On a new and successful treatment for febrile and other diseases, through the medium of the cutaneous surface : illustrated with cases / by William Taylor.

ON

THE TREATMENT

OF

FEBRILE AND OTHER DISEASES

THROUGH THE MEDIUM OF

THE CUTANEOUS SURFACE.

ON

A NEW AND SUCCESSFUL TREATMENT FOR FEBRILE AND OTHER DISEASES, THROUGH THE MEDIUM OF THE CUTANEOUS SURFACE.

ILLUSTRATED WITH CASES.

BY

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TO

EDWARD STANLEY, ESQ., F.R.S.

LATE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS,

SURGEON TO ST. BARTHOLOMEW'S HOSPITAL, .

ETC. ETC. ETC.

THESE PAGES ARE RESPECTFULLY

Dedicated,

IN ADMIRATION OF HIS PROFOUND KNOWLEDGE AND EXPERIENCE

AS A SURGEON,

UNWEARIED ZEAL AS A TEACHER,

AND DISTINGUISHED EXAMPLE IN THE CULTIVATION OF

MEDICAL SCIENCE,

BY THE AUTHOR.

PREFACE.

WHEN a practitioner has found a remedy invariably efficacious, it is his bounden duty to acquaint his fellow-labourers with the success he has met with; his field of usefulness is thus spread immeasurably wide, and he has the pleasing consciousness of having contributed his mite to the relief of the sufferings of humanity. Yet, I conceive that such a communication ought not to be made hastily; for I think that years of careful observation, trials of various kinds, and unbiassed and unenthusiastic deductions, are the basis upon which any new method ought to be supported.

I fulfilled these requisites, and I have now the satisfaction of laying before the profession

a mode of treatment of Inflammatory Fever, Typhus, Scarlatina, Measles, Dropsy, Incipient Phthisis, and Insanity, which I have found successful for the last twelve years. I hope, therefore, I shall not be looked upon as presumptuous, if I step forward to accomplish an imperative duty, viz., that of briefly acquainting my professional brethren with a few details regarding a very successful line of treatment.

W. T.

59, St. John-street-road,
August, 1850.

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INTRODUCTION.

MANY attempts have been made, from time to time, to induce me to publish, in some form or other, a description of my treatment of various disorders by the medium of the cutaneous surface, and my views respecting its great efficacy in fevers; but I always delayed carrying out these suggestions, until the innovation should be fully sanctioned by experience. This delay did not arise from any unwillingness to satisfy public curiosity, for I was ever ready to gratify the legitimate inquiries of my professional brethren, making no secret of the discovery, and the mode of treatment; but I was averse to the responsibilities of authorship, and disinclined to thrust myself on the notice of the public. I nevertheless did not neglect the important facts which I was daily witnessing, nor did I disregard them; but I was reluctant openly to boast of the results I had

obtained, and being beset with perplexities, I found that

> "Our doubts are traitors,
> And make us lose the good we oft might win
> By fearing to attempt."

For many years I pursued my researches without communicating their nature to any one except to those immediately around me; but I venture to think that the time has arrived when the public should know the result of my inquiries, now that long experience has given them sufficient weight.

From 1837 to 1849, between two hundred and three hundred cases of fever occurred in the Clerkenwell Infirmary, *without a single death* in idiopathic cases; whereas, in 1836 alone (before my plan of treatment was adopted) twelve patients died of typhus in one month.

I do not intend to enter into the pathology and prevailing treatment of the diseases enumerated in the title; this would be a waste of professional time: but I shall attempt at once the description of the treatment at the Clerkenwell Infirmary, and adduce the vast number of cures effected by its means. The facts will be found sufficiently important to entitle them to further trials; and if others meet with the same success as my-

self, an invaluable method of subjugating fevers will spread through the community.

A circumstance which has materially influenced me in publishing my plan of treatment, is the appearance of a work by Dr. Schneeman, physician at the court of Hanover, wherein is advocated a new mode of treating scarlatina by cutaneous induction, which the author says "materially shortens the duration of the disease, and checks all infection at the end of the third or fourth day." I was, as may be easily imagined, very anxious to show that Dr. Schneeman's plan, which I had pursued for the last twelve years, was not new in England, though it might be a great novelty in Germany.

As far back as 1829, I had repeatedly observed that persons admitted into the receiving ward at the workhouse, for the purpose of being cured of itch, were sometimes also suffering from fever in its different forms and stages. The treatment usually adopted was the warm bath, and the compound sulphur ointment; and when the patients were cured of the itch, I generally found, where the rubbing had not produced excoriation on the skin, that the fever also had frequently disappeared. An alterative, with saline medicine, which was usually administered, had the credit

of curing the fever, although in my own mind I was soon convinced that it was removed by other measures.

Much time passed away; numerous cases came under observation; but I was still unable to find out the agent to which the benefit might truly be ascribed. At length, however, a case was admitted, where recovery took place without any medicine being administered, and then the frictions fixed my attention. I at once proceeded to make trials with a variety of greasy substances in the hot stage of fever, each substance being used separately. From these experiments I concluded that lard was the ingredient chiefly worthy of notice.

Fully alive to the importance of the skin, not only in a physiological but in a therapeutical point of view, and bearing in mind the experiments of Lavoisier and Séguin, the researches of Hufeland, and the more recent microscopical examination of the skin by Wilson, I lost no available opportunity in carrying my views into practice.

From the cases which I shall lay before my readers, it will be seen that I first began my experiments in 1830; but it was not until I had been pursuing my practical applications for ten years, both in the Infirmary and in private practice,

that Mr. Spencer, my partner, yielded his assent to the plan. This will show that I had no flatterers around me. In 1840, however, my colleague fully admitted the advantages of my new treatment.

It was fully six years after I had discovered the importance in dropsy, typhus fever, measles, and insanity, of arousing the skin, by means of frictions, with some greasy ointment, that I was so fortunate as to hit upon the formula for the composition of the ointment. During the whole of this period, although fully aware of the importance of the discovery made in 1830, I scarcely, even to myself, admitted that I had fallen upon a proper course of treatment; it seemed for a long time to be too curious to be true—too strange and unlikely that a practitioner, with a compound of suet and lard should suddenly obtain an almost perfect control over the most malicious and intractable disorders.

My mode of procedure did not appear worthy of the name of "medicine;" it looked more like an empirical than a scientific treatment, and I was almost "afraid" to talk of my success. When I was sent for to see a patient labouring under dropsy, typhus fever, scarlatina, or measles, I

was expected to use regular therapeutical means; but not to order the patient to be rubbed. And thus, with all the startling facts that were accumulating under my eyes, I did not once expect to gain opinions in favour of my seemingly irregular practice, the more so, as my own partner, who heard perpetually of the cures, invariably regarded them as the happy consequences of purges, diuretics, &c. Still, as already stated, a forcible impression having been made on my mind that fever was cured by the skin, and that a healthy action of that organ was producible by rubbing it to saturation, with some fatty or greasy substance, I set to work, in order to ascertain what form of ointment was most likely to be efficacious. At first, common oil was used, but without benefit; then lard, with a little more advantage, on account of its greater consistence; but this also passed quickly off the skin, and was mostly absorbed by the bedclothes. It then occurred to me that a much firmer ointment would be less liable to absorption by the bed-linen, that it would more readily be taken up by the skin, and be rubbed in more easily. A variety of further experiments were accordingly made: proceeding from oil at the one extremity, to wax at the other, and attempting to

"imitate the secretions of the skin," I by turns resorted to the ceratum cetacei, to prepared lard, to suet (both mutton and beef,) but I eventually mixed lard and suet, in equal proportions, melted them carefully over a slow fire (or a water-bath), and this combination having acquired about the consistence of common tallow, was, on extensive trial, found to answer every requisite,* no mixed ointment that liquefies at a temperature below that of the blood, being equal to it.

It had often struck me that, in fever, a distinguishing feature was a dryness and contraction of the cuticle, almost invariably preceded by chilliness, which changes I supposed to be caused by a cessation of the secretion from the sebaceous or other cutaneous glands. When this condition was amended, the complaint seemed to assume simply the aspect of a common "cold," and then soon disappeared.† But if the functions of the skin continued suspended, the

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* The consistence might be increased during the hot weather, by adding more suet.

† I knew an elderly lady, between eighty and ninety years of age, of delicate constitution and feeble digestive powers, who could not sleep at night from cold feet. She

sebaceous follicles having ceased to act, the condition of the patient was speedily marked by reaction, with manifestations in the form of headache, quick pulse, hot skin, and all the well known symptoms of fever. Thus, the insensible perspiration, instead of being in such cases thrown off from the surface, becomes what is called "determined to the lungs;" the breath is loaded with aqueous vapour, the tongue white and coated, and a call is next made by nature on the kidneys, which then set up an increased action. Now, this state of things has repeatedly been removed in a few hours, without the administration of any medicine, simply by placing the patient in bed, and having the surface of the body well rubbed with the above-described compound, which, at last, came to be called the "*hard ointment.*"

An old and experienced nurse of the infirmary, who had often witnessed the benefit derived from

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was directed to use frictions to restore the circulation: this answered the purpose for an hour or two, but then the effect subsided. When, however, she used friction with the hard ointment, the warmth continued all night. Thus we see that when the temperature on the surface of the body is *above*, or reduced *below* its healthy standard, it can, by the same treatment, be restored to its natural state.

this treatment, at last was accustomed to suggest, when a patient dangerously ill was admitted, that it would be very desirable to have him "rubbed in,"—she was confident it would do him good. The recommendation generally proved judicious where there was much morbid heat of the skin, accompanied by the other symptoms alluded to above; and more relief was generally obtained in a few days, from this treatment, than commonly is derivable in several weeks by the method usually adopted in medical practice. With regard to the mode of using the ointment in public institutions, I should state that the friction ought to be made with vigour and energy; and here I met with serious obstacles; for the nurses are often old people, for the most part unfit for, or unequal to the rubbing process.

Sometimes, when the skin is in the dry and harsh state of fever, it is astonishing how large a quantity of the ointment must be rubbed in before the skin is saturated; but so soon as the latter becomes *cool* and *soft*, comfort ensues, and the patient is placed in a vastly improved condition; but *dry* rubbing does not soften the skin and produce the same free and healthy action. When the ointment has been well rubbed in, the

countenance indicates its good effect in a surprising manner, and the unctuous friction is superior to the cold or vapour bath, especially in this respect, that with the ointment the object in view is at once obtained, the result permanent, and no danger incurred.

Nothing is more common, on entering the wretched abodes of the poor in this metropolis, where the inmates are destitute of bedding, and almost all necessaries and comforts of life, than to notice a very offensive fœtor accompanying disease, especially typhus, scarlet fever, small pox, and less distinctly measles. But when in such places the ointment has been used on the skin of the sick person during twenty-four hours, the disagreeable odour emanating from him is in general removed, and it is then hardly noticed that a patient so seriously affected is in the room. As soon, in fact, as the skin is saturated with the ointment, all the acrid and pungent smell of the place, which not only strikes the olfactory organs, but is likewise noticeable by the tongue (by which circumstance the medical practitioner can guess that the disease is infectious), as soon, I say, as that peculiar odour is dispelled, the fever ceases to increase, and the fear of contagion is over.

In 1832, I had the charge of the cholera hospital of this district, at a time when the saline treatment was recommended, and put into practice under the superintendence of Dr. Stevens. Many cases recovered in succession, and it was then supposed that a cure for cholera had been found. More extended inquiries were, however, made, and disappointment ultimately followed.

Struck with this failure, I was apprehensive lest my new treatment of fever might not stand the test of experience, and I hesitated in making it known. I had, besides, very great difficulties to encounter in establishing it in practice. The treatment to some was disagreeable; patients objected to rubbing — they disliked the greasy applications, it was something new; frequently imperfectly carried out; and the benefit derived was, without scruple, attributed to other measures. But I was not to be discouraged by such obstacles, and being convinced of the usefulness and importance of the treatment, I persevered, and attentively watched every favourable opportunity of putting this plan into practice.

With respect to the time and mode of applying the ointment, I have found that it should be

rubbed in night and morning, (more frequently in urgent cases), on every part of the skin which is hot and dry. It should be done freely but gently, during from half-an-hour to an hour at a time, indeed, until the skin is saturated; when, from being harsh, hot, and dry, like washed leather, it becomes soft, and, for the most part, after a few applications, yields the feeling of velvet. We all well know that continued gentle friction of the skin, even dry friction, tends materially towards restoring healthy action. Let any person suffering from *hot* and *dry* hands, well rub them with the ointment in question, and wash them a few minutes afterwards with soap and water, he will appreciate the comfort and benefit of this measure. When a sensation of morbid heat and dryness rests on any part of the surface of the body, this can be more easily removed by induction, with the hard ointment, as the friction restores the secretions of the part, than by lotions and cold applications.

Piano-forte players are generally aware of the strength and agility of finger, which may be produced by immersing the hands for a time in hot water, before performing.

Frictions with oily and greasy substances were

beneficially employed in remote ages;* but I am not aware that they were ever before used, in the hot stage of febrile, or in acute diseases; in the manner or for the purposes advocated in these pages. I shall content myself with quoting its use against the plague.

In Dr. Duncan's "*Annals of Medicine*," for 1797, there is an article relating to the cure and prevention of the plague,† by friction of the surface of the body with olive oil. The author adds, "that no instance exists of a person, who was in the habit of rubbing patients, having taken the infection; but, by way of precaution, it was advised that persons so employed should anoint themselves all over with oil, and avoid receiving the breath of the infected into their mouth or nostrils. The preventive to be used, in all circumstances, is carefully to anoint the body, and living upon light and easily digestible food."

A striking remark made by Mr. Baldwin is, that, amongst upwards of a million of inhabitants

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* Celsus, book ii., chap. xiv., recommends frictions to be used in the decline of illness, but never to be practised in the increase of fever.

† Communicated by George Baldwin, Esq., at that period his Britannic Majesty's agent and consul-general in Egypt.

carried off by the plague in Upper Egypt, during the space of four years, he could not learn that a single oilman, or dealer in oils, had suffered.

It is also a well-authenticated fact, that, during the many visitations of the plague in London, the dealers in pitch, tar, and tobacco; curriers, tanners, and tallow-chandlers, escaped the contagion.

Mr. Jackson, in his "*Reflections on the Commerce of the Mediterranean*," informs us, that in the kingdom of Tunis, where the plague frequently made the most frightful ravages, destroying thousands of the inhabitants at a time, there never was known any instance of the Coolies, or porters, who worked in the oil-stores, being affected by the disorder, as their bodies are always well smeared with oil, and their clothes imbued with it.

It has been considered as pretty certain, that in the generality of instances, the contagion of the plague enters the body through the medium of the cutaneous lymphatics, and thence is produced the affection of the lymphatic glands. This idea makes it very probable that the external use of oily frictions lessens the susceptibility of infection; and Sir James McGregor, in his "*Medical Sketches*," mentions a fact, which

must favour this opinion: he states that the men who were employed in applying oily friction to the camels, for some epidemic affecting these animals, escaped the plague.

The evidence produced in behalf of the plan communicated by Mr. Baldwin, seems more satisfactory as regards the preventive powers of the application, than as to its remedial properties after the disease has once been established. It seems, however, right to notice, that Dr. Assalini, who was a medical officer in the French army which invaded Egypt, makes a favourable mention of oily frictions in his "*Observations on the Plague*," as being followed by copious sweating; and to this effect he thinks their beneficial operation is to be attributed. We are told by Mr. Jackson, in his "*Account of the Empire of Morocco*," that he recommended the remedy to several Jews and Mussulmans, during the time that the plague was depopulating Western Barbary, in 1799 and 1800; and no instance of its failure, when duly persevered in, even after infection had manifested itself, had come to his knowledge.

In addition to the advantages which attend the treatment which I am advocating, let me remark

here, that inflammation of the lungs—one of the most frequent complications of typhus—has but very rarely occurred at the Clerkenwell Infirmary, when this treatment has been early and fully carried out. In fact, the mortality in the Infirmary has been thereby lessened in a very remarkable manner. Formerly, the deaths in that establishment, from fever alone, amounted to from ten to twenty annually; while, for some years past—that is to say, since the new plan of treatment has been adopted, not a single patient died in the Infirmary. In private practice, I only lost one patient of typhus, and another of malignant scarlet fever, both of whom died in the first three days.

The favourable results which I have obtained from frictions with the hard ointment, in cases of typhus, scarlet fever, measles, dropsy, incipient phthisis, and insanity, during the last twelve years, will be brought seriatim before the reader, with a selection of the most interesting cases. But, before proceeding to that division of these pages, I beg leave to quote a few passages from Hufeland, Armstrong, and Wilson, on the importance of the cutaneous surface in a medical, hygienic, and anatomical point of view.

CHAPTER I.

ANATOMICAL, PHYSIOLOGICAL, AND THERAPEUTICAL CONSIDERATIONS ON THE SKIN.

IMPORTANCE OF THE SKIN.—Hufeland says, in his work *On the Art of prolonging Life*,—"The skin is the greatest medium for purifying our bodies; and, every moment, a multitude of useless, corrupted, and worn-out particles, evaporate through its numberless small vessels in an insensible manner. This secretion is inseparably connected with life, and the circulation of our blood; and by it the greater part of all the impurity of our bodies is removed. If the skin, therefore, be flabby or inactive, and if its pores be stopped up, an acridity and corruption of our juices will be the unavoidable consequence, and the most dangerous diseases may ensue. Besides, the skin is the seat of feeling, the most general of all our senses, or that which in an essential manner

connects us with surrounding nature, and in particular with the atmosphere; and by the state of which, in a great measure, the sensation of our own existence, and the relation which we bear to everything around us, is determined. Hence, a greater or less sensibility, in regard to disease, depends very much on the skin; and those whose skin is weak or relaxed, have generally a sensation too delicate and unnatural, by which means it happens that they are internally affected in a manner highly disagreeable by every small variation in the weather, every change of atmosphere, and at length become real barometers.

"The most ignorant person is convinced that proper care of the skin is indispensably necessary for the existence and well-being of horses and various animals. The groom often denies himself sleep and other gratification that he may curry and dress his horses sufficiently. If they become meagre and weak, the first reflection is, whether there may not have been some neglect or want of care in regard to combing them. Such a simple idea, however, never occurs to him in respect to his child. Since we show so much prudence and intelligence in regard to animals, why not in regard to men?"

SENSIBILITY OF THE SKIN.—Dr. Armstrong, in his book on Typhus, says—"It is especially during convalescence, from diseases which leave great weakness, that colds are apt to be caught, on account of the irregular temperature by which we are surrounded; because the skin is then far more susceptible than in a state of strength, and because the internal organs are then far less able to resist external impressions by reason of the general debility.

