commence with, but the effect will soon be seen if persevered with. Of course the general health of the child must be well attended to. Regular bathing and proper diet is of the greatest importance.

SLEEPING CORDIALS.

Amongst the poor and ignorant a frightful amount of irreparable injury is inflicted upon children by drugging them to make them sleep. We recollect two boys who had been so drugged until they had the appearance of having had an attack of palsy; the brain was injured beyond all hope of recovery, and they were never able to earn their own living. Both died before they were twenty years of age. We have laws inflicting penalties for cruelty to animals, yet innocent children are allowed to be permanently injured in this manner. The vendors of these drugs know the purpose for which they are used, and that they must destroy health. This seems a matter in which the law ought to interfere.

DANGER FROM IMPURE FOOD.

Pure natural *food* is of the greatest importance for children. "In supplying aliment for infants," says Dr. Goodman, "it is well known that their ordinary sustenance milk by not being fresh drawn from the cow, but allowed to stand for some time in unscalded vessels—or in sultry weather—may imbibe OXYGEN, and become acid and highly injurious, and productive of spasms, irritation, diarrhoea, general disorder, and sometimes of even fatal consequences. Sour milk may produce dangerous disease in the stomach of a child, and it is very frequently the case that in the height of summer children are feeble and debilitated, and if acid cows' milk is administered in that state it is likely to produce disease and even death."

CHAPTER XI.

HYDROPATHY FOR HORSES.

NO one for a moment doubts the value of the horse to man ; but few people fully appreciate its intelligence. While pleading for its physical benefit the following, from one of Cassell's papers, may be interesting as showing what the horse's capabilities are, and will perhaps suggest more kindly treatment to many who are now disposed to be indifferent on the matter.

ARE HORSES INTELLIGENT?

That was the question I asked of Professor Bartholomew, the successful horse trainer, one afternoon as I met him in the hall where he exhibited his educated horses. The question may sound like a vague one, but he answered it promptly enough.

"About as intelligent as the average man—more so than a great many. You don't believe it? Will you give me half an hour to prove it?"

"But," I objected, "you can teach a horse certain tricks, which become a mere matter of habit, and it proves nothing as to the horse's intelligence."

The Professor smiled pleasantly. "I won't argue with *you*. Wait. Nellie!"

A slight scuffling followed in the stalls at one side of the stage, and a beautiful little bay mare came trotting up to where we stood. She stepped beside the Professor, and rubbed her head against his arm caressingly, gazing curiously at me the while.

"Bow to the gentleman. Now shake hands," the teacher continued, as she nodded her pretty head towards me, and then lifted her left fore-foot.

"Is that the right foot?" asked the Professor, reprovingly.

One seemed actually able to see a look of confusion on her intelligent face as she quickly corrected her mistake.

"Nellie is like some children. She can't always distinguish between her right and left hand," said the Professor, patting her affectionately. "Now count one, two, three," he added. Tap, tap, tap, went the iron-shod hoof on the stage.

"Good!" said the Professor. "Now get the gentleman a chair."

I must confess I thought this was going a little too far. The tricks she had exhibited were ordinary enough; they displayed careful training; but this quiet request rather surprised me. I watched to see what the animal would do. She trotted over to the opposite side of the stage, and in a few moments returned, bringing a chair in her teeth.

"Here," said Professor Bartholomew, pointing to the place where he wanted me to sit. "Now," turning to me, "wait until I bring on the rest of my scholars;" and he crossed the stage, and put his hand on the swinging door which led to the stalls. Nellie started to follow him.

"Why don't you stay with the gentleman?" he said, quietly, without turning his head, just as one would speak to a child. Nellie turned obediently, and came back to my

side. I must confess that I felt rather embarrassed, and in my confusion hardly knew how to treat this little lady-horse. Suddenly I thought of some candy which I had in my pocket, and soon we were getting on rather finely, eating candy together.

Very soon Professor Bartholomew returned, followed by about a dozen horses, who marched solemnly on the stage, and ranged themselves along one side of it. Then came the exhibition.

It would be impossible to describe all the performances they went through—marching and counter-marching, dancing in perfect time to Professor Bartholomew's whistle, lying down, kneeling, bowing, jumping—all at the quiet command of the teacher. In fact his voice was so low and gentle that it could hardly be called a command; it was more like a suggestion on his part, with which they readily complied.

One handsome Arabian attracted my attention, and the Professor at once called him over to where we stood.

"How do you do, Selim?" said the teacher.

The horse bowed.

"Is that the way you bow in Arabia?"

Selim at once dropped upon his knees, and touched his forehead to the floor. The Professor gave him the signal for getting up, then turning to me he said—

"That is an extremely difficult feat. For some reason most horses dislike to do it."

"Does he understand what you say?" I asked.

"Does he not act as if he did?" was the Professor's answer. Then he continued: "There is no doubt that the horse understands every word I say to him. Indeed, I see no reason why, if a horse can comprehend the meaning of 'Whoa,' 'Gee-up,' and such like expressions, he should *not learn more.*"

"I notice you speak in a low tone, while so many who have to do with horses seem to think it necessary to yell at the top of their voices."

"A horse is not deaf," returned the Professor; "his hearing is more acute than a man's, and yelling at him only tends to make him harder to manage. You can lay it down as a certain rule, that the louder a man shouts at a horse, the less he knows about horses. For myself, I wish that half the men who have charge of horses now were made to practise ten years on a clothes-horse before they were again allowed to touch a living one."

"How do you manage to teach your pupils so much?" I asked.

The Professor smiled. "Anyone with patience can train horses, and almost any horse is capable of being trained. The worst of it is, that most people have but very little patience, and a great many good horses are spoiled by half-witted owners who are not fit to have charge of a saw-horse."

The scholars here becoming restive the Professor said, "School is dismissed." Thereupon each horse left his place, came up to the Professor, and walked off the stage.

"Now, are horses intelligent?" said the Professor, turning to me, and repeating my own question.

"A great deal more so than many men, for he understands enough to do his duty cheerfully, and to the best of his ability," I answered promptly, as I took my leave.

When Captain Claridge introduced Hydropathy into England he thought it as useful in the treatment of horses as for man, and as the horse could not plead for itself he pleaded strongly the cause of the horse. Man has been selfish, and in Hydropathy has appropriated the lion's share to himself, and given little attention to the horse.

Though the animal is so useful to him, and he professes to be so fond of it, he has not given it a fair share of Hydropathic appliances for its various ailments. Had some leading veterinary surgeon taken the matter up, erected suitable baths, and gone into the matter with spirit, others would have followed, and by this time the system would have formed an important part of the veterinary art. The skin of the horse is very similar in its functions to that of man; a great amount of waste is thrown off through the pores. Colds and chills bring on the same class of diseases in the horse as in man, and similar remedies are effective in each case. Captain Claridge's advocacy of the use of baths, wet sheet pack, and wet bandages in the treatment of horses was not altogether in vain. Wet bandages to the legs, neck, and throat have been more freely used, and washing-down has been more often employed. There seems now a prospect of the noble animal being more considered in this matter.

Messrs. Pickford and Co., the eminent carriers, have had a Turkish bath in use at their Hospital for Horses, at Finchley, for the last eleven years, with most satisfactory results, as the following letters will show:—

Terrace House, North Finchley,
London, N., March 25th, 1875.

Dear Sir,—In reply to your enquiry, we do find our bath very beneficial to the horses. We use it regularly three days per week, and sometimes oftener. Never less than twenty horses per week are put into it, undergoing sweating, washing, and drying again in an out-room. I shall be happy to give you any further information if required.—Yours respectfully, for PICKFORD & CO.,

Mr. J. Constantine.

J. HAYWARD.

The following is of later date:—

Pickford & Co., Castle Wood Street,
London, E.C., February 15th, 1884.

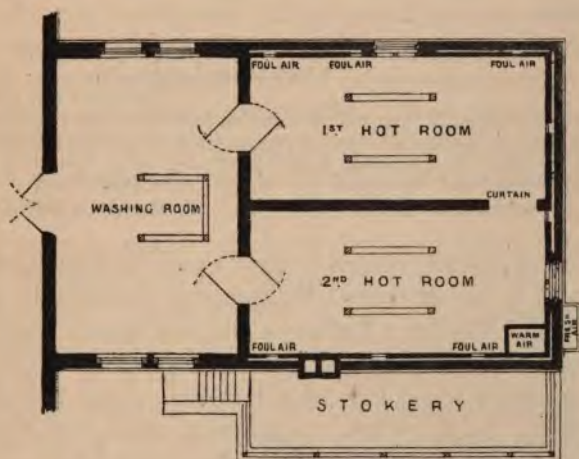
Sirs,—We still use the bath you fitted up for us at Finchley, and find it useful and beneficial to the horses.—Yours respectfully,

Pro PICKFORD & Co.,

Messrs. J. Constantine & Son.

J. H. BRETT.

The Great Northern Railway Company, hearing of Messrs. Pickford's success, have erected a very complete Turkish bath at their new Hospital for Horses at Totteridge. The following description and illustration are from the *Building News* of May 2nd, 1884 :—



“ The bath consists of three rooms : First, a large wash-room or grooming-room, from which is entered the first hot room, or *Tepidarium* (from 140° to 150° Fahrenheit). From this room the horse, after being thoroughly acclimatised, can, if necessary, pass on to the hottest room, or *Calidarium* (from 160° to 170° Fahrenheit), and without any turning round can pass on into the grooming and washing-room again. This last room is slightly heated from the two other rooms, and in each are stocks in which the animal can be fastened if required. The heating is done most economically by Constantine's Convuluted Stove, and thorough ventilation is secured

from the large volume of hot air constantly supplied, which passes through the baths, and, as vitiated, is drawn off by specially-designed outlets. The wash-room is supplied with hot and cold water, which can, of course, be mixed to any required temperature."

The following very satisfactory letter has just been received :—

The Great Northern Railway, Engineer's Office,
King's Cross, London, N.,

November 7th, 1884.

Gentlemen,—In reply to your favor of the 28th October, I have the pleasure to inform you that the Turkish bath apparatus for horses which you fitted up in our new stables at Totteridge is in full working order, and gives great satisfaction to the horse department.—I am, gentlemen, yours truly,
Messrs. J. Constantine & Son.

RICHARD JOHNSON.

Messrs. Pickford utilised a spare room for their Turkish bath, and it has answered the purpose remarkably well. To the Great Northern Railway Company must be awarded the honour of having designed and erected a Turkish bath especially for horses at a hospital. Such a bath is invaluable. In the wash or grooming room any Hydropathic application could be administered to a horse—a wet sheet pack or hot fomentation, for instance, or hot or cold spray or douche bath.

Captain Claridge never dreamt of such facilities for treatment as the Turkish bath affords. There is no doubt it will have the effect of bringing more into use what he advocated. His book is now very scarce, and it is worth while to reprint what he wrote on the Hydropathic treatment of animals generally.

HYDROPATHY FOR ANIMALS.

The unspeakable utility of the horse to man in all conditions of life, civilised and uncivilised, has naturally *led scientific and professional individuals to devote much*

anxious consideration to the physiology of the animal, and to the determination of the means of healing the diseases which horseflesh "is heir to." Buffon places the horse next to man in the order of creation ; and certainly if the anatomical structure of the equine species be alone regarded, an argument is provided in favour of the consecration of thought and intelligence to the establishment of curative remedies for its disorders. But the service which the noble animal has rendered in all ages and countries where the breed is known—his docility, instinct, patience, and courage—have entitled him to the advantages of human intelligence upon the high ground of gratitude ; and, accordingly, for many years past the veterinary art has been pursued with remarkable zeal and earnestness ; the loftiest minds not conceiving the study and practice thereof below their attention. If, however, the attainment of perfection in the faculty of curing the bodily ailments of man is a work of tardy progress, how much slower must be the advancement of a science of posterior introduction ? It was but in the last century that the circulation of the blood was discovered and vaccination introduced ; it is only within the last six or seven years that the vast utility of Hydropathy has come to be appreciated. There is now, however, less excuse for dilatory improvement in veterinary practice than there was when the alleviation of human suffering was in its infancy. The physiology and pathology of the quadruped being understood, the value of the immediate adoption of the remedies applicable to man is at once determinable by anatomical analogy. Hence the introduction of new systems of treatment has been almost simultaneous, and in very many instances the results have been correspondingly fortunate. Hydropathy is a very remarkable case in point, and the following pages will illustrate its value.

Priessnitz's precepts recommend themselves as much to the veterinary surgeon as to the medical practitioner; the success of his treatment of the diseased animal being, perhaps, even more easy and certain than of man.

To understand this it will suffice to compare the habits and mode of living of each. A further investigation will account for the general health of untamed animals and the host of maladies that result from civilisation. On one side all is nature, on the other all is artificial.

As the treatment of the horse or cow at Gräfenberg is not of very frequent occurrence, Priessnitz has not laid down any positive rules for the manipulation; that must therefore depend upon the ingenuity, observation, and experience of the practitioner.

If, for instance, a horse or cow is attacked with fever, choleric, &c., reference should be made to the treatment of man affected with such complaints. All that has been said on the subject of drugs, the lancet, cold ablutions, and the importance of the skin applies equally to all animals.