"From the little regard which many medical writers seem to pay to the skin, one would almost suppose that they considered it a sort of insensible envelope, somewhat like the outer bark of a tree; but I must again repeat, that it is an organ of vast importance in the animal economy, and that hardly any morbid phenomena occur in which its functions do not more or less participate; and it is truly surprising, too, how little some people attend to the proper protection of the skin, though their feelings daily remind them of the neglect. To defend the surface of the body as much as possible from the shocks of atmospheric variation is one of the best means of preserving the centre sound, where life may be said more immediately to reside."

STATE OF THE SKIN.—Dr. Armstrong observes further:—"Debility never occurs without the skin singularly participating in its influence. When the general health of any one is on the decline, we most frequently first remark it by the face becoming of an unnatural paleness; and if we extend our observations, we shall find that this paleness is diffused over all the surface of the body. A complete change of action, indeed, has taken place in the whole capillary system of vessels in the skin; and the very nervous condition of that organ has likewise undergone a correspondent alteration, for powers now act upon it with greater force than before. The bulk of the body has diminished, the skin is withered like an autumn leaf, and the patient shrinks from the impression of a cool atmosphere, which formerly invigorated his whole frame.

"Be it constantly recollected, not only that the skin is a fine expansion of nerves and blood-vessels minutely interwoven with the cellular tissue, but that between the sensitive part and the vital organs within, there is a strong reciprocal consent; and, in fact, what is the ultimate structure of these organs but a seeming modification of the skin itself, a continuity of the same fine

and sympathetic fabric of nerves, vessels, and cellular membrane? Now, in all cases of general debility, this sympathy between the surface and the centre is rendered more exquisite. It is on this account in general that internal inflammation or excitements are then most readily produced by outward impressions; and it is on this account, in particular, that congestion of the lungs so frequently arises from the influence of cold on the surface. But it is the liver which more frequently suffers in this secondary way, from impressions on the surface, than the rest of the digestive organs.

"The skin partakes, in a remarkable manner, of the debility which so early shows itself in the muscles of locomotion. This is indicated in a remarkable manner by its increased sensitiveness to the physical agents by which it is surrounded, and by its inability to resist a change of temperature. Ordinary degrees of temperature produce a sensation of cold, which is at times intolerable. Chilliness is felt in a heated room, or in a warm bed. This feeling of chilliness by no means depends on external temperature; it is increased by cold; but it exists in spite of an elevated temperature. It arises from an internal cause, and is not to be counteracted by external heat. While

the patient experiences the sensation of cold, there is no diminution of the quantity of action in the system. The thermometer applied to any part of the body commonly rises as high as in the state of health; and the skin, touched by the hand of another person, communicates, not the feeling of cold, but often the contrary, that of preternatural heat. There is no positive abstraction of caloric from the body, nor any failure in the process, whatever it be, by which animal heat is generated; there is only altered sensation, in consequence of derangement in the functions of the skin.

"The symptoms now enumerated are all clearly referrible to derangement of the function of the spinal cord and brain. Immediately that the circulation is thus exerted, the functions of secretion and excretion become deranged. The mouth is now dry and parched; the tongue begins to be covered with fur; thirst comes on; the secretion of the liver probably, also of the pancreas, and certainly of the mucous membrane lining; the whole alimentary canal is vitiated, as is proved by the unnatural quantity, colour, and fœtor of the evacuation. The urine likewise is altered in appearance, and the skin is not more remarkable for the sense of

heat, than for that of the dryness and harshness which it communicates to the touch. With the excitement of the pulse, and the increase of heat, the pain in the back and limbs, and the general febrile uneasiness, are much augmented. At this period, then, the fever is fully formed, the series of morbid phenomena is complete."

SENSIBILITY OF THE SKIN.—Mr. Wilson, in his work on the Skin, says—" This sensibility is remarkable in St. Anthony's fire, in scarlet fever, and in measles. In the two latter diseases another phenomena also may be observed, which is, that the redness occurs in minute points, an appearance which results from over-distention with blood of the papillæ of the skin. Purpleness, or blueness of the skin, always depends on some cause of retardation of the cutaneous circulation."

" The degree of the sensibility of the skin offers great and remarkable variety, not only as respects individual circumstance, age, sex, temperament, and state of health, but also in relation to the part of the skin under examination. The differences of sensibility among individuals are so great, that that which amounts to absolute torture in one, is a matter of almost indifference to others,

and this without any known sign by which such variety of sensibility might be predicted."—P. 44.

"With reference to age, sex, temperament, and health, as modifiers of pain, there can be no question that the sensibilities are more acute in the young than in the adult, and in the latter than in advanced life: they are greater also in the female than in the male; in the sanguine and nervous than in the phlegmatic and bilious temperament; and in those who are enfeebled by disease than in the sound and robust."

THE PERSPIRATORY SYSTEM.—"Taken separately, the little perspiratory tube, with its appended gland, is calculated to awaken in the mind very little idea of the importance of the system to which it belongs; but when the vast number of similar organs composing the system are considered, we are led to form some notion, however imperfect, of their probable influence on the health and comfort of the individual. To arrive at something like an estimate of the value of the perspiratory system in relation to the rest of the organism, *I counted the perspiratory pores on the palm of the hand, and found* 3528 *in a square inch.* Now each of these pores being the 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* 73½ *feet.* Surely such an amount of drainage as seventy-three feet in every square inch of skin, assuming this to be the average for the whole body, is something wonderful, and the thought naturally intrudes itself, What if this drainage were obstructed? Could we need a stronger argument for enforcing the necessity of attention to the skin?

"On the pulps of the fingers, where the ridges of the sensitive layer of the true skin are somewhat finer than in the palm of the hand, the number of pores on a square inch a little exceeded that of the palm: and on the heel, where the ridges are coarser, the number of pores on the square inch was 2268, and the length of tube 567 inches, or 47 feet. To obtain an estimate of the length of the tube of the perspiratory system of the whole surface of the body, I think that 2800 might be taken as a fair average of the number of pores in the 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 2500; 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 twenty-eight miles.

"To illustrate the importance of this system, I may likewise quote the quantity of the cutaneous transpiration, according to Lavoisier and Séguin. The result of their inquiries was, that during a state of rest, the average loss by cutaneous and pulmonary exhalation in a minute, is from seventeen to eighteen grains; the minimum eleven grains, the maximum thirty-two grains.

"The mean loss by exhalation in a minute is eighteen grains, of which eleven grains pass off by the skin, seven by the lungs, or thirty-three ounces per day from the former, and twenty-one from the latter."

The importance of this vast exhalation from the skin must be great in a physiological point of view; and when this large quantity is suddenly thrown into other channels, from the incapacity of the skin of performing its functions, the effect on the system must be proportionably great.

When the perspiration is checked, from disorder of the skin, or cold, the whole of these matters fail of being removed, and are circulated

through the system by the blood. Under favourable circumstances, they are separated from the latter by the kidneys, the liver, or the lungs, but not without disturbing the equilibrium of those organs, and sometimes being the cause of disease.

Oil Glands of the Skin.*—"In considering the purpose of the unctuous matter of the skin, there are two situations in which it deserves especial remark; namely, along the edges of the lids, where it is poured out in considerable quantity, and in the canal of the ears. In the former place it is the means of confining the tears and moisture of the eyes within the lids, of defending the skin from the irritation of that fluid, and of preventing the adhesion of the lids, which is liable to take place upon slight inflammation. The Germans term it the 'butter of the eyes,' (Augenbutter.) In the ears, the unctuous wax not only preserves the membrane of the drum and the passage of the ear moist, but also, by its bitterness, prevents the intrusion of small insects."

Health of the Skin.*—"Now the dangerous results which sometimes flow from causes of the above description, are popularly ascribed

* Erasmus Wilson.

to "checked perspiration;" but the truth is, that the suppression of perspiration is merely one of the effects of the shock received by the constitution, and by no means the cause. The first effect of the cold upon the parts is a lowered tone of the cutaneous nerves, and a consentaneous contraction, in diameter, of the capillary bloodvessels. As a consequence of these preliminary changes, the skin becomes contracted and shrunk; less blood than natural is sent to the surface; nutrition and its chemical actions are suspended; perspiration is suppressed, and the surface becomes pallid and bloodless. The blood, in fact, no longer able to enter the contracted capillaries, its cutaneous circulation being at an end, retreats upon the internal membranes and vital organs, according to the constitutional peculiarity of the individual. In one, the blood will be determined on the lungs, causing cough and inflammation; in another, upon the throat, producing sore throat; in a third, upon the membranes lining the nose, eyes and ears, producing "migraine," or cold in the head; in a fourth, upon the stomach, causing a bilious attack; in a fifth, upon the bowels, causing pain and inordinate action; in a sixth, on the kidneys, producing

severe pain in the loins; in a seventh, on the joints, producing rheumatism; in an eighth, on the nerves, producing neuralgia, or tic douloureux; in a ninth, on the brain, producing faintness, insensibility, convulsions, and even apoplexy, and so on. "There is scarcely an organ in the body," remarks Dr. Dunglison, "that may not be affected by undue or irregular action excited in some portion of the capillary system of the skin."

CONNEXION BETWEEN SKIN, LUNGS, AND KIDNEYS.—(Armstrong.)—It appears to me, that the first changes which indicate the approach of phthisis are to be found in the skin. The colour of the cheeks always becomes paler and more delicate than before, while that of the lips is often of a brighter red. If the practitioner places himself directly opposite to the patient, and looks steadfastly on his face for some time, as he converses with him, he may generally observe the colour come and go in a surprising manner. A beautiful bloom will be spread for a moment over some part of the cheeks, and then receding, it will leave a remarkable pallidity, almost approaching to whiteness. This applies to incipient or threatening phthisis. In the true tubercular phthisis, there is an early tendency to

partial perspirations in the night, but at first they are commonly very slight; and when they do not exist, it will usually be found that the patient passes an abundance of urine, so intimate is the relation between the skin and kidneys.

Indeed, there is a circle of nervous and vascular sympathies in the pulmonary, renal, and cutaneous organs, the investigation of which might throw some new light on many diseases. The skin is the medium through which many external impressions are communicated to the vital organs within, and it is most extensively and intimately concerned *in the phenomena of many acute and chronic diseases.*

It is the grand characteristic of man, that he is progressive in those pursuits, which supply or ameliorate his physical wants, and which at the same time open and elevate his mind, and though born the most helpless, he becomes the most powerful of all creatures, by removing or overcoming, through the development and exercise of his intellectual faculties, the adverse circumstances which surround him.

Sebaceous or Fatty Glands.—In turning my attention to this subject, I have found that the sebaceous glands, although very numerous, and

performing an important part in the animal economy, are exceedingly minute in their structure. Still, it is but rarely that these organs are duly studied, and they may be said to pass unobserved, like the air in which we live, and move. It would be well to notice where they are most readily seen: after a night's debauch, for instance, or one spent in the ball-room, you may see the next morning, before the face is washed, the nose studded over with numerous little black spots. These are an accumulation of dust and dirt, which took place during the night, adhering to the secretions of the sebaceous glands.

These minute organs, when healthy, preserve the natural warmth and temperature of the surface, and maintain its moist, cool, and velvety condition. When their ducts become obstructed they enlarge, and sometimes get the name of "grubs," especially when on the nose. They are numerous and to be found on all parts of the body, but most developed where least protected by nature.

In water-fowl, this secretion protects them from the element on which they live and move, and enables them to dive beneath the surface,

and ride upon the waves so gracefully—a beautiful provision of nature! When this function is suspended, the waves will no more roll over their backs without derangement to their plumage, than the north-easterly wind and rain will pass over the unprotected surface of the body without giving rise to disease.

The same wise and wonderful arrangement of nature, by which the water glides from the feathers of the aquatic bird, preserves in man the surface of the body from the tropical rays of the sun, as well as from the piercing blasts of the easterly wind.

When, in birds, this secretion is suspended, the feathers become dry, the water adheres to them, and these animals are what is termed "water lagged." In the horse, his usual smooth, shining coat, now stands on end; and when this arrest occurs in man, he becomes chilly, his hair erect, he has what is denominated "goose skin"—is comfortless, and creeps over the fire. This is the commencement or premonitory stage of disease, and it is fortunate when attention is called to it early.

When the sebaceous glands or exhalent vessels

of the skin are obstructed in their function, the surface of the body becomes highly absorbent, and exquisitely sensitive to external impressions. In this state of the system, man is highly predisposed to various diseases, as catarrh, rheumatic affections, fever, &c. By equalizing the balance of circulation in the capillary system of vessels of the skin, and restoring the secretions, we at once remove this source of disease. This may readily be accomplished, by steadily rubbing the surface with unctuous matter of suitable consistence. When the skin is under the influence of the greasy application, it will resist outward impressions; it is then similar to leather that has undergone the process of currying.

The painful state of the muscles and ligaments attendant upon over exertion, or a changeable state of the weather, may likewise be quickly and readily removed, by restoring the lost energies of the skin.

In order to give a striking proof of the importance and the prejudicial influence which the interrupted functions of the skin have on the healthy activity of relative—even of distant—organs, I may cite the fact, that death always occurs when

more than one half of the skin has been destroyed by fire or boiling liquid.

When carefully dissected off, and separated from all adventitious matter, in a middle-sized man the skin is estimated to weigh about ~~four~~ four pounds and a half.

CHAPTER II.

ON THE COMMON INFLAMMATORY FEVER.

THE organs chiefly affected in fever are the brain, spinal cord, the coverings of these organs, the mucous membrane of the lungs, and intestines; and, we may add, the skin and kidneys.* It will be useful to trace the sympathy existing between the skin and the organs that are specially concerned in fever; viz., between the external and the internal organs of the body.

First, let us notice the great sympathy which exists between the skin, the brain, and the spinal cord, which is rendered very conspicuous at the commencement of fever, by vertigo, headache, the great susceptibility of the cutaneous surface, chil-

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* See the elaborate researches of Dr. James Miller respecting the pathology of the kidney in scarlatina. Also Dr. Snow's valuable essays, published in the *Lancet*.

liness, and the morbid alteration of temperature at the surface of the body. Secondly, the sympathy between the skin and the mucous membrane of the lungs, strongly marked in many diseases, particularly in phthisis. Thirdly, the sympathy between the skin and the mucous membrane of the bowels. In phthisis we have the colliquative diarrhœa alternating with excessive perspiration, and what checks the one frequently aggravates the other. In fever we commonly have inflammation of the mucous membrane of the bowels with ulceration of Brunner's or Pyer's glands.

The sympathy existing between the skin and the serous cavities of the body, namely, the peritoneum, pleura, and the ventricles of the brain, is important, and has not hitherto received the amount of attention which it deserves.

When fever has set in, the skin which, naturally, is highly vascular, and abundantly supplied with nerves (from the spinal, the fifth pair, and the portia dura of the seventh pair), is thrown into a morbid state; it becomes sensitive to change of temperature and to the touch; it is dry, harsh, and hot; the pores and exhalent vessels become obstructed; the sebaceous glands cease to perform their functions;

the whole cutaneous surface is parched, dry, and contracted, much resembling chamois leather, and has lost a portion of its vitality. This becomes a prominent and well-established characteristic symptom in the disease. Such a condition of the cuticle is exceedingly obstinate, and very difficult to remove, whilst the method of treatment usually adopted is tedious, and requires much time, and diligent perseverance. Medicine introduced into the stomach must be continued a long while, and is very slow in restoring the functions of the skin. The obstruction thus occasioned to the exhalent vessels of the surface of the body contributes to increase the nervous derangement, and keeps up febrile excitement.

Yet very readily is this state of the skin completely changed by a few applications of the hard ointment, and all train of symptoms depending on that state are removed at the same time. In typhus, the vitality of the skin is lessened; its healthy action, together with the secretion and exhalation from the surface, become suspended. In scarlet fever, its vital action is still further interrupted; the skin literally dies, and ultimately the cuticle peels off like the outward bark of a tree.

Thus is manifested the very important part performed by the skin during the progress and persistence of fever; nor is this circumstance to be wondered at, as the skin is the most extensive membrane of the body, abundantly supplied with vessels and nerves, and altogether external. It is the most exposed, and the least defended or protected by nature. Coated tongue is connected with the state of the skin: I have repeatedly witnessed a coated state of this organ to arise from a checked or obstructed action of the skin in severe cold, in the commencement of fever, rheumatism, &c. When these affections are removed (which is readily accomplished by the method indicated), the tongue quickly regains its normal colour. It is recorded by Captain Parry, that during his expedition to the North Pole, his men never had inflammation of the lungs unless preceded by cold, or "a chilled" state of the skin. The Esquimaux oil the body to enable them to resist a low temperature; this measure certainly preserves the heat of the skin, secures the sebaceous follicles from being checked in their action, and prevents a sense of chilliness and coldness of the surface.

CASES OF COMMON INFLAMMATORY FEVER.

CASE 1.—Joseph Amory, aged twenty-eight years, a labourer; had been lying about in the fields, and been ill with fever seven days. Upon my first seeing him, August 25, 1847, he complained of headache, total absence of sleep, pains in the limbs, and chilliness. Tongue dry in the centre; thirst; the bowels open; pulse 120; skin hot and dry.

Ordered continued friction with the hard ointment; grain doses of calomel, and saline medicine every four hours. In the course of two days the patient slept well; the skin was cool; the pulse reduced to 80; the tongue clean; but the pains in the limbs continued. The frictions were repeated, and eight grains of Dover's powder given at bed-time. Nine days after the beginning of this treatment the patient was reported quite well.

In this case it was perfectly palpable that the friction reduced the pulse from 120 to 80, in two days. What other remedy can produce such an effect in so short a time? In ten days this man was quite restored.

Case 2.—An Irish family from Galway, perfectly destitute, came to London, and took a miserable lodging in Pentonville, where they immediately became severely ill with fever. Being sent to the Fever Hospital, Battle-bridge, admission was refused them from want of room; and on their applying at their lodging, the landlord declined to re-admit them, several lodgers having died from fever, recently, in the same buildings. After some delay, they were removed to the Clerkenwell Infirmary, in Coppice-row, where room was prepared for them, October 13th, 1847.

On examination, they were found to be suffering from typhus fever, in different stages of that disease. The mother had been ill nine days; the eldest daughter four; the three youngest children two days each. Other persons were taken ill with fever, in the same house, immediately after this family left it. In the Infirmary they were at once put to bed, and ordered to be instantly well rubbed with the hard ointment, and to have saline antimonial medicine, grain doses of calomel, and a light diet. Under this treatment they all improved rapidly, and, on the 24th October, eleven days after admission, the

whole family was reported "convalescent." On the 9th of November they passed the board of guardians, to be discharged from the house.

It may here be noticed, that were there no other reason for adopting the treatment herein propounded, the guardians might find one in the fact, that inunction with the *lard and suet ointment* saves the parish a large sum of money every year, by materially lessening the consumption of wine, ale, porter, &c., in the Infirmary.

Case 3.—Charles Carrington, aged eighteen years, a labourer, brought in from the stone-yard; had typhus fever four years ago, when he was cured by the plan herein described, although the details were not at that time preserved.

On October 17, 1847, he was again taken ill with fever; and when admitted, he had been ailing two days, and complained of pain in all his limbs, giddiness, headache, sleeplessness, and great thirst. His tongue is coated; the pulse 120; the skin hot and dry; the respiration hurried; and the bowels open.

Ordered to be rubbed in with the hard ointment night and morning. To have one grain of

calomel, with two of James's powders, every four hours, and saline draughts, with an excess of alkali. Light diet.

October 20, three days after admission, has felt great relief from the rubbing; sleeps well; skin cool; patient is free from pain; pulse reduced to 72; tongue coated; thirst much abated; the bowels continue open; appetite returning. Continue the frictions; the other remedies to be administered at more distant intervals.

October 25.—Carrington is now quite well. Be it observed, that the progress occupied about eight days.

Case 4.—August 28, 1841. Sophia Salmon, aged seventeen, with sandy hair, florid complexion, and sanguineous temperament. My attention was first called to this patient to-day. I found her suffering from severe inflammatory fever, with a dry, hot, and harsh skin; great thirst; pulse 130; restlessness; no sleep for some nights. She was delirious, and, at times, so violent as to render it necessary to confine her with a strait waistcoat. Tongue coated; the motions passed involuntarily; urine scanty and

high-coloured. Patient was ordered an emetic; to be rubbed with the hard ointment, and to have two-grain doses of calomel, and the saline antimonial medicine every four hours.

Within twenty-four hours after the adoption of this treatment, the pulse was reduced to 90; the skin had lost its unnatural heat; the thirst had diminished, and sleep was restored. The plan was continued, with diminished doses of calomel, and the patient rapidly improved under it. On the 4th of September all the unpleasant symptoms had subsided. This marvellous effect was produced in seven days.

Case 5.—John Hall, aged fifty-eight, a glove maker, was admitted into the Clerkenwell Infirmary, September 2nd, 1841, with inflammatory fever of the typhoid type. He had been ailing during four weeks prior to his admission. When first seen, he laboured under extreme difficulty of breathing, brought on in great measure, as he conceived, by destitution. There was suffusion of the skin; pulse 100, full; tongue thickly coated, and white. Patient was attacked with hot and chilly fits, alternately. Bowels open; urine high-coloured. The plan of treatment

described in the preceding case was likewise adopted in this instance. On the 6th of September his sleep was more refreshing; the thirst less; the tongue clean; the bowels open; the urine high-coloured, but more abundant. On the 8th, (viz., six days after admission,) he left the Infirmary quite well.

Case 6.—James Nicholls, aged nineteen, was admitted into the Clerkenwell Infirmary on the 30th of October, 1846, with severe inflammatory fever, and inflammation of the chest. He had been ill seven days. When I first saw him, he was suffering from head-ache, chilliness, and pain in all his limbs, and he could not sleep. His bowels were open; he was very restless; the urine high-coloured, and depositing a red sediment; the tongue coated in the centre; the skin hot and dry; and the pulse 120. He had cough, pain in the chest, with difficult breathing. He was ordered to be well rubbed with the hard ointment; and the usual doses of calomel, and the saline medicine, were prescribed. On the 3rd of November, he was free from pain; slept at intervals, the sleep being refreshing; the tongue was clean,

the pulse, 90. The thirst had disappeared; the temperature of the skin was natural. Continue the remedies.

November 11th. Has slept well; the tongue is clean; the pulse 80; the appetite has returned; he feels weak, but otherwise quite well.

Case 7.—Charles Thomas M——, aged thirty-four, a pocket-book maker, was ill three weeks with fever; and, with his family of three children, aged respectively, eighteen months, six years, and eleven years,—all ill from the same fever,—were brought to the Infirmary. His wife, however, was sent to Fever Hospital, Battle Bridge, on the same day, being worse than her husband.

The father and children were all put under the treatment described in the preceding cases, and all perfectly recovered. The mother, I believe, died in the hospital.

If fever can be cured in the Clerkenwell Infirmary by this simple treatment, it may likewise be cured in any institution; and fever hospitals, although highly valuable for the purpose of isolation, and the treatment of cases of malignant

fever, will have less occasion to be resorted to, when the plan which has here been so successful, is universally carried into practice.

Case 8. — May 7th, 1850. James Spencer, aged twenty, a painter; out of work for five months, has been ill two weeks with fever, and attributes his illness to exposure to wet and cold. Patient has cough, with expectoration; tightness across the chest, numbness in the head, deafness, cold shiverings, sometimes cold all day, as much so as in the coldest day in winter, succeeded by heat. No sleep; pain in the chest increased on breathing. Tongue coated; thirsty; pulse 108; urine natural; bowels relaxed; no taste or appetite. Patient's hands are blistered from sitting too near the fire, warming himself.

He was an out-patient at St. Bartholomew's Hospital, four days ago, and had a blister to the chest, with some medicine. Ordered induction with hard ointment, calomel, and saline antimonial medicine.

8th. Slept but little; cold shivering gone; tongue clean; not quite so thirsty; cough less; head confused; wanders on waking.

10th. Slept well; thirsty; bowels relaxed;

pulse, 80; free from pain; no appetite; cough almost left.

15th. Sleeps almost constantly; thirsty; pulse 72; tongue slightly coated white; no appetite; free from pain.

18th. Constantly dozing; free from pain; bowels open two or three times a-day; passed water freely; appetite returning; pulse 76.

Wanders at intervals, (thinks he shot three men last night); lasts only a short time; on examination this morning, his skin was found to be harsh and dry. The rubbing with the ointment had been neglected. The frictions to be more vigorously carried on.

20th. Lost all complaint; feels quite well.

When the skin is acting freely, the lancet is seldom required; and when it is hot and dry, its action will be restored by induction of the ointment.

I beg to adduce, in the last place, a case which recently occurred.

Case 9.—William Bailey, aged nineteen, a railway labourer, taken suddenly ill, (June 8th, 1850); has head-ache; skin hot and dry; countenance flushed; no sleep last night; thirsty;

pulse 120; bowels relaxed; eyes dull; mind confused; slight coma; some difficulty in getting patient to protrude his tongue. Ordered to be rubbed with the ointment, cataplasm to the neck, cold lotion to the head, and one grain and a half of calomel every four hours, with a saline antimonial mixture.

June 9th. No sleep; skin cool and moist; pulse 72; thirst not so urgent.

11th. Sleeps at intervals; wanders on waking; tongue clean; thirst diminished; bowels open; pulse 72; skin cool and moist; no appetite; eyes bright; feels well, except some pains in the legs and forehead.

12th. Sleep more refreshing, appetite returned; patient feels quite well, with the exception of some pains in his legs.

All the advantage attendant on the cold affusion is derived from the induction of the hard ointment, without any of the inconvenience and danger which frequently follow the sudden application of cold to the surface of the body.

CHAPTER III.

TYPHUS.

Typhus is unquestionably most prevalent in cold or temperate climates. It, indeed, appears from an author of great research (Dr. E. N. Bancroft, in his "Essay on the Disease called Yellow Fever, &c." 1811), that this disease has probably not yet occurred on either side of the Indian peninsula; though it is well known that the warmth of tropical regions is most congenial to the generation of those effluvia which produce the remittent yellow fever.

Dr. Armstrong observes, that in England typhus is evidently favoured by a low temperature, as it is most prevalent in the cold months of winter, generally abating or disappearing as the heat of summer advances, and often prevailing to a considerable degree in cold and wet autumns. In a number of persons exposed to the contagion of typhus,

some, though this is rare, are attacked as early as the first or second day, and others even after the thirtieth; but perhaps the most common periods of sickening after the exposure are, from the end of the first, to the middle of the third week. It has been affirmed, that it follows at so great a distance as the ninth or tenth week after exposure, but this seems very questionable.

"It is computed that upwards of one-half of the human race perish by this fell disease in one or other of its forms."—(Dr. S. Smith, p. 224.)

CASES OF TYPHUS FEVER.

CASE 1.—Mrs. Eaves, forty-nine years of age, residing at Rawstorne-place, Clerkenwell, a poor woman receiving parochial relief.

On the 19th of December, 1837, I was requested by the guardians of the parish to take charge of the out-door poor, the medical officer, Mr. Whitmore, being very dangerously ill with typhus fever, which happened then to be very general, and of a malignant character. He had caught the disease whilst in attendance upon a patient suffering from fever, and the unfortunate gentleman ultimately died.

On my first visit to Mrs. Eaves, I found her

lying in bed, in the corner of a room, suffering from fever, covered only by a few dirty clothes, amid great poverty and destitution. The room was badly ventilated, and the stench intolerable. I retreated for fresh air before I could give the necessary instructions for her relief. She had been ill some days with pain in the back and limbs; there was lassitude, chilliness, and shivering, followed by great heat, headache, increased sensibility to light and noise; the eyes dull and muddy; confusion of ideas; breath loaded with aqueous vapour; restlessness; no sleep; pulse 120, full; bowels confined; extreme thirst; tongue coated; urine scanty, and high-coloured. That odour which is peculiar to fever patients was strongly marked. This is so characteristic, that a person who is familiar with the disease may, in most cases, ascertain, from the effluvia, the nature of the affection.

Having ordered the room to be ventilated, and suitable drinks administered, she was directed to be well rubbed with the hard ointment; an aperient was given, and subsequently saline antimonial medicine, containing an excess of alkali, with grain doses of calomel.

Dec. 20. On visiting her this morning, a marked

improvement had taken place in the patient, as well as in the air of the room, which was now bearable, and the stench of the preceding day was hardly perceptible, although little in the way of common cleansing had been attempted. The effluvia and odour peculiar to fever had nearly disappeared. All the symptoms were much improved.* Continue the medicines.

Dec. 23. The sleep was now tranquil and refreshing; the pulse 80; the skin *cool and natural;* the tongue clean; no thirst; bowels open; inclined to take food.

Dec. 27. Convalescent.

The rapid improvement in this case was especially calculated to impress the mind regarding the value of this peculiar treatment. The offensive exhalations arising from the patient (commonly the result of a depressed or vitiated action of the skin) were removed in a few hours by this very simple method. When the natural or healthy secretions of the skin are restored, the offensive effluvia arising from

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* We can at most breathe the same air about four times, for it is thence, from the finest support of life, converte by ourselves into the most deadly poison.—*Hufeland.*

fever patients disappear, and the contagiousness of the disease is destroyed. It might here be well inquired, to what extent fever may arise from some peculiar action or obstruction of the cutaneous surface. A short time after this patient had been well rubbed, all the heat of skin, the thirst, the coated tongue, and offensive exhalations, with the other symptoms of fever, were removed.

Case 2.—Nov. 22, 1843. Henry Boddy, fifteen years of age, was first seen to-day, and found suffering from headache, pains in his back and limbs; great thirst; restlessness and lassitude; general uneasiness; the light is obnoxious; the tongue dry and coated; bowels open; no sleep; skin hot and dry; mind dull and confused; the pulse 108. Was ordered friction with the hard ointment, calomel, and saline febrifuge medicines.

Nov. 24. Slept several hours last night; head free from pain; tongue clean, moist, and red; skin cool, but last night patient felt chilly, and this sensation was followed by a burning heat on the skin; thirsty, at times only; bowels open; passed water freely; pulse 108. Continue the remedies.

From this time he gradually recovered, and on the 30th of November all unpleasant symptoms had disappeared; sits up, and feels quite well. He remained in the Infirmary for a few days to prevent relapse; then was discharged quite recovered.

Case 3.—Ellen Keefe, eighteen years of age, admitted into the Clerkenwell Infirmary on the 7th of October, 1842, with a severe attack of fever. Has headache; pain in the back, accompanied by great heat of the skin; heavy expression of the eye; increased sensibility to light; restlessness, and confusion of ideas; the tongue is coated; pulse 100; she complains of great thirst, loss of strength and appetite, and great debility; the urine is scanty, and high coloured; there is no sleep, but occasional delirium. Was ordered an emetic, and to be rubbed with the hard ointment. Internally the patient had calomel, and saline febrifuge medicines.

Oct. 8. Much better. Two hours after the friction yesterday she fell into a calm and refreshing sleep; and, on awakening, expressed a desire to take nourishment. She was furnished with a basin of beef tea, which she enjoyed. Friction

directed to be repeated, with saline medicines. This line of treatment was continued, and the patient progressed favourably from this time; and on the 12th of October, only five days after admission, she left the Infirmary quite convalescent.

Case 4.—Thomas Walker, twenty-three years of age, a labourer in the wood yard, had typhus fever in February last; was again attacked with fever, from exposure to wet and cold, on the 29th of December, 1843. He complained of pains in the head, back, and all his limbs, with great prostration of strength: the skin was hot and dry; the expression of the eyes dull and inanimate; there was increased sensibility to light and noise; the pulse 120; great thirst; no appetite; restlessness, with total want of sleep; the tongue coated; bowels open; hot and chilly fits occurring alternately. He was ordered an emetic, and to be well rubbed with the ointment, together with the saline febrifuge medicine.

Jan. 2, 1844. Much better; the pain had disappeared in his head, back, and limbs; the skin had lost its unnatural heat; the tongue slightly coated; no thirst. Continue the remedies.

Jan. 8. Quite well.

Case 5.—March 2, 1844. Ann Lambert complains of great languor, chilliness, and flushings, alternately; has great pains in all her limbs; cannot sleep; is delirious; tongue brown, and coated; bowels confined; pulse 108; urine scanty and high-coloured. Friction with the hard ointment, and calomel and saline medicines were prescribed, with an aperient.

March 5. The tongue is clean; the pulse reduced to 72; the skin moist; she has no thirst; bowels open; passes water freely; the pains in the limbs still continue, *therefore*, persist with the remedies.

On the 7th of March, five days after admission, this patient was convalescent.

Her son was likewise attacked with typhus fever, and was sent to the Fever Hospital, at Battle Bridge, where he died, despite the ordinary practice, on the 27th of March, about three weeks after the mother was convalescent.

Case 6.—William Davis, a smith, aged nineteen years, was attacked with typhus fever, May 3, 1844. He had slept, uncovered, on the stairs of a house, during the previous three

nights, and had been three days, he said, without food. Was admitted into the Clerkenwell Infirmary, when he complained of headache, chilliness, and thirst. The tongue was moist, and coated white; pains in all his limbs; the pulse 108; weak; bowels relaxed; urine scanty; skin hot and dry; cannot sleep; his head confused; moans in his sleep; is much depressed; very restless, and has an anxious countenance. The frictions and the usual remedies were ordered to be used continuously.

May 4. Less confusion; the chilliness has diminished; heat of the skin not so intense; is more inclined to sleep; pulse 90; pains in the arms and legs gone; pains in the shoulders increased by motion; slept at intervals during the night; tongue less coated.

It is clear that the skin has not been saturated with the ointment. The friction had evidently not been carried on with sufficient energy. This was owing to negligence on the part of the nurse, who happened to be new in the ward, and not very active, though she was directed to rub in the ointment vigorously, and go on as long as the patient's skin remained harsh and dry. In

truth, much trouble is experienced to make the nurses and attendants understand or practice what they are directed to do. Generally speaking, there is no occasion to ask the patients any questions respecting the rubbing. The skin, on feeling it, invariably tells whether the process has been effectual. In proportion as the skin is saturated, the tongue becomes clean, evidencing the marked sympathy that exists between the cutaneous surface and that organ.

May 5. The patient slept soundly last night, and the sleep was refreshing. He is free from pain, and the countenance is more animated. The ointment was well applied last evening, and the skin is now *cool and comfortable.* The pulse 72, natural; tongue moist; thirst much less; bowels open; urine healthy-looking. Patient takes light diet.

May 8. The extremities are free from pain; slept well last night; tongue quite clean and moist; he has no thirst; the appetite is good; pulse 72; skin natural; complains of pain in the back; otherwise he is quite well.

May 10. Feels very comfortable, with the exception of pain between the shoulders, which he attributes to lying on the stairs during the

three nights before his admission. He now sits up in the ward.

May 14. He has taken cold in consequence of sitting up; manifested by chills, headache, and pains in the back. On the 18th patient was convalescent, in three days more he was quite well, and on the 30th, twenty-seven days after admission, he was discharged from the house perfectly recovered.

I may here mention a circumstance connected with the preceding case, which will, no doubt, be extremely interesting:

It happened, on the 10th of May, 1844, that Mr. Wakley, Coroner for Middlesex, and the late Mr. G. J. Mills, Deputy-Coroner, were holding an inquest on a patient lying dead in the Clerkenwell Infirmary, on which occasion Mr. Wakley's attention was called to my treatment of fever. Its surprising effects had been manifested to him some time before, from being personally acquainted with Mr. Yardley, whose case of dropsy is recorded in this work. On going into the ward he was shown William Davis, who had been admitted with fever on the 3rd of May. He was astonished to find that fever of a severe type should have changed its character in so short a time; and

observed that the treatment by which it was accomplished ought certainly to be made known to the profession.

Case 7.—In January, 1838, a father, named Drake, his wife, and five children, living at No. 47, Ray-street, Saffron Hill, were all attacked with typhus fever, in its worst form. Attention was directed to them in consequence of one child, eight years of age, being found running about Ray-street, delirious, and in that state brought by the police to the Infirmary, where information was obtained that the father, mother, and three brothers were lying dangerously ill. The youth being light-headed, had rushed from his bed, and wandered out of doors. On proceeding to the house, I found the father dead; and one of the sons, aged seventeen, died the next morning. The stench in the room was horrible; and I had difficulty in continuing there even for a few moments; the whole place seeming to be closed for warmth, as the weather was very cold. I had the doors and windows thrown open, and vinegar and chlorine sprinkled about; a change of linen was forwarded, and the dead bodies were eventually removed to the vaults under the

church. The usual remedial means, and the hard ointment were used, and the survivors perfectly recovered.

Case 8.—James Prior, aged thirty-three, had been a police constable for five years, but was compelled to leave the force, from paralysis, six years ago. In consequence of getting wet, and then being exposed to a street fire, he was attacked with typhus fever, March 23, 1844. On his admission into the Clerkenwell Infirmary, he complained of severe pain in all the limbs; of chilliness, headache, and sleeplessness. The skin is hot and dry; the urine high-coloured; the pulse 100; petechiæ on the skin; subsultus tendinum; tongue coated in the centre; restlessness; great prostration of strength, with much cerebral disturbance.

He was ordered an emetic, with saline febrifuge medicine. Fumigation with chlorine, and frictions with the hard ointment.

March 25. The prostration is increased; subsultus; constant delirium; tongue dry and coated; teeth covered with sordes. Continue the frictions. Ordered: one drachm of turpentine, two of magnesia, and six ounces of cinnamon-water. Mix.

Let the patient take two tablespoonsful every four hours.

March 28. He is much better. Continue the remedies.