How can we expect to cure horses with poisons?

How get them into condition by depriving them of their blood?

A gentleman of high standing in society, and well known in the sporting world, having, some years since, derived great advantage from the water-cure, determined on trying its effects upon animals, by becoming his own veterinary surgeon; the consequence is, that for five or six years he has not spent one shilling upon drugs of any kind. On being applied to for his opinion as to the effect of the treatment upon horses, he favoured the author with a letter, of which the following is an extract:—

“With respect to the treatment of horses, my groom can *give no information*, excepting, indeed, that he can verify

the good effect of the treatment insisted upon by myself ; and such is his prejudice (exactly similar to that of the Medical Profession) that he would, I am sure, revert to his former practices if he dared. But I can most safely affirm that the effect of the Hydro-therapeutic Treatment of Horses is most wonderful. I have, with coach horses and hacks, say forty horses. I never allow of any bleeding or physic. When the hunters are to be prepared for the season, two or three of a day are whisked over with cold water, a linen cloth of fifteen or sixteen yards in length, dipped in cold water and well wrung out, is then lapped round from their heads to their tails, covered over with rugs, and bound pretty close by surcingle: thus they remain for an hour or so, when they are again rubbed over with cold water, followed by rubbing with dry cloth or whisps quite dry, and then sent out to exercise for twenty-five minutes, or half an hour. This treatment is continued twice or thrice a week, for *at least* half a dozen times ; and I'll venture to say that nobody's horses can look or go better ; and they never ail. I will just relate one fact. I bought a horse for Mrs. — seven or eight years ago, a most excellent lady's horse, but he coughed so badly (always) three or four years since, that we thought she would be obliged to give him up. He has been treated as above for two years. I rode him a gallop a few days ago, when he had not a symptom of cough. Many dealers have been through my stable—Smart, Elmore, &c., &c.—and they have all adopted my plan of bandaging the legs of their horses, which I do for two days after a day's work ; and as Elmore said last spring, they looked 'as if they were going to begin a season instead of ending one,' so clear were their legs.

“ If a new horse (which is often the case) comes down by railroad, he generally gets a sore throat and cold ; this, I need not tell you, is soon got rid of, as above.”

The following extract is from a letter to the author—written by a gentleman whose health has been re-established by the water cure ; who, during the last forty years, has been the possessor of hundreds of horses, and is said to be one of the best judges of a horse in England.

“ I will not defer answering your interesting letter, although I know not that I can write anything to be of much use to you. The manner in which I have treated my horses for the last thirty years is as follows :—If it is in my power I always bring a horse in cool, my groom first puts a common watering bridle on, takes one girth off, and slackens the other. The reason why I do not remove the saddle immediately is, because the back becomes tender ; the horse is then taken into the pond, the boy holding up his own legs, the higher the water gets towards the back the better ; that is, let the animal go as deep into water as he can, not to swim ; this takes two or three minutes, then two men take scrapers, and with these press out the dripping water, after this, with straw whips, the animal is washed for about ten minutes, he is then covered up with two blankets, and his legs bandaged ; the ears are now well rubbed and pulled until dry : this is all I do to a horse. He does not break out into cold perspirations during the night, and next morning he is perfectly clean. By putting your hands under the blankets when he is done up for the night, you will find a genial warmth pervading the whole body. Blood horses, however fatigued, are usually very sensitive to the brush and whisp, consequently cleaning tires them still more, which causes them almost always to break out into cold sweats. The ventilation, which ought to be at the top of the stable, must be good, otherwise the system works ill. Owing to the unusual good health that I have had in my stable, I was led to think most seriously

of applying water in a similar way to the human subject, so that after reading your book, I became at once a confirmed Hydrophathist. Many people will say my system was that pursued in the post-horse stables, but the contrary is the fact. The post-horse was washed and his heels clipped close, and left to dry without friction; evaporation was great, grease and other maladies attacked the animal. I know a coach master who saved £400 per annum by giving up washing upon this old plan. You have now got the result of my experience. I have had fewer roarers than most men for the number of horses in my possession, in fact, only two; one of these went so when lent and out of my stable. The loss in valuable horses from roaring is enormous. I think a friend of mine lost £700 in one season from roarers. I have the confidence to think that had he pursued the water system all his horses would have been saved. Be assured, water is as applicable to the animal as the human subject—fever is the bane of the one as much as the other, and water is the antidote. Why are cart horses so much healthier than higher fed horses? Simply because the former live much more after nature than the other. A cart horse goes to a pond and drinks what he likes, not so with the blood horse, he must only have a certain quantity, and this at stated periods; this I conceive to be wrong, and have in consequence, for the last six years, always kept buckets of water in the horses' boxes, so that they might drink when they liked. My friends have often said 'But you do not allow them thus to drink when going to hunt?' 'Certainly,' was my reply: if the animal always has access to water, he never distends his stomach, and by constantly sipping, fever is kept down. We do all we can to encourage fever, and then have recourse to strong drastics and bleeding! Constant water cools the animal, and the gentle sweats, which the blankets produce, operate as safety valves.

When in Ireland, visiting the far-famed dairy farm of Mr. Jeffries, in the neighbourhood of Cork, I was informed by the bailiff, that out of every seven cows attacked with an epidemic, which raged at that time, on an average five had died, and that the loss on that estate had not been less than £2,000. On my suggesting hydropathic treatment, the bailiff said that some time ago a traveller by that means had cured him of rheumatism; this determined him on trying it upon the cows: success crowned his efforts; instead of losing five out of seven, he saved seven out of nine. This treatment, however, at once so novel and so troublesome, he found extremely difficult to prosecute, servants could not be induced to use the necessary friction, or endure the toil which a number of sick animals entail: this, together with the discouragement and ridicule thrown upon his proceedings by the veterinary surgeon, caused him to desist. The following is a letter which I subsequently read from the bailiff:—

“Dear Sir,—I am most anxious to communicate with you as to the efficacy of the cold water cure, when applied to cattle affected with the late epidemic.

“About six months ago I had it tried on nine head of horned cattle; seven out of the nine recovered, and are now doing well. I feel quite confident that, if the cure be generally known and properly applied, much may be done in the recovering of diseased cattle.

“I am, dear sir, your obedient servant,

“THOMAS B. MARTIN.”

It is possible that the omission of any reference to the mortality under the old treatment, as stated verbally to me, may have arisen from motives of delicacy towards *those who recommend a perseverance in that treatment.*

It would be easy to multiply instances of the effect of the application of the cold water cure, but as the limits to which the author intends to confine himself at present preclude their accumulation, he must be content with those proofs of its efficacy already cited, and proceed to the subject of *treatment*.