April 4. Has slept well; the tongue is clean; the bowels open; pulse 96; skin cool; no pain; the urine is rather high-coloured; the quantity natural; appetite returning. Continue the remedies, with light diet.

April 5. Patient sat up to-day for two hours. Appetite good; bowels open; sleeps well; and, on the 9th, sixteen days after admission, recovery is complete.

Case 9. — Ann Binham, aged twenty-three years, living at No. 4, Field Lane, gets her living by selling fish in the streets. Was attacked with fever, June 8th, 1844, (she had been ill three weeks, and had kept her bed two weeks before her admission into the Clerkenwell Infirmary.) Complained of pains in the loins and lower extremities; headache; indistinctness, and confusion of ideas; lassitude; restlessness, and great febrile uneasiness; the skin hot, dry, and dusky; the eyes dull and suffused, but not pain-

ful. Perspires at times, and is afterwards chilly; she could not sleep; was delirious at intervals; customary noises are now distressingly sensible; the tongue dry, coated, and brown; has great thirst; bowels relaxed; pulse 96, and small; urine high-coloured, and dark; has cough; the cheeks are red; respiration hurried. Was ordered to be rubbed with the hard ointment, but she obstinately refused to take medicine.

June 13th. Not much better; has had a restless night; cough, and pain in the chest; expectorates mucus occasionally, tinged with blood; the tongue brown in the centre, moist at the edges; petechiæ on the body, not on the extremities; the pulse 96; skin moist; no heat or dryness; no delirium. Continue the rubbing,—still refused to take medicine.

June 14th. Much better, slept well; skin cool and comfortable; no thirst; passes water freely, high-coloured; cough troublesome; expectorates thick phlegm, but no blood.

On the 20th, she was quite well.

In this case, it will be observed, the patient perfectly recovered in twelve days, by induction alone, without any medicine whatsoever being administered.

CASE 10.—William Fox, aged eighteen years, was admitted into the Clerkenwell Infirmary, February 16th, 1845, with fever. Ill seven days prior to admission. Found him suffering from chilliness, headache, pains in the loins and limbs; shivering, followed by heat on the skin; the tongue brown and dry; thirst urgent; great prostration of strength; restless, and uneasy; no sleep; pulse 120; the eyes dull and heavy; the mind wandering and confused; bowels confined; urine high-coloured; abdomen and chest free from pain. The same treatment was adopted as in the former cases.

March 2nd. Tongue clean; sleeps well; appetite good; bowels open, and free from complaint.

March 4th. Left the house quite well.

CASE 11.—Harriet Joiner, aged sixty-four years, was admitted into the Clerkenwell Infirmary on the 18th of September, 1845, suffering from rigors. Great thirst, with a hot and dry skin; pulse 120; tongue brown, dry, and coated; pains in back and limbs; restless; no sleep; occasional delirium; urine scanty, and high-coloured; loss of strength and appetite; great debility; bowels

open daily; abdomen free from pain. Was ordered friction with the hard ointment; calomel, and saline febrifuge medicine.

Sept. 21st. Better; bowels relaxed; thirst less urgent; tongue brown in the centre; pulse 96, steady; skin cool and natural; the pains in the limbs have disappeared; urine scanty and high-coloured; sleeps at intervals; no delirium.

Sept. 24th. Sleeps much; pulse 72; tongue clean; skin cool and comfortable; no thirst; bowels open.

October 1st. From this time to the 21st, she suffered from great irritability of the stomach and bowels, which affection had prevailed generally throughout the ward.

Oct. 28th. Left the Infirmary quite well.

Case 12.—March 17th, 1847. David Fernie aged twenty-four, had fever four days. On admission, complained of headache, lassitude, pain in his back and limbs; restlessness; had no sleep; head confused; the pulse 120; skin hot and dry; thirsty; bowels relaxed; abdomen free from pain; the tongue coated. Friction with the ointment; calomel, and saline febrifuge medicine were prescribed.

March 19th. Tongue clean; pulse 80; skin cool; sleep tranquil and refreshing. Felt almost convalescent, after being well rubbed for two days only.

Case 13.—August 2nd, 1847. Mary Burke, eighteen years of age; after exposure to wet and cold, was attacked with rigor; pains in the back and limbs, loss of strength and appetite; great debility; want of sleep; heat and dryness of the skin; thirst; tongue furred, but moist; pulse 120; bowels relaxed; breath loaded with aqueous vapour; urine scanty, and high coloured; abdomen free from pain. Friction with the hard ointment; calomel and saline antimonial mixture, with excess of alkali.

Aug. 5th. Much improved; the skin cool; the pulse 80; no thirst; sleep refreshing; the tongue clean; feels inclined to take food.

Aug. 9th. Convalescent.

Case 14.—A. F., aged forty-seven, a jeweller by trade, of temperate habits, married, with a large family. For six weeks past he has been indisposed, complaining of lassitude, debility, anxiety, with dejection of spirits, loathing of

food, and towards evening these affections have been somewhat increased. He has now been confined to his bed five days with typhus, complicated with head and chest affection.

Two experienced medical practitioners had been in attendance upon him, both of whom had given a most unfavourable prognosis. His symptoms are daily becoming more aggravated and alarming. This morning, 10 A.M. (January 23, 1849) I was urgently requested to see him; having broken the windows in attempting to throw himself into the street, two policemen were called in, and a strait waistcoat procured to guard him against future mischief.

I found him much excited; he had not slept for forty-eight hours; (the room was strongly impregnated with the odour peculiar to fever;) patient had intolerance of light and noise; headache; eyes bright and glistening; pain in his back and chest, increased on inspiration; troublesome dry cough; passed no urine for thirty-six hours — previously thick, scanty, and high-coloured; watchfulness, confusion of mind, spectral illusions, and delirium, followed each other in quick succession; very impatient; thinks he is

being relentlessly persecuted. Skin hot, harsh, and dry, of a leaden hue; bowels open; pulse 108; extreme thirst; tongue moist, of dirty brown colour, dark in the centre; mouth clammy; the taste vitiated; lips parched, and somewhat livid; countenance expressive of much distress.

He was ordered frictions with the hard ointment, calomel and saline antimonial medicine, with excess of alkali, every three hours; mustard cataplasm to the side.

Six, P.M. Much more composed after being rubbed; slept an hour during the day; mind more tranquil; expresses himself much relieved from the change of treatment.

February 24th. Slept at intervals during the night; mind more composed; wanders only on waking; tongue dry and brown; much thirst; pulse 100; skin leaden, but cooler and softer; cough dry and troublesome, with pain in the right side; four motions—colour dark green, very offensive. Cataplasm on right side. Continue remedies.

25. Had some sleep during the night; chest free from pain; cough troublesome; no expectoration; tongue dry, and brown in the centre;

thirst; pulse 100—on change of position, 108; bowels open, brown colour; skin livid, but not so hot or dry.

26. Frightened last evening by the falling of a glass, which brought on renewed excitement; moaned, and wandered a good deal during the night; slept but little; cough troublesome; no pain; tongue coated, of a dark colour; thirst less troublesome; pulse 100; bowels open. This morning his mind is quite tranquil; urine passed last night, thick and high-coloured.

27. Slept at intervals; tongue dry, brown in the centre, moist at the edges; thirst not so urgent; pulse 90; less heat and dryness on the surface; skin more natural; room free from odour. Continue remedies.

28. Passed a good night, sleep natural; tongue clean; general perspiration at times; no thirst; feels inclined to take food; cough less troublesome; expectorates freely; chest free from pain; bowels confined. Continue remedies, with an aperient.

March 2. Sleep natural; tongue clean; takes light food with an appetite; pulse 84; cough and expectoration much improved.

5. Slept eight hours last night; tongue clean; appetite good; pulse 76; bowels open; weak, but otherwise free from complaint.

This patient had been unwell six weeks prior to this attack of fever; and although he had continued to go about, it was accomplished with much difficulty, and great expenditure of muscular power, which rendered him more obnoxious to the disease. He had suffered severely from typhus five days before I saw him, complicated with marked affection of the head and chest, of a most threatening character, over which the ordinary measures of treatment produced no control.

Yet, the relief experienced in this case, by the treatment adopted, was very remarkable. The excited and disturbed state of the brain and nervous system was tranquillized, venous congestion removed, and sleep — "tired nature's sweet restorer," — which had been absent two days and two nights, returned in the course of a few hours. The skin lost its unnatural dryness and temperature, although the pulse retained its frequency from the 24th to the 27th, which is a very unusual circumstance, unless the fever be accompanied by inflammation of some local

organ. The secretions from the kidneys, skin, and liver, were in a short time restored to their healthy state; and in the course of ten days, under this peculiar treatment, he became quite convalescent. His friends, who were prepared for the worst result, (having recently lost several in the family from the same disease,) experienced both surprise and gratification at having outridden a storm so threatening.

The condition of the brain, upon which sleep depends, appears to be easily disturbed by a great variety of circumstances, but none are more strongly marked than in cases of this description. The intimate sympathy existing between the skin and the centre of the nervous system is well exemplified in febrile diseases. Any one who has suffered from fever, and has experienced, for a time, the absence of sleep, knows well how to appreciate its value. So long as a morbidly elevated temperature exists on the surface of the body, associated with pain in the head and extremities, "sleep, gentle sleep, is not permitted to weigh the eyelids down, or steep the senses in forgetfulness," until that heat and dryness are removed by the influence of the friction with the

hard ointment. The patient then falls asleep; the brain is refreshed; the pulse loses its unnatural frequency, the eye becomes clearer and more animated, the expression of countenance more natural, and the febrile uneasiness much diminished. Headache and pain in the limbs are greatly relieved; the tongue, mouth, and lips lose their unnatural dryness; and the secretions from the liver, kidneys, skin, and alimentary canal become soon re-established.

CHAPTER IV.

SCARLATINA.

In cases of malignant Scarlet Fever, I invariably commence with an emetic; and I was led to adopt this practice from constantly observing, that universal cold was produced by the action of vomiting. The effect of the emetic then consists in lessening the force and frequency of the heart and arteries, in producing general relaxation and moisture on the surface, and also in removing internal heat. Indeed, nothing seems, at the outset, so effectually to check or abate the virulence of the morbid condition. After the stomach and bowels are cleansed, I resort to calomel, given in one or two grain doses, every three or four hours, and to a saline antimonial mixture, containing an excess of potash. The skin, in such cases, is also to be well rubbed with the hard ointment *from the commencement*, and when

the tongue is becoming dry, the saline medicine is omitted, and I give the chloric acid in the proportion of one or two drachms, every four hours.

Respecting the ointment, all that has been said above applies still more forcibly to scarlet fever, namely, the necessity of getting the skin, by its means, into a healthy state. As regards medicine, nothing appears to do so much good in scarlet fever, after the skin has been properly saturated, or otherwise effectually attended to, as the calomel and the chloric acid.

We should, according to Abernethy, regulate the secretions in diseases of this description, but without the ointment this cannot satisfactorily be done; attention to the skin is of more importance than to the liver, as the former presents a larger and more exposed surface, and is in this instance more immediately the seat of disease.

When this plan of treatment is early and efficiently carried into practice, I have seldom had occasion to bleed, generally or locally. The abstraction of blood is obviated, in a great measure, by the marked effect of the induction with the hard ointment, from its cooling and healthy influence on the surface, and its power of removing the morbid heat and dryness of the skin.

The frictions likewise reduce the action of the heart and arteries, and lessen the force and frequency of the pulse; they exercise a soothing and tranquillizing influence over the brain and nervous system, and have a great tendency towards inducing sleep.

CASES OF SCARLET FEVER.

Case 1.—Sarah Jones, fifteen years of age, was attacked with scarlet fever, May 21, 1843. She complained of chilliness, with rigors; dejection of spirits; pains in the head and back; giddiness, vomiting, and much general depression; great thirst; skin hot and dry, full of eruption; no uneasiness of the chest, nor cough; throat sore, uvula and tonsils enlarged, with difficult deglutition; tenderness of abdomen on pressure; lips and teeth covered with sordes; pulse 96; tongue coated; urine high coloured; great debility; no sleep; bowels confined. Was ordered friction with the hard ointment, calomel, and saline antimonial medicine, together with chlorine fumigations.

May 23. Much the same; tongue red and dry; lips and teeth covered with sordes. Drachm doses of chloric acid were administered, every four

hours, with calomel and the same acid, in the form of gargle.

May 25. No thirst; temperature of the skin natural, greatly relieved by rubbing; pulse 80; tongue coated; urine still high coloured; acrid discharge from the nostrils; uvula and tonsils less swelled and inflamed.

May 28. All unfavourable symptoms have disappeared. The patient sits up in her bed, and has expressed a desire to be allowed to dress herself, stating that she never felt better. She was requested to remain for a few days in the Infirmary, to guard against a relapse, when she was discharged, quite well.

Case 2.—John Mears, aged sixteen years. This patient, who had been ill for some days, was attacked with scarlet fever on the 28th of October, 1843. He complained of chilliness, headache, restlessness, oppression at the pericordia, and great thirst; the tongue red at the edges, and white in the centre; there is no uneasiness of the chest; throat sore; tonsils and uvula enlarged, with difficult deglutition; tenderness of the abdomen on pressure; pulse 108; is restless and impatient of light; the bowels confined; the skin covered

with eruption, morbidly sensible to the touch; rough, hot, and dry; mind confused; eyes dull and vacant. Was ordered friction with the hard ointment, saline antimonial medicine, and fumigation with chlorine.

Oct. 29. Fell into a calm and refreshing sleep after the rubbing yesterday, and is altogether much improved. Drachm doses of chloric acid were administered every four hours, and the same acid was used in the form of gargle. The patient had calomel likewise.

Oct. 31. Slept well: the bowels open; no pain nor tenderness of the abdomen; skin full of eruption; the tongue red and dry; lips and teeth foul; pulse 108; slight thirst. Continue the remedies.

Nov. 4. Bowels open; sleeps well; pulse reduced to its natural standard; appetite returning.

On the 6th, this patient was convalescent, after eight days of treatment.

Case 3.—Elizabeth Kennedy, aged two-and-a-half years, naturally a healthy child, was attacked with scarlet fever, April 16th, 1844. Complained of languor, lassitude, and headache. Had shivering fits, alternated by heat; the pulse was fre-

quent. In the evening, the eruption appeared on the skin, and she had difficulty of swallowing; the tonsils and uvula were enlarged; the skin hot and dry, and the patient was extremely restless; bowels open, tongue red. She was ordered an emetic, and to have a grain of calomel every four hours. The usual frictions, chlorine fumigations, and the saline antimonial mixture were also prescribed.

April 18th. The heat of the skin has disappeared; she sleeps tranquilly; the tongue is red; no thirst; there is a little difficulty of swallowing, but no pain; and she sits up in bed. Takes broth, and drinks freely. On the 21st, she was convalescent. Although this case was ushered in with a smart attack of fever, the heat of skin and febrile symptoms were entirely removed in forty-eight hours, and the recovery was complete in six days.

Case 4.—Ann Wainwright, seven years of age, was admitted into the Clerkenwell Infirmary on the 13th of April, 1844. She appears of delicate constitution, and has marks of scrofula on the neck and arms. She was attacked with scarlet

fever on the day of her admission, attended with much lassitude, and dejection of mind; pain in the head; soreness, and sense of tightness in the muscles of the throat; she has difficulty of swallowing, and thirst. The tongue, fauces, tonsils, and eyelids, are of a deep red colour. The pulse is frequent, small, and irregular, and the bowels relaxed. Ordered a grain of calomel every four hours, and the saline antimonial mixture; chlorine fumigation, and rubbing with the hard ointment.

April 15th. The eruption has disappeared; the throat is swollen, and great difficulty of deglutition is experienced; the tongue is red; pulse 120; the thirst is diminished, and the temperature of the body much lessened, since the ointment was first applied; bowels open.

It should be particularly observed, that, with this form of treatment, so soon as the tongue assumes the brown appearance, the saline treatment should be discontinued, fumigations of chlorine should be persevered in, and chloric acid administered in doses varying from half a drachm to one drachm. With children, syrup of orange-peel and mint-water may be added.

On the 20th of April, Ann Wainwright was reported convalescent; and on the 30th she was taken from the house quite well.

Case 5.—Ann Kelly, eight years old, an active, healthy girl, was taken ill of scarlet fever, on the 17th of April, 1844. Complained of headache; pains in all her limbs; coldness; shivering; and great prostration of strength; pulse 120.

April 18th. Skin covered with bright eruptions; has soreness of the throat; inflammation of the tonsils, uvula, and velum pendulum palati; breathing hurried and laborious; urine high-coloured, and turbid; the pulse quick, small, and frequent; no sleep; has an acrid discharge from the nostrils; there is much thirst, and the skin is hot and dry; great restlessness, with a tormenting itching and burning, distressing to endure. She was ordered an emetic, a grain and a half of calomel every four hours, and the saline antimonial medicine; friction to the skin with the hard ointment, and the chlorine fumigation.

April 19th. The eruption on the skin continues, but the heat and dryness of the surface are much diminished; the head is less painful; the thirst not so urgent; the pulse is less fre-

quent; she has slept at intervals; felt greatly relieved yesterday, within a few hours after the rubbing. Is ordered to repeat the calomel, and to take a drachm of the chloric acid every four hours.

April 23rd. She slept well last night; the eruption is gone; the tongue is red, but clean; the bowels open; the pulse 84; the swelling of the tonsils and uvula gone; enjoys her broth, beef-tea, and light pudding, and feels well. On the 27th, she left the ward perfectly recovered.

The following case occurred in St. Marylebone. A female child, aged four years, was taken ill with scarlet fever, and died in seven days, under the care of a distinguished physician. Three other children of the same family, the following week, were also taken ill with scarlet fever, in the same manner as the first. I was requested to take charge of them, and attended. I commenced my treatment with an emetic, followed up with small doses of calomel, every four hours, and the saline antimonial medicine. The skin was well rubbed with the hard ointment, fumigations, with chlorine, were used, and the bowels were carefully regulated. These measures were continued for three or four days. So soon as the tongue assumed a

brown colour, the chloric acid mixture was administered.

After this treatment had been pursued for a week all the urgent symptoms had ceased; the glands of the neck, however, continued enlarged for some days. No unfavourable occurrence characterized the cases, and all the children perfectly recovered. It certainly was the impression of the parents, that if the first case had been subjected to the same treatment, the child would have survived the attack. They persisted in that opinion, founded on the marked improvement which immediately followed the peculiar treatment which cured the other children.

Case 6.—Frederick Biddell, aged eleven years, residing at No. 3, Allen-street, Clerkenwell: and subject to epileptic fits. October 29, 1845, he was attacked with scarlatina, and came under my treatment at the end of the second day, complaining of lassitude, dejection of mind, headache, difficulty of swallowing, and loss of appetite; the respiration was hurried; the tongue dry and red; he had great thirst; the pulse 130; the skin hot and dry, and covered with eruption; very restless; the bowels are irritable, and there is an acrid dis-

charge from the nose and ears. The friends are very apprehensive, because a little girl, twenty-five months old, had recently died in the house of the same complaint, after four days' illness. Cold affusion and sponging had been enployed in the case of this child. To Frederick Biddell I administered an emetic, followed by the saline antimonial medicine. He had likewise calomel, chlorine fumigations, and, above all, was well rubbed with the hard ointment.

Nov. 1. The heat of the skin is much diminished; the pulse 100; sleeps at intervals; tongue moist; the difficulty in swallowing continues.

Nov. 3. The eruption has disappeared; the skin is cool; the pulse 90; the tongue moist; no thirst; sleeps at intervals; takes broth and beef tea. Ordered one drachm of chloric acid every four hours, and half a grain of calomel.

Nov. 6. He slept for several hours last night; has no thirst; the tongue is red; there is no heat of skin; the throat is less painful; the pulse 80; bowels less irritable; takes broth and beef tea. He has sat up for several hours to-day.

Nov. 13. He is now free from complaint, and sufficiently well to walk out.

Nov. 18. From improper exposure, he has taken

cold. Anasarca appeared this morning in the face and neck. Frictions, calomel, alkalies, and diuretics were prescribed.

Nov. 30. He is again quite restored to health, excepting as regards the ulceration of the nose and ears.

The above are but a few of many cases which have passed under my observation, illustrating the value of this mode of treatment.

CHAPTER V.

MEASLES.

I NEED hardly say that this disease belongs to the class of inflammatory infectious fevers; I have generally found the eruption, in the benign form, to be preceded by chilliness and shivering, attended by cough, sneezing, defluxion of thin mucus from the eyes and nose, and a determination of acrid matter to the surface. This is manifested by the appearance of red spots over every part of the body, which never come to any suppuration, but end in a small mealy desquamation of the cuticle after a few days' continuation.

The parts primarily implicated in this disease are the whole of the tegumentary surface, the mucous membrane of the air passages, and intestinal canal.

It is of the greatest importance in measles to keep up a due balance between the circulation of the tegumentary surface and that of internal organs.

Should the skin become suddenly chilled, or the eruption repelled from the surface, we get inflammation of some internal organ, either in the chest, abdomen, or head, according to the peculiarities or morbid sensibility of the patient. By proper care in regulating the temperature of the apartment, and attention to the skin, this complication may commonly be prevented.

The treatment by unctuous induction has, under my observation, been extremely satisfactory. I have used it invariably, and could record a long series of cases in praise of its advantages. Were I to enlarge upon them I might swell these pages to a large volume, but such is foreign from my object. It will be sufficient to state, that during some years' practice, both in public and private, I have not met with a single case of failure in the benign or inflammatory form of the complaint. When the disease is accompanied by cough, hoarseness, difficulty of breathing, sneezing, sense of weight in the head, drowsiness, itching of the face, hot and dry skin, this mode of treatment is prominently useful. It soothes the disordered state of the brain and nervous system, procures sleep, and reduces the pulse. There is a diminution of thirst; the skin loses its morbid heat; the

cough and irritation of the respiratory organs are relieved, and the tongue also becomes moist and clean. The febrile symptoms are diminished; the surface is protected from chilliness; the circulation through the mucous membrane is equalized; the action of the sebaceous glands and exhalent vessels is restored; and the eruption is prevented from suddenly receding. If the patient be kept warm, and in a regulated temperature of about 60° to 65° of Fahrenheit's scale,* the catarrhal symptoms and irritation of the air passages, which generally exist from the onset, are prevented from taking on the form of bronchitis and pneumonia, and the patient soon gets permanently well. The circulation being promoted in the cutaneous system of vessels by unctuous frictions, great security is afforded against many diseases of the chest and lungs peculiar to patients suffering from measles.

At the period of desquamation of the papillæ,

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* From observation I found that a temperature of from 60° to 65° Fahrenheit might be named the standard of health. With a higher degree of heat we get derangement of the liver and alimentary canal; and in the opposite extreme, we have the same effect produced on the skin and respiratory organs.

diarrhœa frequently comes on, but it is prevented by the use of the frictions. Unfavourable symptoms, such as high degree of fever, hot and parched skin, hurried and difficult breathing, troublesome cough, and great irritation of the air-passages; flushed countenance, quick and hard pulse, are generally controlled or subdued by the friction treatment, venesection being seldom required. So long as the skin remains hot and dry, I give calomel in doses suitable to the age of the patient, frequently repeated, with antimony and potash; regulating the bowels with mild aperients. I strictly confine the patient to bed, and regulate his diet; continuing the frictions so long as the skin remains hot and dry, and the alvine secretions unsatisfactory.

Individuals affected with measles are commonly among the juvenile members of the community, and may be readily subjected to this mode of treatment which experience has proved so beneficial. Much relief and comfort is derived from its application. It should be used in the same manner, and conducted in the same way as in typhus and scarlet fever. When perspiration follows, the induction should be discontinued, and resumed again when the skin gets hot and dry. It does

not stay or prevent the use of other measures, but protects and defends the most important organ, viz. the skin, which in this disease is the first to suffer.

What is of great importance to know is, that it never does harm, yet gives all the relief afforded by the cold application, without the inconvenience attendant thereon.

Some particular and fastidious ladies occasionally object to the application of the ointment, on account of its soiling the bedclothes; but, with care, this need not extend beyond the night-dress—the inconvenience thus produced is easily removed.

Induction with the hard ointment is not only serviceable in exciting a new train of sensations, but in removing morbid heat and irritation, and reducing the force and frequency of the pulse, and restoring the natural functions of the skin.

It is only when the body is chilled, and the powers of the nervous system depressed, whether from moral or physical causes, that measles are followed by unpleasant symptoms.

The sequelæ attendant on measles are frequently more to be dreaded than the immediate disease; for although a person may get over the latter, and appear for a time to have recovered,

pulmonary consumption and hectic fever may afterwards destroy him, or an obstinate ophthalmia follow.

Measles not unfrequently call into action a disposition to scrofula, when such happens to exist in the constitution. Another result of the disease is, that the bowels are often left in a very weak state; chronic diarrhœa sometimes proving fatal.

The morbid appearances observed on the dissection of those who die of measles, are commonly confined to the air-passages, lungs, and intestines, showing strong marks of inflammation.

Dr. Armstrong observes:—"Nature removes one action by exciting another: and, if the last be sometimes dangerous, it is always less so than the first; and hence we shall find venous congestion, upon the whole, more perilous than arterial reaction. If it were not for the arterial reaction which takes place in idiopathic fevers, many patients would die of apoplexy, or of an engorgement of some thoracic or abdominal congestion."

It is one of the prognostics of Hippocrates, that delirium is bad where it comes on in acute affections of the lungs; indeed, any approach to cerebral disorders may be accounted danger-

ous in pectoral diseases; and we occasionally see children, as well as adults, who had become unnaturally loquacious, die suddenly, in convulsions, while labouring under pneumonia. Those practitioners who adopt the maxim of Hippocrates, and think that nature is the best physician, leave the less urgent cases of measles to themselves, or prescribe some placebo for the sake of form. A middle course will, in the main, conduct us to the most successful results. It has been well remarked, that more skill is shown in curing, but more wisdom in preventing a distemper; (Fruits of Solitude, in Reflections and Maxims relating to the Conduct of Human Life, by William Penn: 1793;) and it were to be wished that medical men would constantly bear this maxim in their recollection, for the benefit of those prone to disorders.

After every febrile disease, the body is left weaker than before the attack: in proportion to this weakness, it becomes the more incompetent to resist impressions internal as well as external; and the impressions themselves have an additional power from the highly susceptible state of the capillary vessels. Whatever communicates a general shock to the system, may convert the predisposition into actual disease, and the latter

will be seated in that organ where the predisposition exists with the greatest force.

The skin and mucous membranes being the principal seat of measles, are exceedingly stimulated during the eruptive fever, and suffer a correspondent loss of tone, as that fever declines; and since this cutaneous debility is greatest in emaciated, scrofulous, or in delicate habits, so the surface in them is less able to resist inflammation, blistered parts are apt to run into ill-conditioned sloughing sores, and irritation of the mucous membrane of the lungs to terminate in pulmonary disease.

When any cutaneous affection arises after measles, it is a remarkable fact that the internal organs generally remain free from disease: and even when some internal disorder has existed, I have not unfrequently seen it disappear on the occurrence of some spontaneous eruption on the skin. The more susceptible the state of the skin, the more liable are the lungs and pleuræ to inflammation. Dr. Baillie mentions, in his excellent work on morbid anatomy (The Morbid Anatomy of some of the Important Parts of the Human Body, 1807), that the pleura appears to be more liable to inflammation than any membrane lining those cavities which have no external opening. In

confirmation of this, he notices, that the chest of any patient who had arrived at an adult age, can hardly be examined without some traces of recent or of past inflammation being found; and he judiciously accounts for the circumstance, by the free communication of bloodvessels between the external and internal parts of the thorax; by the cold and variable nature of our climate, and by the manner in which the breast is so much exposed, by our dress, to the influence of the atmosphere.

It should be our object to restore the powers of the system gradually, by a light and cooling diet. If we attempt to communicate strength at once, we not only defeat the view, but risk the life or health of the patient. So far from rich food and stimulating drinks being requisite during the convalescence of young or robust subjects, evacuations by purgatives are frequently required to restrain the excitement, which naturally succeeds the stage of collapse. Besides, if we load the stomach with improper articles of diet during convalescence, we are almost certain to produce disorders of the digestive and chylopoietic viscera; and these again create nervous irritation, which, in its turn, leads to vascular excitement—general, as well as local.

From observation, I find that alkalies not only correct the free acidity of the stomach, but generally excite a more rapid discharge of gastric fluid. Acids, in many instances, have a contrary tendency.

Cold liquids, when taken into the stomach in small quantities, are very refreshing. Ice, or cold drink to any extent, on a *feeble* stomach, stops digestion for a time, by lowering the temperature below its natural standard, and by exhausting or disturbing the nervous energies.*

After recovery from measles or other diseases productive of debility, phthisis frequently supervenes from too sudden and free an exposure to the atmosphere; the skin having a lower degree of vitality, is less capable of resisting outward impressions, or too low a temperature. This is more particularly the case after measles, which so often leave much general debility, and so strong a tendency to pectoral affections, from the previous excitement of the lungs or their appendages.

When we have to treat persons who have suffered severely from disease, especially scarlatina, measles, or any of those complaints which are

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* Beaumont's Experiments on St. Martin.

followed by extreme constitutional debility, nothing is of more importance than strict attention to the relaxed, weakened, and highly-sensitive state of the skin. To guard them against relapse, much care is required in an hygienic point of view, in order to protect and defend the attenuated and weakened structure of the cutaneous vessels, probably thus debilitated by some peculiar change of the gelatine in the cuticle. The very important functions performed by the exhalant vessels and glands of the skin, give the latter an important character in health and disease.

A carefully regulated temperature, aided by warm and suitable clothing, is highly necessary to counteract the great and sudden variations of our climate. It is important, at the same time, to administer such food only as is suitable for the yet weak digestive powers of the patient.

Measles, complicated with disease of the chest or of any other vital organs, is, like other diseases, sometimes fatal; but no fatal case has fallen under my observation, since I followed the plan of treatment advocated in these pages: whether this circumstance is entirely owing to the therapeutical means I employ, time and further experience will determine.

CHAPTER VI.

DROPSY.

ANY functional or organic disease capable of producing an obstruction to the free circulation of the blood; suppression of customary evacuations; the sudden striking in of eruptive complaints; abuse of spirituous liquors; inflammation; the exanthemata, especially scarlatina; obstruction to the portal vessels, are some of the principal exciting causes of dropsy. A loose, flabby fibre, with a pallid state of the skin, bloated countenance, a phlegmatic temperament, suppressed cutaneous perspirations, are generally observable in dropsical patients.

It is evident from the exciting causes above stated, that in dropsy, as well as in fever, the functions of the skin are materially concerned. I have invariably found where there is either much thirst, a diminished secretion from the

kidneys, or abundant deposits in the urine, that the skin is at fault. It is of great importance, where an opportunity occurs to adopt means of cure immediately, and apply them directly to the part affected. It must be obvious, that medicine intended to act on the skin, and administered by the stomach, must be very indirect in its operation; any agent which is expected to remove the parched and dry state of the cuticle by being thrown into the circulation, must be very long and uncertain in its operation. The sympathy between the external and internal parts of the body are obvious, and of great importance in a practical point of view. The means which will remove the morbid heat and dryness from the surface will at the same time allay thirst, lessen congestion of the internal organs, and modify the coated state of the tongue.

If we can act on the skin through the medium of the stomach, why should we not attempt to relieve the heat of internal organs by applications from without?

In cases of idiopathic inflammatory fever, the relief produced by unctuous frictions is immediate; in dropsy it is not so, as the latter disease may depend on organic derangement, which, if possible,

must be removed, before any permanent relief can be obtained.

When dropsy does not arise from valvular or other affection of the heart, hepatic disease with obstruction to the portal vessels, diseased lungs, or a weakened state of constitution, I have found induction with the hard ointment extremely beneficial; but it must be continued for a week or nine days before much improvement can be perceived. It is most useful in the febrile or inflammatory form of the disease.

The following cases will illustrate the advantages of this line of practice:—

CASES OF DROPSY.

The views which have been advocated in the foregoing pages will find a very advantageous application in the treatment of dropsy. I cannot better introduce the subject than by laying before my readers the following correspondence, which speaks for itself. The letter is from Mr. Yardley, of Bloomsbury.

"5, Thorney Street, Bloomsbury,
January 21, 1846.

"My dear Sir,—It slipped my memory when I saw you this afternoon, though I previously in-

tended to ask you when next I met you, whether it would be agreeable to you that I should give the medical coroner for Middlesex some account of my case, which he seems to consider very remarkable, he having particularly requested, through my son, that I should do so. He desires to have a statement of the symptoms and sensations, from first to last, with the dates of the commencement and termination of the attack, and every particular that I can furnish of its various stages. If you think proper to assist me with what I should say, from the time you came to me until my restoration to health, through your kind attention and God's mercy, I shall act under your guidance, though I believe, with Mr. Wakley, that few such cases have occurred, and that your success should be known to the public.

"Yours most truly,

"JOHN YARDLEY.

"W. TAYLOR, Esq."

CASE 1.—Mr. John Yardley, aged fifty-three years, was first seen by me on the 24th September, 1845; he had then been from the February previous under the care of Dr. Reid, Sir James Clark, Dr. Watson, and several other physicians,

when every available method of treatment had been tried. He was originally attacked with difficulty of breathing, and suffered from want of sleep. Ascites, hydrothorax, and general anasarca ensued. There was an immense accumulation of water in the abdomen. His breathing when I first saw him was short and hurried; the pulse, quick and intermitting, at times beat 120. He had pain about the heart; the tongue was coated; there was thirst and great difficulty of lying in the horizontal posture. The urine was scanty, and high coloured. He passed half a pint of it in the twenty-four hours, depositing a thick lateritious sediment.

Patient takes food freely; his sleep is disturbed; he had a fit a few days ago, and now complains of giddiness, and says that strangers are constantly before his eyes. He has also numbness in the left arm. There is a large accumulation of water in the abdomen and legs; the latter were scarified six weeks ago at Hampstead. At present they are inflamed, but not discharging any fluid. The circumference of the abdomen is fifty-four inches.

In order to act on the liver, I gave him blue pill in conjunction with compound squill pill; he

likewise had draughts containing sulphate and carbonate of magnesia to empty the bowels. The diuretic mixture was composed of decoction of pyrola and salts of potash, with an excess of that alkali, &c. The abdomen and legs were well rubbed with the ointment, as well, indeed, as the legs could bear the application; though, where scarifications are situated, the ointment itself frequently produces a soothing effect over the parts inflamed.

All this was continued up to the 10th of October; by this time his head was less confused, and he passed three pints of urine in the twenty-four hours without any sediment.

In dropsy the common treatment seldom produces good effect; but with the use of the ointment, if the watery accumulation can be made at least stationary within the first nine days, the practitioner may be pretty confident of success, if there be no organic disease. It is to be remembered, that in this case, the patient, at the commencement of the treatment, was paralysed; the medical practitioners previously consulted had told the patient's friends that he had disease of the heart; in fact, they had considered his case hopeless.

Oct. 10. The secretions are more natural; the pulse only 90; the thirst diminished; the pulse is intermitting on his making exertion; the circumference around the abdomen is forty-eight inches, having by this time decreased six inches. He was ordered to continue the medicines. About this time his sister died, after a few days' illness. The event greatly disturbed him.

Oct. 26. All uncomfortable feelings have disappeared from the head; the sleep is natural and refreshing; he can lie in any position; his urine is clear and abundant, being four pints in the twenty-four hours; the inflammation and swelling have subsided in the legs, and he sits up daily two or three hours. The pulse is occasionally intermitting, and he has pains about the region of the heart; but from this time the patient gradually recovered, and continued mending up to the end of the year, when he was quite well, and able to walk out and transact business: a most valuable illustration of the efficacy of the skin treatment.

Before his illness, Mr. Yardley weighed seventeen stone ten pounds; and on the 27th January, 1846, although much improved in flesh within the last two months of that date, his weight was only eleven stone ten pounds, and

the circumference around the abdomen thirty-six inches.

The following is probably one of the most extraordinary cases of dropsy on record:—

Case 2.—May 7th, 1841. Edward Robinson, Goswell Road, a publican, aged forty-seven years, very intemperate, having frequently had delirium tremens; drank two quarts of gin a day, besides malt liquor, and occasionally brandy. Three months ago he had ascites, with anasarca, in the lower extremities; his size is now enormous; and the abdomen so much enlarged, that when on his back, he cannot see his feet; and when in bed he is unable to turn. The circumference of the abdomen measured ninety-eight inches; the legs and arms in proportion. He is restless, and perpetually thirsty; the urine scanty, and high-coloured; he has no appetite; the tongue is glazed, and red. As yet he has taken no medicines but aperients, with the rust of iron, which, according to his own fancy, he has been accustomed to drink with cider. This mixture—*malate of iron*—he regarded as his medicine.

I ordered him blue pill, with James's powder, every night, to act upon his liver; and a sul-

phate and carbonate of magnesia draught, with half a drachm of colchicum wine, every morning, to act on the bowels; a saline diuretic mixture, every four hours; and the hard ointment* to be vigorously rubbed in. After taking the medicines for three or four days, the kidneys began to secrete more freely; and, in eight or nine days, he passed between three and four quarts of urine in twenty-four hours.

May 31st. He is now able to sit up in his chair for two or three hours a-day; the thirst is much diminished, and his size much reduced; the appetite is returning; the kidneys continue to secrete freely, and his sleep is more refreshing; in fact, from this time his health gradually became restored; the circumference of the abdomen was diminished more than one half—namely, from ninety-eight inches to forty-eight, and the calves were ten inches less than on commencing the use of the ointment.