An opinion is held by many inexperienced persons that disease in a horse is a perpetual disqualification; that the physical evil is irradicable, destroying the animal's title to a future warranty, and rendering him only fit for the paddock or the knacker's yard. Such notions are as great an outrage upon the usefulness of veterinarianism as they are contradictory to all experience. The late Sir Astley Cooper, one of the most eminent surgeons that ever dignified the profession by his talents, was said to have taken a peculiar pleasure in purchasing horses which their owners had condemned, and applying himself to the cure of such maladies as they might be afflicted with, then putting them into condition and selling them. He never, for many years before his demise, gave more than seven pounds for a horse, and has been known to sell them afterwards for considerable sums. When the horse is well-bred, and his wind is unimpaired, however reduced he may be, and suffering from enlarged joints and tender feet, he is still susceptible of cure; and no system is so conducive to this end as the hydrophathic process. Indeed, the writer of these pages is quite satisfied that an establishment devoted entirely to the invigoration of worn-down animals, and the complete cure of the diseased, would demonstrate the utility of hydrophathy, and prove a most lucrative undertaking.

Without further preamble we proceed to details.

VENTILATION.—The introduction of fresh air, day and night, into stables, is of primary importance. Stables should be lofty and ventilated from the top.

Many years ago Mr. Horne, the coach proprietor of Charing Cross, lost nearly half his horses from glanders. He called in a new veterinary surgeon, who instantly broke most of the windows in the close fœtid stable. "If," said he, "the stable is cold, cover the horses better, but let them have fresh air." By this means the stable was rendered wholesome, and the horses that were afterwards put into it continued healthy. All horses would be the better for standing in water occasionally. All hunting establishments should have a box with a clay floor, into which water could be introduced, so that a horse might have a foot bath every day, especially when the feet are hard and dry.

FOOD AND EXERCISE.—The arguments made use of against highly nutritive food and the necessity for exposure to cold and exercise for man apply with equal cogency to animals.

Mr. Newman, the postmaster in Regent-street, has no racks in his stable; but his horses, at stated periods, eat chaff and oats mixed together; he gives them no hay. This method of feeding horses is found economical and healthy. A friend of mine feeds all his farm horses as he does his oxen and pigs, upon Indian corn, oil cake, chaff, and bruised beans boiled up together. He never gives them any oats, and no horses in the kingdom look in finer condition.

To sweat a horse, that is to bring out of his system a certain amount of caloric, throw many pails of water over him, let his body be rubbed with wet whisps for from five to twenty minutes, and then rubbed dry. Next envelope him from head to foot in blankets, and over them throw a macintosh cover. This might be made to be put on with very little trouble. After the horse has perspired for an *hour or two* he must have a cold bath or undergo the

process of water being thrown over him, of being wet, whiped, and dried as before. And the whole should be renewed a second time during the day, or varied by the packing sheet.

EXTERNAL USE OF COLD WATER.—Friction with coarse wet cloths or whisks, packing-sheets, sweating, entire-baths, hip-baths, foot-baths, douche-baths, and bandages constitute all the external treatment requisite for a horse. Friction by rubbing the body of the animal for some hours with coarse cloths and whisks of wetted straw is an operation of great efficacy in bringing out stagnant humours, reanimating half paralysed limbs, and in strengthening the joints. The douche, where no other can be had, is applied by means of a fire-engine. The baths have the property of giving a tone to the skin and the nerves. The bandages for the horse are the same as those used for man; they are of two sorts, heating and cooling.

INTERNAL USE OF COLD WATER.—There are two ways of applying cold water internally, viz.: drinks and injections into the cavities; but ablutions long continued and often repeated form the most important part of the treatment.

THE STRANGLES.—This disease is cured by the wet sheet packing or the sudorific process, cold-ablution, bandages, and exercise.

It is much better, by either of these processes, to draw the humours to the skin, which they undoubtedly will, than to throw them on the lungs, whence they escape by the nostrils, a means of evacuation chosen by nature. The natural course being impeded, open the pores of the cutaneous organs, and the running at the nostrils will cease.

FOUNDERING OF HORSES.—Friction, the wet sheet or sudorific process, the douche and foot baths are here brought into requisition.

THE STAGGERS.—Bleeding procures a temporary relief, but does not remove the cause of this complaint, which arises from a stoppage of perspiration, and consequent inertness of the skin. The humours which ought to be eliminated by perspiration mix with and thicken the blood; this causes a general stagnation, which frequently affects the brain. This, it is conceived, must be a solution of this malady, because in the beginning one single friction, powerfully applied, affords immediate relief.

In severe cases the animal should be subjected to the sweating process and cold ablution. The animal's head should be wetted every hour with cold water, and green food prescribed as a diet. The douche in these cases is of the greatest utility.

WEAKNESS OF THE LIMBS AND SPRAINS.—These affection§ are generally successfully treated by constant friction with cold water. This rubbing subdues the heat; bandages should be continually worn. The weakness of the hips and loins soon disappears under this treatment; the douche in these cases is highly beneficial.

BROKEN KNEES.—Let the part be carefully washed, then bandages applied *above*, and *below*, and *upon* the part affected, and kept continually wet as long as inflammation continues. After which use wet bandages, covered with dry ones, until the part is healed.

EXTERNAL INFLAMMATION AND WOUNDS.—After having well cleaned the sore it should be covered with a heating-bandage; and if the inflammation is severe and the heat great the bandage should be frequently renewed. The animal should take a bath, but without wetting the wound.

External inflammation proceeds from two causes; first, the tightness of the saddle, which wounds the flesh; *secondly*, from the blows which the horse receives. As

soon as you perceive that the horse has been hurt by the saddle, take it off, and, having rubbed him well dry, place upon the wound a heating-bandage, firmly tied on, and let it be frequently renewed ; but always before renewing the bandage clean the part affected with cold water ; the parts near the wound must be treated in the same manner. This bandage and friction are useful in cases of throat obstructions ; the bandage must be changed as often as it becomes hot. Before it becomes quite dry it should be renewed, taking care each time to rub well the parts affected, which renders them, when exposed, less sensitive. This gives elasticity to the wound.

TENDER FEET.—All horses should stand upon clay, bricks, or stones, not upon straw, as it heats the feet too much. For corns or tender feet foot-baths for an hour or two two or three times a day are resorted to ; and bandages should be worn from the fetlock to the knee-joints to draw the heat from the feet. A friend of the author's, travelling on the Continent, tried this on a mare which became lame. It succeeded admirably.