Unhappily, on recovering to this extent, and getting again about his business, Mr. Robinson gradually lapsed into his old habits of taking two

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* By this name it has commonly been called at the Clerkenwell Infirmary, to distinguish it from spermaceti ointment.

quarts of gin daily. His wife declared, that frequently, as she sat by his bedside at night, she saw him "perspire gin," so strong was the scent of that liquor from his skin. For three years he thus indulged; then, becoming very much emaciated, gradually wasted away, until May, 1844, when he died, having to the last refused to take medicine, and daily insisting on "his gin," drinking no less than a pint of mixed liquor at a time, from a pewter-pot, that the quantity might not be known.

Case 3.—February 22nd, 1842. Mr. John A—, a common-councilman of the city of London, by business a baker, had been ill three months when I first attended him for dropsy. He had been under the care of two eminent hospital physicians, and was twice placed under the influence of mercury. It was the opinion of both his medical attendants, that he would not recover without tapping, but to that he altogether objected; so it was thought necessary to place him again under the influence of mercury, but this he also refused.

A friend of his, who had experienced great benefit from my plan of treatment, sent for Mr. Robinson; and, upon his advice, my attendance

was requested. It may also be observed, that Mr. A——, despairing of recovery, had tried various "patent medicines," without avail. When I first saw him, his abdomen, thighs, and legs were very much enlarged, and distended with serum. The legs were inflamed, and at the ankles the skin was broken; he was thirsty; the tongue dry, and coated; the bowels rather confined; the pulse frequent; the urine high-coloured, about half a pint in the twenty-four hours, depositing a pink sediment. He had a cough, with expectoration; pain in the right side, and difficulty of lying in the recumbent position. His present illness was preceded by erysipelas in the face and head.

Ordered blue pill, and compound squill pill every night; sulphate and carbonate of magnesia draught every morning, to empty the bowels; and a saline diuretic mixture, with digitalis, containing an excess of potash, which I always order in such a mixture.

Three weeks after pursuing this plan, his thirst was diminished; the pulse had become less frequent; and three pints of urine were passed in the twenty-four hours, high-coloured, but without sediment. As is commonly the case, where more

water is secreted, there is less sediment—the salts, of course, being held in solution. His cough, also, was less frequent, and he could lie on either side without much difficulty. The legs still swollen, but not so much inflamed; he feels cheerful, and is confident that he is recovering. It is ever important to impart confidence to patients, when their cases are severe and pro tracted, and there is even but small prospect of recovery.

April 1st. The abdomen is much diminished in size; patient passes two quarts of urine in the twenty-four hours; the tongue is clean; the appetite improved; the thirst gone; he coughs occasionally, without expectoration; the swelling of the legs is confined to the ankles; and the inflammation on the surface is gone. From this time to the 11th of May, Mr. A—— continued to improve; was able to take exercise, and continued free from any complaint.

August 6th. He went to Margate and Ramsgate on the 1st of July, and there indulged freely in wine and spirits. Consequently, on returning home, he was seized with peritonitis, followed by ascites, for which he was bled and leeched; put under an active course of medicine, including

mercury; and thus getting rid of the inflammatory symptoms, he was freed from the slight accumulation which had taken place in the abdomen.

But presently dropsy returned to the full extent with which he previously was afflicted; and he was, therefore, again put under the action of the hard ointment, the saline diuretic medicine being at the same time ordered him, in conjunction with the frictions, and the medicinal remedies before described. He continued this treatment to the 31st of October, when he was a second time restored to health; and in the following spring made a tour into Scotland, where he was considerately abstinent, and returned to England in good health.

Again, his spirits and robustness being restored, he partook freely of the City dinners, persisted in free living, became lethargic, full in habit, and suddenly expired, from apoplexy, in May, 1844.

The following peculiar case occurred in 1843:

Case 4.—Mr. K., aged seventy-five, residing in Bunhill-row, London, formerly a printer and publisher, retired from business in February, 1843. He has been very active, and so accustomed to exercise, that he frequently walked from London

to Oxford in a day—a distance of fifty-four miles. Since February he had complained of a difficulty of breathing, tightness and oppression at the chest, loss of appetite, and great inconvenience and pain on lying down. This Mr. K. attributed to taking cold on removing to his present residence. He had been under the care of several experienced physicians and surgeons in the City without benefit.

August 16. I saw him to-day for the first time; the abdomen was much enlarged; the thighs and legs considerably swollen, the latter discharging a quantity of serum; he had dry cough, with pain about the chest and region of the heart; thirst was complained of; the skin was dry; the bowels inactive; the urine scanty and turbid; the pulse 120. Mustard cataplasms were ordered to the sternum and spine, alternately; and he was directed to take blue pill and squill every night, as well as sulphate and carbonate of magnesia. The saline antimonial mixture, with alkalies and sweet spirits of nitre. The friction with the hard ointment was directed to be freely used on the surface of the body, night and morning.

September 7. Begins to feel great relief. The preceding plan was followed up, with slight alter-

ations, graduated according to circumstances, until December 6th, when his health was perfectly restored.

September, 1845. Feeling now quite well, Mr. K. went with the Artillery Company, of which he was Quartermaster, to Gravesend, for ball-practice, where, after going through the duties of the day, and partaking of dinner, instead of remaining to take wine and dessert, he put on his hat, and walked home to Bunhill-row in the course of the evening, preferring doing so to taking wine and returning with his companions by the steamboat. Although now (May, 1850,) eighty-two years of age, Mr. K. can walk with comfort from London to Hampstead, and back. It may be here added, that Mr. K. was always a very active and temperate man.

Case 5.—Mr. George Gentil, a clerk, aged forty-one years, had been ill for some months, and was five weeks in Guy's Hospital, whence, through fear, he discharged himself, having seen five patients die in the ward from the same complaint; he having derived but little benefit. When he left the hospital, in April, 1842, the abdomen was much distended with fluid. He had heard of two

or three cases like his own being cured by my mode of treatment, one patient living in the Borough; and so, chiefly to try the friction plan, Mr. Gentil quitted the hospital. Besides the abdomen, the thighs and legs were very full of serum; the face and eyelids were œdematous; the bowels were torpid; he was always thirsty; skin dry; urine scanty, and of a dirty brown colour; pulse 108; breathing short; he had great difficulty in lying in the recumbent posture. He was ordered a grain of elaterium, with five grains of blue pill every other night, and the alkaline diuretic mixture, with the decoction of pyrola. The skin was, at the same time, directed to be well rubbed with the hard ointment. This plan was continued with great advantage, and his health became so much improved, that, on the 15th of August of the same year, he went into the country, from whence he addressed to me the following letter:—

"Upminster, Essex,
Sept. 13, 1842.

"Sir,—It is with much pleasure I beg to inform you that, under your skilful aid, I am, in comparison, well; my stomach has gone down from thirty-four inches to twenty-nine; it is soft and

very pliable; legs completely well, bones only fret a little at the ankles; and my strength is very much improved. I can walk two miles without being fatigued, and have taken opening medicine only occasionally. My urine is very clear, and I discharge more than I take. On the whole, I feel perfectly myself again. Accept my grateful thanks for your kind attention.

"I am, Sir, your obedient servant,

"GEORGE GENTIL.

"W. TAYLOR, Esq."

Mr. Gentil returned to his situation in a few weeks, perfectly restored, and is at this time in good health.

Where there is no organic disease, the water, in dropsy, may almost invariably be got rid of under this treatment. The opportunity may now be taken for observing that the same treatment proves, in some instances, equally useful in children, when there is effusion of water on the brain. Several children have recovered under such circumstances in the course of my practice, where the pupils were dilated, and the patient perfectly insensible for two or three days, simply by regulating the secretions, and persisting in the frictions with the hard ointment.

The following is a singular case of dropsy :—

Case 6.—Mr. H., aged forty-seven years, small in person, short in stature, and of intemperate habits, landlord of a tavern in Tooley-street, in the borough of Southwark, had, on the 30th September, 1846, been ill for three months, and had placed himself under the care of two eminent surgeons. When I first saw him, his abdomen was forty-three inches in circumference ; the integuments were very thin and tight, the distention being enormous. His legs were much swollen ; the urine was high coloured, and deposited much pink sediment; he was passing about a pint of water in the twenty-four hours ; the pulse 108 ; tongue red ; thirsty ; bowels opened daily, motions of a light colour ; pain, at times, over the regions of the stomach and liver ; the tunica conjunctiva was tinged with bile ; troublesome cough, with expectoration of thick mucus ; skin dry ; no perspiration ; difficulty of lying in the recumbent position.

He was ordered blue pill and squill, at night ; sulphate and carbonate of magnesia. This will generally be found to answer the purpose of relieving the bowels in such cases, better than most other medicine. It seems to empty them

freely and comfortably, without producing irritation of the intestinal canal. Mr. H. had already taken a great quantity of medicines without suitable relief. He was also ordered vigorous frictions with the hard ointment, the saline antimonial mixture, with the usual excess of potash and sweet spirits of nitre, with the decoction of pyrola.

Oct. 2. The bowels are relaxed, with pain, and there is mucus in the motions. He has cough, with oppression at the chest, and difficulty of lying in the horizontal position. Ordered Dover's powder, five grains; compound squill pill, five grains, every four hours, in addition to the mixture.

Oct. 5. Much relieved; the bowels are comfortable; free from pain; passes two quarts of urine in the twenty-four hours. The abdomen is forty-one inches in circumference. The frictions were continued all this time. He feels much better. The urine is high coloured, but the pink sediment has disappeared; pulse 84. Continue the frictions and medicines.

Oct. 20. The sleep is now undisturbed and refreshing; the appetite good; tongue clean; there is no thirst; the pulse still 84; the circumference round the abdomen is reduced to thirty-

nine inches. Patient passes two quarts of urine in the twenty-four hours, and sits up for two or three hours at a time every day. The erythematous spots on the legs are much better; the motions contain less mucus, and more bile.

Nov. 10. The cough is troublesome, and there is severe pain over the region of the liver; the nights are restless; the sleep is disturbed; the appetite uncertain; urine three pints daily; motions clay coloured.

Nov. 23. The sleep now is refreshing, the appetite good, and frequently craving. The cough is much better; spirits excellent; all the fluid is removed from the abdomen and legs; he feels weak, but walks about with comparative comfort. Continues to pass three pints of urine daily; the motions contain more bile; the *tunica conjunctiva* is less jaundiced.

There can now be discovered a circumscribed hardness over the liver. Mr. H. was previously so swollen that this could not be recognised, and therefore was not known to exist. By regulating the secretions of the liver, and keeping the patient on light diet, he was from this time gradually, but perfectly restored to health, and he has since followed his business, quite free

from disorder, excepting that he, unfortunately, fell into habits of drinking, and suffered a fresh enlargement of the liver, though he has, as yet, had no return of dropsy.

Let it be here observed, that in these cases the patients are always restrained in their diet. I give them, for instance, broth and beef tea, milk, &c., and as a part of light diet, a little boiled fish, mutton, chicken, or tripe, with onions, for dinner; light pudding, asparagus, and simple things, according as the appetite improves.

Case 7.—John B., aged forty years, one of Barclay and Perkins's draymen, was for many weeks confined in one of the Borough hospitals with ascites, and anasarca. He had great difficulty of breathing; appetite little or none; was thirsty, restless, and could hardly lie in the recumbent position. Urine scanty and high coloured, and but few ounces passed in the twenty-four hours.

Ordered five grains of blue pill, and one grain of elaterium, every other night, and the saline diuretic mixture with the usual excess of alkali. To be well rubbed with the ointment night and

morning. He continued under this treatment for some weeks, with great benefit.

The sense of comfort imparted by the hard ointment is remarkable. The expression of this patient, in his illness, was, "It feels like a coat of mail on you."

John B. was, in two months from the commencement of the treatment, sufficiently well to follow his occupation at the brewery, though in the following winter he had a relapse. His breathing became oppressed, his cough troublesome, and considerable effusion occurred again into the abdomen and legs. The same treatment was resorted to, and after two months he was once more restored to health, and is still a hard-working drayman.

Case 8.—Mrs. Fullwood, aged more than seventy years, an inmate of the Clerkenwell workhouse, had a slight cough, difficulty of breathing, and tightness about the chest. Not reported ill until some weeks had elapsed; when the abdomen becoming very much enlarged, and the legs swollen, my attention was drawn to her. Blue pill and squill were administered, and she was

ordered to be well rubbed with the hard ointment. At the same time she took two grains of oxalic acid in camphor mixture, every four hours. These were continued three weeks, in conjunction with the friction; she was confined to a light diet, but allowed to have a small quantity of gin. In three months she was quite well. Her diet was still restricted to broth, beef tea, and light puddings. She remained well for six years, and died ultimately of bronchitis.

As several of the early vegetables contain oxalic acid, and so act as good diuretics, I made use of that salt in this case; but I found that, although this patient got well, no diuretic is more serviceable in medicine than the citrate of potash, with an excess of alkali; and I attributed the cure to the improved state of the skin under the influence of the ointment, the secretions of the liver and the kidneys being at the same time carefully regulated.

Case 9.—Mr. B., perfumer, Long-acre, called upon me, February 23, 1848, and requested I would see Mrs. B., aged fifty-eight, who, for some years, I learnt, had suffered from asthma during the winter. Had now been the subject of dropsy for

two months. She had had cough, with oppression on the chest, and difficulty of breathing, for three months, and expectorated thick phlegm. Unable to lie in the recumbent position; pulse 100; restless; bowels irregular; urine scanty, high-coloured—one pint in twenty-four hours; abdomen much enlarged, with distinct fluctuation; integuments pendulous, inflamed, and anasarcous; legs and feet much swelled, and covered with red patches; no discharge; tongue clean; appetite uncertain.

Patient had been under the care of a surgeon and physician without benefit. These gentlemen had pronounced an unfavourable prognosis. She was ordered friction with the hard ointment; blue pill, with squill, was given at night, and sulphate and carbonate of magnesia, in form of a draught, in the morning. The following mixture was likewise prescribed:

℞ Pot. bicarb., ʒiij.
Acid. citric., ʒiss.
Vini antimon., ʒss.
Tinct. scillæ, ʒj.
Sp. æther. nit., ʒij.
Mist. camph., ʒvi.
M. Fiat mist. Sum. cochl. ij. ampl. 4tis horis.

February 27. Feels more comfortable; nights more tranquil; urine rather more abundant: not quite so high-coloured, and not coagulated by heat.

March 6. The friction has been continued night and morning; breathing is relieved; urine more abundant; cough and expectoration less; bowels freely open; abdomen and legs less swelled. She is more cheerful and comfortable; sits up in an easy chair a few hours daily. Feels confident the means now used are affording her relief. Takes light diet. Continue friction, &c. Patient takes the pills and opening draught every other day, and the diuretic mixture less frequently.

She continued this plan of treatment till April 3rd, when she felt quite well, afterwards went into the country, and passed the summer without complaint. In the following November I was again requested to see her. From cold she was again attacked with cough, difficulty of breathing, and inability of lying in the recumbent position, with extensive effusion into the abdomen and legs. The same plan was adopted, with slight variations, and she was again, in five weeks, restored to health.

CHAPTER VII.

PHTHISIS.

THE plan of treatment before described is very serviceable in phthisis, and I have seen great benefit derived from it, in incipient cases, as well as in other pulmonary complaints. In acute bronchitis, attended with a hot skin, and great expectoration, I have witnessed the greatest benefit, and have known the expectoration to be reduced from a pint in twenty-four hours, to three or four ounces in the course of a few days. When the intimate connexion and sympathy that exist between the skin and the lungs are recollected, attention will naturally be called to a very important channel, by the agency of which great ulterior good will be effected.

By using assiduous frictions with the hard ointment, a large surface of the body is therapeutically influenced, the capillary vessels are roused from a dormant into an active and healthy state,

and this activity of the whole cutaneous surface is more effectual in removing functional derangement than by the partial action of blisters, setons, &c. A free and healthy circulation is established on the surface; the skin is protected from the sudden changes of the atmosphere; venous congestion is relieved, as are the pulmonary vessels; the action of the skin is more efficiently established, and the pulse reduced in force and frequency.

The morbid and highly-increased sensibility of the skin is lessened, chilliness is diminished, and the patient becomes less susceptible of cold.

I could adduce many cases of recovery, in proof of the utility of unctuous frictions in the incipient stage of phthisis, which probably would otherwise have ended in confirmed consumption.

I cannot do better, in order to impress on the reader the importance of the functions of the skin in phthisis, than to quote the following passages of Dr. Armstrong's work on the subject.

"What are the remedies, generally speaking, which we find most efficacious in warding off the threatenings of genuine phthisis? Are they not chiefly those which act upon the skin—as blisters, emetics, a regulated temperature, and, more especially, a change to a warm climate? Who

are the persons most liable to tubercular phthisis? Those who have delicate skins, and who are exposed, without sufficient clothing, to the vicissitudes of the weather. Nay, if we go more minutely into this subject, we shall find that many diseases of the skin are incompatible with those of the lungs—that is to say, certain excitements of the first organ often prevent dangerous affections of the last. Hence it is, even in Great Britain, that people affected with diseases of the skin, are the least obnoxious to pulmonary consumption; but let their cutaneous diseases be incautiously cured, and they often afterwards fall victims to suppuration in the lungs, as I well know from personal observation.

Besides, in some instances, I have seen coughs of a phthisical tendency disappear on the coming out of a spontaneous eruption of the skin; and I have occasionally seen a similar effect from pimples artificially induced on the surface by an irritating unguent. Whatever might be their speculative notions, the ancients certainly paid far more regard than the moderns to the skin in pulmonary complaints. We accordingly find that Celsus recommends several ulcers to be made in phthisis, and directs the employment of frictions;

whilst Ætius, carrying the practice still further, almost covered the skin with issues, both in that disease and in asthma.

"Similar methods of treatment seem to have prevailed for centuries, and only fell into disrepute on the decline of the humoral pathology, and in the ceaseless changes of human pathology many estimable things have been undistinguishingly condemned, with the absurdities upon which they had been accidentally established.

"The connexion through the medium of nerves and of blood-vessels, between phthisis and the skin, appears to me a subject of vast importance in a pathological and practical view; and I would earnestly entreat practitioners to investigate it narrowly, as they value the vital interests of society, and the advancement of the medical art. An immense majority of patients attribute the origin of phthisis to cold, and can indicate the circumstances under which they were exposed to its influence. If we accurately trace the history of such cases, we shall invariably find that the functions of the skin were first disordered, and that they continued more or less so during the whole attack; the surface being at

first chilly and hot alternately, with irregular return of dampness and of dryness.

"Nay, what are the colliquative sweats in a confirmed phthisis, but an increased action of the skin, to compensate the interrupted functions of the wasted lungs? For a certain portion of carbonic acid gas, and probably of other fluids, are to be thrown out of the system; and as the lungs cannot then completely perform their wonted share of the work, they are assisted in their office by the skin.

"It were needless to tell us, that these sweats exhaust the strength of the patient, for it is readily admitted that they do; but they constitute the best natural means of removing an immediate evil—the excessive accumulation of noxious and excrementitious matters in the body. This is not a merely speculative opinion; it may be proved by the test of experiment. If by any measure the colliquative sweats be checked in the last stage of phthisis, the lungs invariably become more oppressed, because a labour is thereby thrown upon them, to which they are incompetent.

"Nor does the consequence end here; for if the

lungs be not relieved by a copious flow of urine, a colliquative diarrhœa is produced, and the patient may sink with rapidity, if the sweats should not be restored. The colliquative sweats in the last stage of pulmonary consumption, can only be moderated with safety by exciting a flow of urine; for the kidneys form a sort of intermediate apparatus between the lungs and the skin, and on certain emergencies, partly or wholly compensate, by various changes of action, any disturbance in the operations of either of the latter.

"Hence, most affections of the chest are alleviated by a free secretion of urine, a fact conspicuously noticed by Baglivi; and hence, also, where the action of the skin is diminished, that of the kidneys is increased, otherwise the lungs would be far more liable to congestion of blood, especially in our cold and variable climate.

"If, then, the skin, as is unquestionably the case, be very often concerned—intimately concerned—in the pathology of phthisis, it obviously follows, that, upon this principle, preventive measures might be adopted. The sailors, who trade along the northern coasts of England, might at first sight appear to be liable to attacks of phthisis at

sea, as they are so much exposed there to the severities of the weather; and yet I have hardly ever been able to trace the origin of this distemper, in such subjects, to the effect of cold when they were actually at sea.

"In regard to the skin, my attention was first drawn to its consideration from observing the great changes which it underwent in its colour and functions on the approach or invasion of pulmonary consumption; and its pathological influence became still more interestingly set before me, when I saw some patients fall into that disease shortly after the disappearance of cutaneous eruptions, and others greatly relieved by the accidental or spontaneous occurrence of such affections at an early stage. It naturally, therefore, became a question with me, whether anything could be done for the prevention or cure of phthisis, by attending more closely to the state of the skin than had hitherto been done.

"What relates to the prevention on this head, has already been noticed, and it only now remains to prosecute the hints which have just been thrown out respecting the treatment, through the medium of the surface of the body. If medical men were asked what expedients, upon the

whole, are really useful in checking or relieving the symptoms of an incipient phthisis, a large majority would, probably, be in favour of blisters." —page 298.

"Besides this, attentive observation will soon convince any one, that between the whole capillary system of vessels there is a sort of specific sympathy: so that changing their action in one part of the body, frequently produces striking changes in that of other parts; and the more this circle of sympathies in the capillary vessels is investigated, the more important it will be found in pathology and practice. Now the efficacy of continued friction or blisters is not altogether local, as has generally been imagined. No doubt they often operate a change of action in the part beneath the place of their application, but, independent of this action, and of the local inflammation which they produce, they affect the constitution at large; and it is partly by this, their general influence, that they powerfully contribute to destroy the mixed associations of many maladies. No local affection of consequence can exist without implicating the whole system in disorder; and, on the contrary, no general shock

can be long sustained without implicating particular parts. Most of the measures which we employ act generally, as well as locally; for there is an indivisibility of the vital as of the mental principle. We do not so much cure diseases by directly removing them, as by instituting actions incompatible with the existence of those diseases; and, in considering the treatment of almost every complaint, it should be our object to discover, what are those remedies which create a local and general action inconsistent with that of the existing disease? It has long since struck me forcibly, that a most important improvement might be effected in the treatment of consumption, by ascertaining the powers of those agents which act on the skin.

"When an experiment has succeeded in several trials, and the circumstances have been marked with care, there is a self-evident probability of its succeeding in a new trial; but there is no certainty."

"According to my observations, the true tubercular phthisis only occurs in habits of the strumous temperament; and it yet remains to be proved, whether tubercles be ever formed in the lungs without an hereditary predisposition to

them. Generally speaking, the strumous temperament appears under two modifications, which require to be discriminated.

"The first of these is found in those who naturally have pale skins, loose, flabby fibres, and a sluggish pulse; and the second in those who have ruddy complexions, firmer fibres, and a brisk circulation. Subjects of the first modification have seldom much corporeal vigour or mental vivacity; whereas those of the second often possess both. But there is one thing common to these two modifications—an unusual irritability of the capillary arteries—an irritability which is, perhaps, one of the most essential peculiarities of the strumous temperament.

"The actual seat and development of scrofula may partly depend upon this irritability being more abundant, from their construction, in some organs, than in others, and partly upon the force of morbid impressions being mainly directed to those organs; hence, in one patient, the membranes or ligaments investing the bones will be attacked; in a second, the glands of the skin; in a third, the mesentery; and, in a fourth, the lungs, according to the state of each organ, and to the nature of the exciting cause. Now, the

predisposition to the organic phthisis, I suspect, chiefly consists in an unusual irritability of the capillary arteries in the cellular connecting membrane of the lungs; and wherever this predisposition exists, any cause agitating or stimulating the lungs may lead to tubercle, and, of consequence, to phthisis; but where this predisposition is absent, it is probable that no such cause can ever excite, much less produce, the disease in question."—page 199.

Certain conditions of the skin are more frequently connected with the rise and progress of phthisis than, perhaps, any of the above noticed irritations; and it is to this organ unquestionably that we must often look for the commencement of those morbid movements which ultimately undermine the fabric of the lungs.

We cannot put a needle into any point of the skin without drawing blood and exciting pain, which demonstrates it to be an extremely vascular and nervous tissue. In fact, we may consider it as an expansion of larger or minuter vessels and nerves, so completely are they interwoven with every fibre of its substance. From such an union of two distinguished textures, one might naturally suppose the skin a most important organ;

as physiology has shown, that to those parts the most highly and perfectly organized, the most important offices of the economy are committed.

The whole extent of the skin is perpetually exposed to the action of surrounding agents, and between it and the central parts an intimate sympathy exists, but especially between it and the lungs: for not only do the skin and the lungs mutually compensate a deficiency or an excess in their respective exhalations, but they are likewise closely connected by a free intercourse of vessels; so that when a reduced temperature diminishes the action of the skin, it at once increases that of the lungs, and the contraction of the vessels of the former in some degree congest those of the latter.

Where is pulmonary consumption unknown, and where does it abound? Is it not unknown in most of the tropical, and does it not abound in most, if not in all of the cold climates? In tropical climates, the action of the skin is constantly excited, and that of the lungs is proportionably diminished; and on this account we there find disease of the surface very common; those of the lungs comparatively rare. In cold climates, on the contrary, the action of the skin

is diminished; that of the lungs, of course, augmented in a direct ratio, and, therefore, in them this increase of labour renders the latter organ much more susceptible of disorder than the former, as it is a pathological law, that the more any part is exercised, the more apt it is to be diseased.

Friction with the hard ointment, by equalizing the circulation, not only brings a flow of blood from the interior towards the surface, but it communicates an equable tone to the heart and arteries, thereby enabling them to resume their wonted offices. There is a principle in human nature which makes us shrink from present pain, even sometimes to the disregard of the ultimate good which that pain might produce, and therefore patients shun the pain of counter-irritation.

Friction is a mild and easy method of inducing revulsion or re-action, as well as effecting an universal change of action on the surface. I have seen gentle friction with the hard ointment *long continued* more serviceable than blisters in incipient phthisis. Such frictions are highly useful in *acute* diseases, and in some chronic ones also, where it is necessary to produce a

quick impression upon the complaint, as well as upon the nervous system. Induction thus applied, is a mild but valuable counter-irritant in phthisis, through its soothing effect upon the nervous system, and its power of producing sleep.

"Our foster nurse of nature is repose."

It induces a free and healthy circulation in the cutaneous vessels, and removes congestion of the lungs and internal organs. It reduces the force and frequency of the pulse, and lessens the morbid heat and dryness from the surface. It has the great advantage of protecting the skin from the changes of atmospheric variations; it equalizes the balance of the circulation in the capillary vessels, and restores the natural tone and nervous energy of the cutaneous tissues. If capable of doing thus much, to what extent must it not be serviceable in phthisis. Dr. Armstrong observes, that "no great discovery was ever made in science but what has been simple; so simple, indeed, that men have wondered it should not have been made before; and if a specific should be found for consumption, it, too, will most probably be simple."

If any medicine, he adds, could be found which reduced the pulse in phthisis, and neither caused

immediate congestion with collapse, nor ultimate arterial re-action with nervous agitation, perhaps it might be of some utility in consumption.

The ancients, from having found the arteries empty after death, concluded that all the blood was in the veins during life; and we can never weaken the action of the heart and arteries beyond a certain measure without causing a proportionate accumulation of blood in the veins, and thereby destroying the natural balance of the circulation.

Now, as the skin and kidneys both sympathize with the lungs, it is probable that the diseases of the latter might be benefited by certain articles of diet which operate on the former. Trifling as it may appear, it is a subject worthy of investigation, not only as it regards phthisis, but other diseases of the internal organs.

It has been stated that 60,000 die annually of pulmonary consumption in Great Britain; so that the disease still merits the name of *Tabes Anglica*, which was commonly given to it on the Continent. Such an extensive destruction of human life, with all its influence on surviving friends, imperiously demands from the medical faculty the most strenuous attempts either to prevent or to diminish the ravages of this wide-spreading malady.

On a first view, it might be supposed that such extreme counter-irritation, as sanctioned by the ancients, and as advised by Ætius,* must necessarily be injurious. It might, and probably would, be so in a condition of health. The case, however, is widely different when the body decidedly labours under disease; for counter-irritation, which would have been intolerable and injurious in a sound state, is then well borne.

Apply a rapid succession of blisters to a strumous patient, in whom no disease apparently exists, and you will soon throw the system into great disorder; but let a patient of a similar habit actually labour under disease, say of some of the joints, and you may apply blister after blister not only without injury, but with positive advantage. We are far too apt to reason about the operation of remedies in disease from what we have observed of their effect in health; yet we must always take into account the condition of the body at the time of administering our measures, otherwise we shall be liable to the most serious mistakes.

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* The History of Physic, from the time of Galen to the beginning of the sixteenth century. By J. Friend, M.D. London, 1750.

The obvious intention of the friction is to produce a revulsion; and hence, by transferring the morbid action to a part of less importance, to allow the lungs to return to a healthy condition.

Such transfer may, in some cases, be complete, though, in general, the morbid irritation is only partially, instead of entirely, carried off. There are other means, however, by which it may be removed altogether, although these are seldom put into our hands.

Thus M. Baylie's fifty-third case is that of a medical man who was fully prepared to meet his fate, and resolved to take no medicine whatever. At this time a severe rigor, from an unknown cause, attacked him, succeeded by a sweating fit so profuse that his linen was changed two-and-twenty times in a night, and even this was not sufficient. The paroxysm proved critical; and the disease was thus carried off by an ephemera.*

Sir Gilbert Blane gives an account of a like singular and salutary change excited by a hurricane in Barbadoes in 1780, which produced such an effect on the air, or on the nerves of the sick, that some who were labouring under incipient

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* Recherches sur la Phthisie, &c., ut supra.

consumption were cured by it; while others, who had reached a more advanced stage, were decidedly relieved, and freed for a time from many of their symptoms.*

Bennett relates a case of consumption which was suspended for two days in all its symptoms, except the emaciation, by a severe toothache.† In Hautesierck's Collection, we have an account of a recovery from a purulent expectoration by the formation of a fistulous abscess in another part of the body, which was itself cured by an operation.‡

We have numerous instances of consumption produced by a sudden cure of some chronic cutaneous eruption, especially itch; and of its ceasing upon a restoration of the primary complaint. There is, however, no affection that seems to keep a consumptive diathesis in so complete a state of subjugation as that of pregnancy. Most practitioners have seen cases in which a female has lost all the symptoms of phthisis upon

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* Observations on the Diseases of Seamen. Lond. 1785.

† Vestibule. Tabid, ut supra.

‡ Recueil d'Observations de Médecine, &c. Part ii., p. 286. Paris, 1772.

conception, and has continued free from the disease till her delivery.

Suckling does not seem to keep up the truce; but if she conceive again shortly afterwards, it is renewed: and there have been instances in which, from a rapid succession of pregnancies, the suspension has been so long protracted, that the morbid diathesis has run through its course, and entirely subsided, leaving the patient in possession of firm and established health. As one disease, therefore, or state of body, is well known to have a frequent influence upon another, and consumption is found to be thus influenced by various affections, it is a question well worth inquiring into, whether there be any malady of less importance which, like cow-pox over small-pox, by forestalling an influence on the constitution, may render it insusceptible of an attack of phthisis?

Dr. Wells, not many years ago, very ingeniously engaged in an inquiry of this kind; and finding that it was common for the consumptive in Flanders to remove to the marshy parts of the country where agues were frequent, began to think, not indeed that ague might give an exemption from consumption, but that the situation, which produced the former, might prove a guard against

the latter. And so far as his topographical investigations have been carried, and they have extended over some part or other of all the quarters of the globe, this opinion has been countenanced; for he has discovered that wherever intermittents are endemic, consumption is rarely to be met with; while the latter has become frequent in proportion as draining has been introduced.

I have had to treat many cases of incipient phthisis, pneumonia, and bronchitis by the unctuous frictions. I shall, however, for fear of prolixity, adduce only the following case:—

Case 1.—William Bates, aged twenty-two years (January 10, 1850), a furrier by trade, has been ill with incipient phthisis five weeks. His father was an engraver, and died of consumption thirteen years ago. A brother also died consumptive at the age of seventeen years.

He is tall in stature, and well proportioned, but pallid and much emaciated, has a dry tickling cough; pulse 100; night sweats, with occasional diarrhœa; skin dry; very susceptible to cold on change of weather; slight pain on the left side, with dulness on percussion. It was observed

that the skin generally was harsh and dry, and after sleep covered with perspiration; very chilly on alteration of temperature. This peculiarity of the skin is always a characteristic feature in this disease. What tends to remove it will occupy a prominent position in relation to its cure.

He was ordered friction generally over the chest and spine with the hard ointment night and morning; an opiate at night, with mucilaginous drinks, and light diet.

Feb. 10. His skin is now soft and free from dryness; has experienced much comfort from the rubbing; can now face the cold air without complaint; coughs much less; night sweats almost gone. Continue remedies.

March 16. He is now quite free from complaint; has lost all phthisical symptoms, resumed his occupation, and feels quite well.

The remedies which I think have most claim to our attention as agents capable of promoting changes in tubercular matter, in conjunction with friction, are mercury, iodine, the fixed alkalies, and cod liver oil.

CHAPTER VIII.

INSANITY.

THE plan of treatment advocated in the preceding pages, when combined with counter-irritation down the spine, has also proved highly useful in mental derangement.

It is highly interesting to observe, that of the number of patients annually admitted into the Clerkenwell Infirmary and treated by this method, a greater amount of cures are effected (in proportion to the amount of cases) than are recovered in any of the public institutions of Middlesex, which receive patients from this district. I certainly believe that if we had a public institution for lunatics, wherein the patients were treated on this plan, more good would be done than is now effected at any of the great county asylums.

The majority of the lunatics whom we can keep in Clerkenwell Infirmary without danger from

violence, that is to say, those that are harmless, and where no fixed delusion exists, are generally cured by diverting that morbid state of the brain and its membranes, which constitutes insanity, through revulsion on the cutaneous surface.

Case 1.—1830. Esther Cook, aged thirty-seven years, was brought to the Clerkenwell Infirmary in a confirmed insane state. She had also the itch, in an inveterate form, for which she was "rubbed in" two or three weeks, in the usual manner in cases of scabies. When cured of the itch, it was discovered that her intellect was quite restored, and she left the house perfectly well. The fact especially excited my attention; and being strongly impressed that the greasy ointment had, by its action on the skin, independently of the sulphur, cured the insanity, I resolved to act on the suggestion at the first opportunity.

Case 2.—Martha Burgess, aged twenty-two years, dressmaker, tall in stature, thin, dark complexion; had been in the Clerkenwell Infirmary, and afterwards, in 1835, in Bethlehem Hospital for three months, as a lunatic. She was sent back to the Infirmary, from Bethlehem, on the

ground that she was incurable. At Clerkenwell she was placed under the treatment of friction with the hard ointment; her secretions, at the same time, were carefully regulated, and, in four months, she left that house to fill the situation of a servant, her mental faculties being in a normal state. Nine years afterwards the insanity returned; and in 1844 she was sent to the Peckham Asylum, from want of room elsewhere, and there she died from pulmonary disease.

Case 3.—Rosa Coventry, nineteen years of age, of full habit, dark complexion, and melancholic temperament, had been in Bethlehem Hospital twelve months, and was discharged incurable. She was brought into the Clerkenwell Infirmary on the 23rd of August, 1843, and there treated by frictions with the hard ointment, and by counter-irritation down the spine. On the 24th of the following November she left the house quite well, and forthwith took the management of her father's household, and there she now continues in perfect health.

Case 4.—Edward Day, a youth nine years of age, had been insane on admission (April 26th,

1849,) four weeks. He attempted to stab his sister, jumped out of the window, and forced himself into the water-closet. At times, he would scream violently for hours together; seldom slept; is thin and pallid; has headache; pupils slightly dilated; peculiar wildness of the countenance; rolling and glistening of the eyes; and grinding of the teeth.

I learnt from his mother that he had not been well since July last, when he had severe diarrhœa for four weeks, and at that time passed much blood from the bowels. Has not been well since, though he had obtained medical relief, and also had been an out-patient at St. Bartholomew's Hospital.

His pulse is slightly accelerated; tongue clean; appetite is voracious. He has a sister, fourteen years of age, who is subject to fits.

Ordered: blister nuchæ; friction down the spine, night and morning. ℞. Calomel, gr. j.; pulv. antimon., gr. iij.; pot. nit., gr. vj., every four hours, with an occasional purgative. His hair to be cut close, and his head washed with vinegar and water.

The above treatment, with diminished doses of calomel, was steadily continued.

May 12. He now sleeps well; is free from

pain; cheerful; has not screamed for some time; amuses himself in the ward, and appears happy, contented, and well, and is gaining flesh.

14. Continues quite well.

June 20. Remains free from complaint.

This patient was insane four weeks, and his general health had been much deteriorated nine months prior to his admission.

It is interesting to observe the rapid improvement that took place in this case within the short period of sixteen days. From being a most violent, irritable, noisy, as well as a dangerous patient, he has now become perfectly quiet and harmless, restored in health, both mentally and bodily.

The morbid derangement of the brain and nervous system is not only tranquillized, but removed: he now sleeps well, is cheerful, plays about, amuses himself, takes an active part among the games of his companions in the playground, where he is now permitted to join, with no appearance of the disease. His mother was fearful we should not be able to control him without restraint; but, to her great satisfaction, in a very limited time, by no harsh measures, the

morbid state of the brain and nervous centres was removed, and his health and spirits quite re-established.