CHOLIC.—Apply one or two clysters of cold water ; wet the body, and rub the animal well for an hour with wet whips, and then put round the body a sheet wetted and doubled several times, covered with a dry blanket. If the first operation is not sufficient, resort to the packing process, and afterwards the rubbing. This system persevered in, the cholick is sure to give way.

LOCK-JAW.—Friction, the douche, and perspiration are the remedies resorted to. During the intervals of their application cold bandages should be applied.

The irritation of the skin counteracts the lock-jaw. The efficiency of cold water in this complaint has been known in England for years. An article some time ago appeared in the Chelmsford paper, stating that the possessor of a

valuable horse, which had been seized with lock-jaw, after trying all other means in vain, threw from the loft, upon the animal, a hogshead or more of water, and then had him covered up in blankets. This brought on perspiration, and a cure was the result. An acquaintance of the author's, in Gloucestershire, who treated a horse in a similar way, was equally successful.

FEVER AND INFLAMMATION.—For the treatment of all fevers and inflammations the reader is referred to the method prescribed for human beings in similar cases.

For a horse in a high state of inflammation Priessnitz prescribed his being put into a river for five minutes, then taken out, rubbed dry for five minutes, then put again into the water, and again rubbed, a process renewed until the inflammation had completely subsided. Sometimes this is effected in a short time: at others, it requires constant application for seven or eight hours. Perseverance in this treatment is certain of effecting a cure.

In an ordinary case of fever, resort to the wet-sheet packing; if necessary, change the sheet often, then administer a cold bath or affusion. Repeat the operation twice a day.

In all cases of inflammation or fever, if the body be confined, it is necessary to resort to clysters.

WANT OF APPETITE.—If frictions with whisks of straw upon a wet surface repeated three times a day do not produce appetite, the wet-sheet packing, followed by ablutions and bandages must be resorted to.

TO REFRESH AND INVIGORATE A HORSE.—Let him be well rubbed with coarse wet cloths or whisks of hay for an hour or two, twice a day, then walked about until dry; a foot bath twice a day, for an hour each time, and the loins and legs bandaged.

If the skin of the animal is dry and contracted, use the *packing sheet* twice a day, followed by cold bath, or throw

several pails of water over the body, use friction until the skin is dry, then bandage round the body.

If horses are allowed to be out at grass, they ought, nevertheless, to undergo the operations. With certain exceptions, it would be better to keep horses up, and send them out to exercise at stated times.

After every operation animals ought to be led about a little.

MURRAIN AMONGST CATTLE.—On the first symptom of the disease, such as the coat starting, the animal is to be subjected to the treatment until shivering is produced, and until shivering has ceased, or at least greatly decreased.

This will require, generally, one, two, or three hours. The animal should stand in a cold bath; that is, a pond or river, and water must be continually thrown over the whole body.

During the whole operation, the body and legs of the animal must be well rubbed with the hand, or with a coarse cloth or whip (that is, whilst in the bath).

It will require two men to do this properly. Should the water be too deep for the men, and sufficiently deep to cover the back, the animal must remain five minutes in the water, be then taken out and well rubbed, for five minutes, and so continued till the shivering described above is produced.

Should shivering *not* be produced the case is hopeless.

On coming out of the bath, rub the animal for five minutes, then give him half an hour's walking exercise, with a warm rug as a covering.

The bath is to be repeated twice a day. After exercise a large piece of coarse cloth wetted with cold water is to be placed over the body and chest; this wet linen is to be covered with a dry one.

As soon as this bandage becomes dry it must be re-wetted, but before replacing it rub the beast well for at least five minutes.

This bandage is to be continued night and day, and frequently changed.

Administer two clysters a day, each to consist of a quart of cold water.

Green food is best, but when this cannot be obtained bran wetted with cold water must be substituted.

The more water drunk the better.

This treatment is to be continued until the coat looks smooth and healthy, and the appetite is regulated.

The first cold bath, if carefully applied for two or three hours, will check the disease.

Two cases of cure came under notice, whilst these pages were in the press. One that of a bull of a spinal affection, and a horse with a large swelling under the belly. The bull was well rubbed all over with wet whisps, and afterwards had wet bandages; dry ones were then applied. The horse was simply bandaged, which bandages were changed when dry. He laid down the second day, which he had not done for some days before, and was well in three days.

Cold water, tepid water, and friction, packing sheets, the sweating process, entire baths, hip baths, foot baths, the douche, clysters, and bandages are all brought into requisition in the treatment of beasts: therefore, reference should be made to the foregoing pages, in "order to understand when any one or more may be necessary." Experience proves that their effect upon man or beast is the same.

These various appliances will be useful to those who have not access to a Turkish bath for animals, but a lot of labour will be saved if the Turkish bath is available. By its use many threatening illnesses may be at once checked, just as with mankind. (See Colds, &c., page 113 *et seq.*)

CHAPTER XII.

VENTILATION OF STABLES AND
CATTLE SHEDS.

HORSES and cattle require pure air as well as man, but in much larger quantity. Dr. Parkes, in his "Practical Hygiene," says: "The amount of ventilation for animals has not been experimentally determined to my knowledge. A horse is said to require at least 2,466 cubic feet of fresh air per hour, but he probably requires more, and the analysis of the air of stables shows that the air has frequently been very impure. At present, the army regulations allow, in new stables, each horse 1,605 cubic feet, and 100 square feet of floor space; and the means of ventilation, as will be presently noticed, are ample. In the new army horse-infirmaries, the superficial area has to be 127 square feet, and the cubic space 1,900 feet for each horse."

Captain Galton, in his book entitled "Healthy Dwellings," says: "The great principle which ought to be kept in view in stables is to have the air moving freely through every part of them, above and around the horses when they are standing, and in all the angles between the floor and walls when the horses are lying down, and every horse should have sufficient ventilation for himself without being obliged to breathe the foul air of his neighbours. The condition would most completely be obtained in an open shed, such as is used for stabling horses in warm climates, and the

nearer we can approach to this construction, keeping in view the necessity for protecting horses in this climate, while at rest, from extreme cold and cold blasts of wind, the healthier will be the stable.

“That form of construction which affords the maximum facility for obtaining a free moving atmosphere throughout the body of the stable is the open roof with ridge ventilation carried all the way along.”

Increased air space for each horse in the cavalry barracks, and the improved ventilation, reduce the mortality and improve the health of the horses to a marvellous extent. The great change for the better has been in France, noted by General Morin, who, in his work previously alluded to, states that Lieutenant-General Wathiez called attention to the fact that glanders was almost unknown in certain stables occupied in the field, while in others close by, where all conditions as to food and exercise, &c., were exactly the same, and where the horses were better selected and looked after, they were rapidly decimated by this disease. There was nothing to account for it but the inferior ventilation, and this report caused an examination by M. Renault, with the following result :—

AVERAGE OF LOSS ON 1,000 HORSES.

	By Glanders.	By all other Diseases.
From 1835 to 1845	51	94
From 1846 to 1858	21	48

Ten years under the old system of stabling, twelve years with no difference except improved ventilation and larger air space for each horse ! M. Renault, Inspector-General of Veterinary Schools, &c., says: “The experiments were so *satisfactory* that a second course was begun, still keeping

to the exact conditions previously enforced, except as to ventilation." The results were :—

AVERAGE OF LOSS PER 1,000 HORSES.

	Glanders.	Other Diseases, including Glanders.
1846 (first year of the second period)	35	64
1847	26	58
1857	16	37
1858	10	28

On these results M. Renault says: "There can be no doubt as to the cause of this great and rapid improvement in the health of the horses. As before said, food, exercise, bedding, and everything else were kept exactly as before, except increased air space to each horse, and improved general ventilation."

From 1858 to 1861, another great French veterinarian, M. Oger, being convinced of the importance of more and better air for the horses under his care, obtained permission to have all doors and windows open day and night, not only in the stables but in the infirmaries, and it was found that disease diminished and was cured so rapidly that the practice was adopted in other regiments, with the result of improving the health generally, and lowering the death-rate of the horses in the French army. This experience was confirmed by a series of government experiments, leaving no room for doubt as to the value of the largest supply of fresh air; and the present system is based on the results of experiments so made and with this object in view.

General Morin also gives some interesting tables of amounts of air supplied to horses in the stables of the General Omnibus Company of Paris, on which he comes to

the conclusion that each horse should have at least 50 cubic mètres (1,400 cubic feet) of air space, and that a volume of 180 to 200 cubic mètres per hour per horse should be provided to prevent the internal temperature from being raised more than 7 or 8 degrees above that of the air outside.

Farmers throughout the country have always sustained great loss from their wretched stables and cowhouse accommodation, usually putting their stock into low close old buildings, in which it is impossible to keep them healthy. When it began to be understood that cattle required pure air and breathing space, the first improvement that suggested itself was to leave the roof of the buildings open to the slates. This was very well in summer for the limited time cattle would be indoors, but in winter, when they had to spend almost all their time in the sheds, the cold was almost as great a disadvantage as the former scanty accommodation.

Some non-conducting material, such as felt or rough lath and plaster ceiling on the spars, should be introduced, but it is important that there should be thorough ventilation with well arranged inlets and outlets.

Isaac Holden, Esq., M.P., of Oakworth, Yorkshire, has carried out at his stables a thorough system of warming and ventilating as at his house. The exhaust shaft forms an ornamental tower to the stables. The inlet for fresh air, and the outlet for vitiated air are so arranged that no draughts are felt by the animals, and the air in the stables never seems to be tainted in the least.

Mr. Edward Holden, at his Model Farm, near Bingley, Yorkshire, has erected a large cowshed for his prize stock, in which he has carried out a system of both warming and ventilation. In severe winter weather he has no difficulty *in maintaining* the required temperature.

Those who have charge of cattle will find that as a matter of economy it is worth while to have some means of warming their stables and cattle sheds in winter. If this is done on a good modern system, ventilation is also secured by means of the fresh warm air introduced.

Ventilation can readily be managed at very small cost by means of a lath and plaster duct or flue in the roof, with a cowl so arranged as to prevent any back-draught. There must always be an ample inlet of fresh air, with dampers to control the draught.

INDEX.

	PAGE		PAGE
Ablutions generally	2	Dropsy	96
Abscess... ..	137	Dysentery	102
Acid Baths	62	Dyspepsia	88
Action of Remedies	28		
Advanced Age	141	Eczema... ..	131
Air... ..	75 to 77	Enema	61
Alkaline Baths	62	Erysipelas	133
Apoplexy	119, 120		
Asthma... ..	111	Fever, Bilious	94
		" Gastric	85
Barter, Dr	31, 32	" Low	87
Beaumont, Dr.	72	" Rheumatic	124
Bed Sweat	44	" Scarlet	83
Bed Wash	58	" Typhoid	83
Ben Rhydding	12	" Typhus	82
Bleeding at the Nose	141	Fleming, Dr. W. J., Experiments	
Boils	135	32 to 35	
Bowels, Inflammation of	98	Foot Baths, Hot, Cold, &c.	57
Bran Bath	62	Forbes, Sir John... ..	23, 52
Bronchitis	112		
Bruce, J. L., Experiments on Heating and Ventilation of Turkish Baths	38	Galton, Captain	171
		Glandular Swellings	115
Canker in the Gums	146	Goodman, Dr., on Medical Properties of Baths	24 to 27
Carbuncle	135	Gout	128
Catarrh... ..	114	Great Northern Railway Co.	155, 156
Chicken Pox	86	Gully, Dr.	9
Chilblains	138		
Cholera, Asiatic	104 to 107	Half-sheet or Towel Pack	49
" English... ..	108	Healthy Life	19
Claridge, Capt.	7	Hernia or Rupture	139
Colds	113	Holden, Isaac, Esq., M.P.	174
Colic	98	Holden, Edward, Esq.	174
Compress or Wet Bandage	63	Hooping Cough	146
Constipation... ..	103	Hot Bath	51
Consumption	110	Hot Fomentations	50
Convulsions	143	House, A Warm, Dry	78
Coughs	114	House Plan, &c.	79
Crisis	69	Hydropathy for Animals generally	
Crooked Legs	148	157 to 170	
Croup	147	Hydropathy for Horses	150
		Hydropathy, Philosophy of	21
Diarrhoea	108	Hydrophobia	99 to 101
Diet (Table of Digestion, &c.)	70 to 73	Hypochondriasis	90
Diphtheria	116	Hysteria	117, 118
Diseased Life	20, 21		
<i>Douche Bath</i>	56	Impure Food, Danger of	149
<i>Dripping Sheet</i>	53	Indigestion	88
		Influenza	114

Index.

	PAGE		PAGE
Inscription on Marble Trough in Ben Rhydding grounds...	13	Rheumatism, Chronic	126
Intelligence of Horses..	150 to 153	Rheumatic Fever...	124
Itch	131	Ringworm	145
Itching of the Skin	132	Rischanek, Dr.	12, 14
		Russian Bath	41
Jaundice	95	Scald Head	144
Johnson, Dr. Edward...	10	Scalds and Burns	140
Johnson, Howard F. ...	10	Sciatica...	123
"Lancet," The, on Turkish Baths, &c. ...	36, 37	Scurvy	129
Light	74, 75	Shallow Bath	52
Liver, Disease of...	93	Shingles	133
Livesey, Joseph	16 to 18	Shower Bath	59
Lumbago	127	Sick Headache	90
		Sitz Bath	55
Macleod, Dr. ...	13	Sleep	73, 74
Measles...	86	Sleeping Cordials	149
Medical Properties of Various Baths	66, 67	Smallpox	85
Menstruation, Obstructed	97	Smedley, John	15
Mercurial Eruptions	134	Smith, Dr. Angus	75
Morin, General	172, 173	Sore Throat...	115
Mumps	116	Spasms	143
		Spinal Weakness...	144
Nervous Irritability	118	Spirit Lamp Bath	45
Nettle Rash	133	Sponge Bath...	58
Neuralgia	122	Sprains and Bruises	140
		Stansfeld Hamer...	12, 13
Obesity	91, 92	Stomach, Inflammation of...	93
Obstructed Menstruation	97	Sulphur Baths	62
Offensive Breath	90	Swimming Bath	61
Oger, M., on Ventilation	173		
		Table of Temperature	52
Paralysis	121	Teething	143
Parkes, Dr. ...	171	Tepid Bath	51
Patent Medicines...	109	Thompson, Prof. A. T.	11
Perspiration, Offensive	96	Tic Douloureux	122
Perspiratory Tubes	22	Toothache	123
Pickford and Co. ...	154, 156	Turkish Bath	31 to 40
Piles	138	Turkish Bath for Horses	154 to 156
Pimples	134	Ulcers	136
Preissnitz, Vincent	5, 6	Urquhart, David	32
Prurigo	130	Vapour Bath	42
		Ventilation of Stables, &c.	171 to 175
Quinsy	116	Warm Bath	51
		Water, Drinking...	64
Rain Bath	60	Wesley, John	3, 4
Reaction	68	Wet Sheet Pack	46 to 48
Renault, M.	172	Whitlows	138
Rheumatism...	124	Wilson, Dr. ...	8, 9
"Acute	125	Wilson, Prof. Erasmus	21
		Worms	145



**THE LLANDUDNO HYDROPATHIC AND WINTER
RESIDENCE COMPANY LIMITED.**

Managing Director and Resident Medical Superintendent.—H. THOMAS, M.D.

THIS Establishment is situated on the Parade, and commands a full view of the Bay, with its surrounding magnificent scenery; and is conducted so as to afford all who visit it the comforts and cheerfulness of home. The house is well Ventilated and thoroughly Warmed, making it a healthful Winter Residence for Invalids.

A Large Billiard Room, with two first-class tables, has been lately added to the Establishment.

The Domestic Arrangements are conducted with the utmost liberality; every endeavour being made to ensure the comfort and happiness of the visitor.

The Gentlemen's Turkish Bath has been much enlarged by the addition of New Hot Room, Cooling Room, and Large Salt Water Plunge Bath.

The house adjoining has recently been added to the Establishment.

THE TEMPERATURE OF LLANDUDNO.

The following tables are extracted from the Registrar General's Quarterly Meteorological Reports, showing the Mean Temperature registered during the year.

It is noticeable that the colder the temperature the more marked is the difference GENERALLY in favour of Llandudno; and, bearing in mind the Registrar General's statement that "a severe winter invariably produces a high death-rate," these tables show Llandudno to be one of the most desirable Winter Residences in this country for Invalids.

SEA-SIDE STATIONS COMPARED WITH LLANDUDNO.

Average Mean Temperature—Three Winter, Three Autumn, and Three Summer Months.

No. of Years.	Jan.	Feb.	Mar.	Sum.	Mean.	Oct.	Nov.	Dec.	Sum.	Mean.	July.	Aug.	Sept.	Sum.	Mean.
LLANDUDNO 1861 to 1881	41'1	42'5	43'5	127'1	43'5	51'4	45'1	42'6	139'1	46'4	61'3	61'1	57'6	180'0	60'0
Osborne (I.W.) 1861 to 1881	39'6	41'7	43'3	124'6	41'5	51'8	44'6	41'0	137'4	45'8	63'6	63'0	59'3	185'9	61'9
Eastbourne 1867 to 1881	39'0	41'5	43'3	123'8	41'2	50'9	43'8	40'0	134'7	44'9	63'4	63'2	59'6	186'2	62'0
Brighton 1871 to 1881	38'5	40'4	42'9	121'8	40'6	50'8	43'8	40'1	134'7	44'9	62'8	62'6	57'9	183'3	61'1
Bournemouth 1861 to 1881	40'0	42'0	43'3	125'3	41'4	51'7	44'5	41'5	137'7	44'9	61'8	61'2	57'7	180'7	60'2

INLAND STATIONS COMPARED WITH LLANDUDNO.

No. of Years.	Jan.	Feb.	Mar.	Sum.	Mean.	Oct.	Nov.	Dec.	Sum.	Mean.	July.	Aug.	Sept.	Sum.	Mean.
LLANDUDNO 1861 to 1881	41'1	42'5	43'5	127'1	43'5	51'4	45'1	42'6	139'1	46'4	61'3	61'1	57'6	180'0	60'0
Greenwich 1861 to 1881	38'1	40'8	42'6	121'5	40'5	50'5	42'7	39'5	132'7	44'2	64'0	63'1	58'5	185'6	61'8
Nottingham 1867 to 1881	36'8	39'4	41'2	117'4	39'1	47'7	41'1	37'2	126'0	42'0	61'3	60'0	55'5	176'8	58'9
Oxford 1861 to 1881	38'3	41'0	42'3	121'6	40'5	50'1	42'7	39'7	132'5	44'2	62'4	61'5	57'0	180'9	60'3
Eccles, Manches- ter, 1862 to 1878	38'7	40'1	41'2	120'0	40'0	43'0	41'8	39'5	130'4	40'1	60'3	59'5	54'8	174'6	58'9

MEAN TEMPERATURE.—Mean of Max. and Min.

Station, Llandudno, County Carnarvon. Observer - - Dr. J. NICOL.

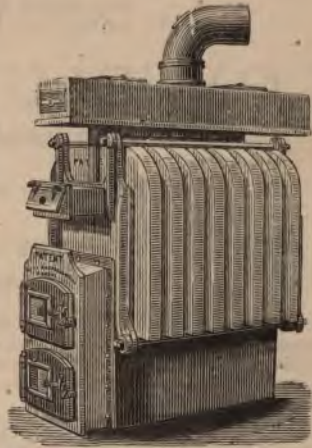
Height above Sea Level, 100ft.

For further particulars apply to

**The Managing Director,
Hydropathic Establishment,
LLANDUDNO.**

ADVERTISEMENTS.

ALL
CHURCHES,
CHAPELS,
AND
Public Buildings



CAN BE THOROUGHLY

WARMED AND VENTILATED, WITH LITTLE FUEL,

BY THE

CONVOLUTED STOVE.

Efficiency Guaranteed in all Cases.

A Convoluting Stove fixed in the Basement will keep a House warm and dry in cold or damp weather. Public or Private Turkish Baths and Baths for Horses can be heated economically. Disinfecting and Drying Rooms are also heated effectually.

Estimates and Plans of Warming arrangements for Churches, Chapels, and Schools, Town Halls, Hotels, Mansions, Halls, Workhouses, Turkish Baths, Disinfecting Rooms, Warehouses, Drying Rooms, Shops, Offices, &c., on receipt of tracing showing area to be warmed, and situation of apparatus chamber.

Illustrated Circular, with Testimonials, Post Free.

ADDRESS:—

J. CONSTANTINE & SON,
Convoluting Stove Works,
Chorlton Mills, Hulme Street, or 23, Oxford Street,
MANCHESTER.

CONSTANTINE'S PATENT CONVOLUTED STOVE,

For Warming CATHEDRALS, CHURCHES, CHAPELS, &c.

Efficiency in ALL CASES Guaranteed.

TESTIMONIALS.

From the BISHOP of LIVERPOOL.

The Palace, Liverpool, July 22nd, 1880.

Dear Sir,—The Patent Convoluted Stove which you put down for me in Stradbroke Church last winter proved entirely satisfactory, and I can recommend it strongly to the attention of every one who wishes to warm a large building with hot air. You are at liberty to make any use of this letter.—Yours faithfully,

J. C. LIVERPOOL.

Mr. Constantine, the Convoluted Stove Works,
Chorlton Mills, Hulme-street, Manchester.

The Venerable Archdeacon BIRCH, M.A., writes as follows:—

The Vicarage, Blackburn, March 24th, 1874.

The Warming Apparatus you put into Blackburn Parish Church five years ago is, in my opinion, everything that could be desired for (1) Moderate cost of erection; (2) Efficiency; (3) Economical consumption of fuel; (4) Facility of Management, having only to be attended to two or three times in the twenty-four hours; (5) Durability, wanting no repairs, and never out of order.

Mr. J. Constantine.

EDWARD BIRCH, Vicar of Blackburn.

The MAYOR of MANCHESTER.

Manchester, April 8th, 1875.

Dear Sir,—I have pleasure in stating that the Apparatus for warming the building, placed by you in the Meeting House of the Society of Friends, in Mount Street, is working to the satisfaction of the Committee.—Yours very respectfully,

Mr. J. Constantine.

JOHN KING, JUNR.

Farnworth.

It affords us great pleasure to bear testimony to the efficacy of your new heating apparatus. The one you placed in the parish church of Farnworth-with-Kersley warmed the church in all parts in a short time, with little fuel, and we are happy to say that now we are entirely free from that injurious sulphur smell which arose from the old apparatus. The warm air from your apparatus is pure and wholesome.

WM. HARGREAVES,
WM. S. HOLDEN,

Wardens of the Parish Church of Farnworth-with-Kersley.

Mr. Constantine.

Tintwistle, Cheshire, April 27th, 1876.

Dear Sir,—In reply to your inquiry concerning the apparatus you fixed in the Independent Chapel, Tintwistle, last year, I have pleasure in testifying (with the approval of our trustees) to its efficiency.

Notwithstanding the severity of the winter now past, and the bleak position of the chapel, we have had no difficulty in keeping the building warm in all its parts. It is in every sense better, and gives far less trouble than our former system of warming by steam.

JOSEPH ODDY, Minister.

ADVERTISEMENTS.

TESTIMONIALS—*continued.*

Free Trade Hall, Manchester, 26th March, 1882.

Mr. J. Constantine, Oxford Street.

Dear Sir,—For the last fourteen years we have had our Large Room in this Hall heated by your Patent Convoluted Stoves.

I think it only due to you to state that they have been a complete success therein. They are easily lighted, warm the Large Room speedily and well, with very little expense of fuel, which is coke from the gasworks.—Wishing you success, I am, dear sir, yours very respectfully,

SMITH P. ROBINSON, Secretary.

The following Testimonial is from an Ex-MAYOR of MANCHESTER.

Mr. Constantine,

March 22nd, 1884.

Dear Sir,—For the last five years I have had the experience of the Convoluted Stove you fitted up for me at Summerfield, Bowdon, and I am pleased to say it has answered its purpose admirably. No difficulty has occurred in working, and it is used whenever the climate requires to be supplemented by additional warmth.—Yours truly,

ABEL HEYWOOD.

Wadsworth Vicarage, Doncaster, December 20th, 1878.

Sir,—I will thank you to send to the clergyman, whose address I give you below, your book and testimonials respecting your Patent Convoluted Stove, as I have strongly recommended your Apparatus.

I have now had a year's experience of the working of your Patent Convoluted Stove which you placed in our church in October, 1877, and can truly say that I and all my parishioners are delighted with it. It is most satisfactory in every respect; and my clerk, who has the management of it, finds the working of it very simple. I shall be glad to recommend it wherever I can. I remain, yours truly,

A. C. LUARD, M.A.

Mr. J. Constantine.

Father PINET'S Testimonial shows that the largest Churches can be warmed with ease by the Convoluted Stove.

Mount St. Mary's, Leeds, June 26, 1879.

J. Constantine, Esq.

Sir,—With regard to the two Stoves which you set up in our church last autumn, I have great pleasure to bear witness to their thorough efficiency. The size of our church, containing as it does nearly a million cubic feet of air space, and the many large windows with which its walls are pierced, had deprived us for years of any confidence in the various systems of heating with which we were acquainted. Now we have only to say that you have thoroughly carried out your undertaking. The two Stoves have given us everything we desired, and have been, moreover, the means of establishing a pure ventilation in the church.—I am, sir, yours truly,

T. H. PINET.

Arrowscroft House, Hollingworth,

Hadfield, April 21st, 1876.

Mr. J. Constantine,

The Patent Convoluted Stove which you put in at Christ Church, in Tintwistle, gives every satisfaction; it does its work very well.—I am, yours respectfully,

JAMES SIDEBOTTOM.

Whatcombe, Blandford, October 24th, 1884.

Sir,—The Convoluted Stove which I procured from you about three years ago is a great success. It thoroughly warms the house, giving a genial temperature to the three stories; it also has the advantage of being an economical consumer of fuel, and hitherto has cost nothing for repairs.—I am, sir, yours faithfully,

J. C. MANSAL PLEYDELL.

P.S.—I can speak equally favourably of the Stove you put up in the church.