By induction of the hard ointment, a free and healthy rush of blood is produced from the interior to the surface of the body, the morbid associations of the brain and spinal cord are relieved, and the pallid, dry, and unhealthy state of the skin is removed, as is beautifully illustrated in this case. The skin is operated on over a large surface, which is more efficient than where a small part is influenced by counter-irritation, a healthy and delightful glow is produced, which relieves the congestion of the internal organs.

It is well to remark, that the process I am advocating is always perfectly safe and harmless, and by no means painful or unpleasant. The majority of patients experience great comfort and delight from the operation.

Case 5.—April 16, 1850. George Palmer, aged twenty-one, single; admitted into the Infirmary in a state of melancholia. Ill eight months. Has been unable to follow his occupation as a waiter during that time. His health appears

good. He has dark eyes and hair, sallow complexion, desponding, and, at times, violent. He is sullen and abstracted, seldom converses with those about him, would sit secluded for hours together without speaking. Tongue clean; appetite good; sleeps generally well; pulse natural.

He was ordered an alterative, with an aperient to regulate his liver and alimentary canal; light diet—("Allow not nature more than nature needs;")—cold applications to the head. This treatment was continued until May 7th, with no apparent improvement.

May 7. He was now ordered friction with the hard ointment, night and morning, to the spine; a mustard cataplasm, commencing at the nape of the neck, and repeated at intervals, until it had extended to the sacrum, or until some favourable impression was produced upon the nervous centres.

May 27. This plan has been regularly continued up to this date. The effect has been remarkably striking. From having been sullen, dejected, and shunning the society of his companions, he is now cheerful, converses with those around him, is free from complaint, in good

spirits, and several hours daily are spent in useful occupation.

June 1. Quite well; to be discharged.

Friction with hard ointment, and sinapisms applied along the spine have, under my observation, proved of signal benefit, acting, as I imagine, by subduing augmented excitability of the spinal centre, as well as diverting the morbid action of the brain and nervous system.

Case 6.—June 5, 1850. Theresa M., aged forty-six, ill two weeks. Insane on the subject of religion; gets her living by shirt-making; married five years; mother of one child, not living; is short in stature, and of a dark, swarthy complexion. Was insane seven years ago, in confinement, twelve months; not subject to fits. Patient has a brother who has been of unsound mind for some years. Her grandmother also died insane.

She is now extremely noisy and violent, and requires much watchful care and attention to guard her from her own personal violence. She was recommended to be sent to an asylum, but no admission, at the time, could be obtained.

Ordered: induction with the hard ointment, and sinapisms down the spine, night and morn-

ing; the secretion of the stomach and liver were regulated; purgatives were occasionally administered; to have light diet.

This plan was continued, with no material variation, until the 24th of June, when her mind was quite restored.

July 31. Quite well.

CHAPTER IX.

CASES OF DELIRIUM TREMENS AND HYDROCEPHALUS.

I HAVE had occasion to treat many cases of delirium tremens by this cutaneous method, and have generally met with success. The following case is remarkable from the number of attacks:—

CASE OF DELIRIUM TREMENS.

Mr. C——, aged forty-two years, a fancy-box maker, native of Scotland, healthy, of good constitution; within the last four years has had twenty attacks of delirium tremens—most of them severe, and of a very threatening character, brought on by fits of intemperance. He would at times abstain from all stimulating drinks for months together; then, again, on taking one glass, from the excitement it produced, would continue drinking three, four or more, days and

nights continuously; ending, generally, in a fit of delirium tremens.

His first attacks, which were highly inflammatory, were treated by venesection—blisters, purgatives, cold lotions to the head, calomel and opium; the latter substance is more efficacious, and has a much more soothing and tranquillizing effect, when the secretions of the stomach and liver are regulated, than when given at the onset before the first or primary indications are attended to.

He took alkalies, and sp. æther co., with much benefit; the attacks generally lasted from nine days to a fortnight. More recently, he has been treated, when the skin was hot and dry, by induction of the hard ointment, and sinapisms down the spine. This had the effect of lessening the morbid irritation of the brain and nervous system.

Sleep is more readily procured, and the disease has been rendered of much shorter duration. The longer the intervals of sleep, the more critical and dangerous are the consequences to the patient; and any agent is of service that is capable of tranquillizing the morbid and excited state of the brain and nervous system, and "on

the eyelids crown the god of sleep, nature's kind restorer." For on this hangs the life of the patient, and it is of great and proportionate value.

CASES OF HYDROCEPHALUS.

CASE 1.—M. W——, New Road, aged fifteen months, has a large head, and is naturally a quick and precocious child, runs about, is lively, and has eight teeth. Of late, he has been languid, dull, and dejected, restless, sleep disturbed, grinding his teeth, starting and screaming at intervals, loss of appetite, vomiting, parched tongue. Latterly, the child has had aversion to light and noise; pulse quick; is becoming fractious and of irritable temper. Has a great propensity to bed and a recumbent position, which his parents attributed to his teething.

For three days past has had continued pain in the head, particularly across the eyebrows; stupor; dilatation of the pupils; suffused redness of the eyes; great sensibility to, and aversion of light, with screaming, vomiting, and obstinate costiveness; great disinclination to raise his head from the pillow; the eyes are deprived of their vivacity by a film covering the cornea, and the eyelids half conceal the pupils; he rolls

his head about from side to side, and screams violently on being taken up; squints occasionally; bowels are torpid, and the motions excessively offensive; lies hours together in a state of stupor, without noticing what is passing.

He had been leeched, purged and blistered; his head had been shaved, and cold applications, with ice, constantly used; calomel in repeated doses administered; injections, with turpentine, &c., without any apparent improvement.

He now lies in a state of torpor; pupils dilated; skin hot and dry; pulse inclined to be full and irregular.

In this state I was requested to see him, and suggested the use of friction with the hard ointment, in addition to the means previously used, and that it should be effectually carried out. I remained until it was put into practice; every part of the body, especially the spine, was gently but carefully rubbed to saturation—that is, until the heat and dryness on the skin were removed; this was accomplished whilst he was lying, with the hand, under the clothes, with but little inconvenience to the patient, and without soiling anything but the night-dress.

After the skin had been effectually rubbed and

well saturated, it lost much of its morbid and unnatural temperature, and was effectually restored by a few applications. This was ordered to be repeated three times a-day.

A manifest improvement was soon perceptible in the patient; the skin became cool and moist, the pulse was reduced in frequency; his sleep was more natural, and less disturbed. The child is now more sensible, takes his drinks more freely, and notices what is placed before him; he has less thirst, tongue and mouth moist, and more comfortable; nine days after induction had been begun, he was entirely free from all urgent disease.

Case 2. — John W——, Wellington Street, aged three years, a delicate child of strumous constitution, had been ill some weeks, under the care of a distinguished physician in the city, with congestion, and inflammation of the membranes of the brain, and effusion into the ventricles, which is now pronounced incurable. The symptoms here were those of a confirmed case of hydrocephalus.

This case was treated in similar manner as the preceding. The skin was thoroughly and effec-

tually rubbed to saturation; revulsion was actively kept up; the secretions of the liver, stomach, and kidneys, were strictly attended to; his diet was regulated; and the child was perfectly restored to health in six weeks. It should be borne in mind, that with a hot, harsh, and dry state of the skin, accompanied by pyrexia, this treatment is most advantageously employed. When the skin is cool, moist, and perspiring, this therapeutical agent is not indicated, and must not be relied on.

Case 3.—Master J. C——, aged two years, 1844, has had several attacks of pneumonia; delicate health; epiphysis of the bones at the wrist and ankles enlarged. For some time past had been languid, out of spirits, no disposition to move about; seven days ago was attacked with headache, loss of appetite, flushing of the face, pain over the eyes, increased sensibility to light, sleep disturbed, exceedingly irritable, grinds his teeth, starts in his sleep, great reluctance to be moved, extremely restless, would scream violently on lifting his head from the pillow, skin hot and dry, thirsty, bowels costive, pulse 120.

He suffers now from vomiting, and great pain in the head, especially in the evening; less intolerance of light; pulse 110; thirsty; the pupils are dilated, and contract but slightly on their being exposed to light; the right contracts less than the left; screams violently on his head being moved from the pillow; afterwards relapses into a state of stupor; bowels obstinately costive; urine scanty, and passed at long intervals.

At the commencement of the attack he had been leeched, purged, blistered, cold lotions applied to the head, calomel every four hours, without these means checking the onward and threatening progress of the disease. In addition to these measures, the skin being now hot and dry, he was ordered to be rubbed generally, but particularly down the spine, back, and chest, with the hard ointment—gently, but perseveringly—from half an hour to an hour, three times a-day.

This was done whilst the child was lying, without his being disturbed, or any inconvenience attending the operation. The parents having noticed that the little patient was more composed after the rubbing had been conducted a few times, pursued it more diligently; and I had the satisfaction of seeing the little sufferer become, day by

day, less comatose. The pupils became again sensible to light; on the third day he could distinguish anything placed before him; his sleep was more natural; he looked around him, and recognised his friends. In a week from the time the treatment was commenced, all urgent symptoms had entirely disappeared; thus showing the great importance and utility of restoring the natural and healthy functions of the skin *by friction.*

CONCLUDING REMARKS.

Amongst the inferior advantages of this plan, it is not out of place to mention, as previously stated, that the consumption of wine and spirits in the Infirmary has diminished more than one-half since the adoption of this treatment, while the patients have been prevented from advancing into the extreme stages of collapse, and were, consequently, much more readily restored to health and strength. Indeed, it seldom happens that more than three weeks elapse (oftener the period is but two,) before the patient recovers from all symptoms of the malady. In mild cases the interval is reduced to a very few days.

Respecting diet, I may observe, that in convalescence from fever, it is always, under any treatment, imperatively necessary to restrict patients until the stomach and digestive organs have acquired a healthy tone, although the appetite is frequently craving. The digestive powers are

inadequate for large supplies of food. This is particularly remarkable after scarlet fever. Should the stomach and chylopoietic viscera be oppressed by heavy or unsuitable dietary, or the skin become chilled, through too early exposure to damp or cold, there is danger of dropsy, with albuminous urine.

When fever sets in with severity, experience shows, by the practice of the most judicious physicians, that it is always best to commence with an emetic, followed by calomel and saline purgatives, after the manner already indicated in these pages, until the bowels are well cleansed. If there be much increase of heat in the skin, one or two grains of calomel should be administered every four hours, with a saline draught containing an excess of alkali, confining the patient to diluents, and avoiding all food and drinks that have a tendency to become acidulous.

As a general rule, I continue or diminish the calomel according to the temperature of the skin; but the increasing or otherwise varying the dose of that salt seldom affects the gums to salivation. When, on the contrary, there is not much morbid heat of the surface, the mouth and gums quickly

suffer. Calomel is rapidly absorbed into the system when the surface is cool.

In the years 1837 and 1838, typhus fever, of a highly malignant type, was prevalent, and very fatal in this district. Indeed, several of the medical practitioners attending the cases fell victims to the disease. At the same time there was great mortality at St. Bartholomew's Hospital. Five nurses died in one ward; afterwards, several students; and ultimately the ward was closed.

By investigating the origin and progress of the fever, and closely watching the remedy described in these pages in various poor districts of this neighbourhood, several surgeons and myself became the subject of severe continued fever. My health was much shaken, being then severely tried by arduous duties. Thus occurred an occasion for yielding to the taunt, "Physician, heal thyself." And heal myself I did, by the free application of the ointment to the skin. I quickly rallied, made a short journey to the country, and returned to London healthy and strong, and my confidence in this treatment, especially for febrile inflammation, if possible, increased. I harbour the hope that those who have extensive opportunities,

and time for pursuing therapeutical inquiries will try the treatment, and make known the results.

Let me now, in conclusion, briefly review the advantages of the treatment. First, the operation remarkably reduces the force and frequency of the pulse, and the morbid heat and dryness of the skin in febrile affections, blood-letting being seldom required. It corrects the fœtid and offensive odour arising from patients. Contagion seldom spreads after its use, very rarely even in crowded rooms. When early employed, the fever is prevented from running into the continued type, and the patient soon becomes convalescent. The dry and brown state of the tongue, and the attendant thirst, disappear with the saturation of the skin, its healthy secretions being then restored.

In cases where much vascular disturbance is accompanied by a morbid heat of the skin, and functional disturbance of the cerebrum, beneficial results are more speedily obtained than by any other method of treatment. The cases described in the preceding pages, and a great number of others, whose history it would be burdensome to quote in detail, show that the pulse

may be reduced from 120 to 90 in a few hours, after a few applications of the ointment.

The patient generally falls insensibly into a calm, tranquil, and profound sleep, which lasts for from twelve to twenty-four hours, awakening apparently for the purpose of taking nourishment, and complaining only of languor and weakness. The delirium and pain have then disappeared; the skin, at the same time, has lost its morbid and unnatural temperature; the thirst has diminished, and the tongue has become moist and clean.

Finally, the application is not attended with any injurious effects. It may be used with equal confidence, safety, and advantage, in infancy, on adults, and persons of advanced age. This is not the case when fever is treated with cold affusion, after the manner of Dr. Currie, the benefits of which must occasionally be connected with much disadvantage. With the hard ointment, on the contrary, the patient always experiences great relief and comfort immediately and permanently. It should be observed, that it is always at command, perfectly safe, harmless, and is perhaps never contra-indicated.

With regard to cases in which the treatment is applicable, let me repeat, that its use extends

to all inflammatory, typhoid, and scarlet fevers, measles, and in every instance of acute inflammation, where there is *much heat and dryness of the surface.* Fever, assuming all the typhoid symptoms, will (I speak from past experience) be found to change its character under this treatment in twenty-four hours. It especially soothes the nervous system, procures sleep, lessens the frequency of the pulse, allays the heat of the skin, and, correspondingly, the thirst; these being the most distressing and prominent symptoms of the affection.

It is certainly correct to state that the plan of treatment defined, not only does not interfere with, but rather assists, the operation of internal remedies. In the early stage of fever, its progress may, judging from the cases at Clerkenwell, invariably be checked, and the secretions speedily restored to a healthy state. Should collapse have set in (and that stage seldom occurs if this treatment be early adopted), recourse must be had to stimulants, wine, ether, musk, ammonia, &c.

The very great success that attended the use of the hard ointment, in the primary stages of fever, when it was first adopted, led it to be regarded as a specific in all cases and all stages

of the disease; but further experience did not justify this impression. When a patient had fallen into the third, or collapsed stage, and all the heat had disappeared from the surface, the remedy, as may be supposed, did not fulfil its hoped-for purpose; and this fact showed that its utility was chiefly to be expected in the first and second stages of the disease; while, in fact, some amount of vital power existed, and the practitioner had not virtually a dead body to deal with.

With regard to idiopathic fever, I may state, that during thirteen years I have never been disappointed in the treatment of a single case, when the treatment by induction of the ointment had been properly carried out.

But, a very few words need be said with regard to those parts of the body on which the ointment should be employed, further than every part of the skin that is hot and dry should be rubbed to saturation, and this should be repeated as often as the heat and dryness returns. Very intimate are the connexion and sympathy maintained between the skin and the nervous system; the sympathy, namely, existing between the parts contained and those containing. It is, therefore, very useful, considering the difficulty that exists in noting

the changes which are going on in the interior of the body, to watch the effects which both unhealthy influences and remedial means can exercise directly upon the surface.

In proportion as the sebaceous glands freely act, the internal organs appear to resist prejudicial atmospheric influences. In disorders of the brain, or its membranes, for instance, the sympathy existing between the nervous centre, and its ultimate radicles in the skin, have, perhaps, not been so closely observed; and I would, on this head, direct the attention of the reader to the cases of insanity recorded in the preceding pages.

Many practitioners must have become acquainted with the fact, that, every now and then, patients afflicted with insanity, who had been discharged as incurable, from some of the public institutions, have been restored to health by the secretions of the skin and other organs being duly regulated, and by counter-irritation over the spine. In cases of insanity, while the mind is simply "abstracted," and where, for instance, no fixed delusion prevails, it is important to get the skin into a healthy state, and it is especially advantageous in such cases to apply

the ointment over the region of the spine, this process being occasionally aided by the stimulus of a mustard poultice.

Again, if large accumulations of water are removable from the cavities of the abdomen and the chest, by frictions with the hard ointment, it is not astonishing that fluid has been dispersed from the cerebral ventricles in children by the same means. This beneficial effect has certainly been obtained in numerous cases by this treatment, assisted by measures calculated to regulate the secretions of the liver and kidneys. The little patients had, in several instances, been pronounced incurable by the first authorities, the action of the skin not having previously been aroused by direct measures.

It is probable, that in considering the statements made in this little work, the profession may regard its contents as being, for the most part, an advocacy of mere adeps for the cure of febrile inflammations. The impression would be erroneous. The advocacy is really that of a treatment, not exactly by old and well-known means, but by an application which an experience of several years' duration has shown to be peculiarly adapted to alter the morbid action of the

skin, and restore its functions to their normal state, as is clearly evidenced by the cases I have adduced.

Numerous attempts have from time to time been made, sometimes empirically, to attack internal disorders wholly through the skin. Though successful for a period, they have all failed, eventually, to be recognised by the profession. At the Radcliffe Infirmary, Oxford, there is a "method of friction," which is stated, in the reports of that institution, to be "peculiar to that hospital," a "rubber-nurse" being expressly employed at so much per hour. The method of friction was first recommended, as an addition to the usual remedies, many years ago, by Mr. Grosvenor, of Oxford, one of the surgeons to the above-named hospital, who officiated in that establishment for forty-six years; namely, from the time of the opening of the Radcliffe Infirmary, in 1770, to 1816.

A regular "rubber-nurse" was first employed there in 1826. The affections on which she used to be employed were indurated and stiffened joints, "occasioned by inflammation; chronic rheumatic affections of articulations; contractions of joints after fever; or joints stiffened by

fractures in their immediate neighbourhood." The friction was of the dry kind, the rubber-nurse using finely-powdered starch, doubtless to facilitate her manual operations. Appropriate medicines, were also given, if the patient suffered from chronic rheumatism, or was recovering from fever. Of late years, the method of friction has not been recommended by the whole of the staff of the Radcliffe Infirmary; and the services of the nurse have been so little employed, that from 60*l.* a-year, they have sunk below 7*l.*, being paid six-pence per hour for her occupation. From this establishment, patients are often sent, at the expense of the charity, to the Warneford Hospital, Leamington, and the Margate Infirmary, to derive benefit from the baths, and the effects of the air on the skin. From these facts it will clearly appear, that much more than could be accomplished by dry friction, at the Radcliffe Hospital, has been effected at the Clerkenwell Infirmary, by restoring the skin to a healthy condition, with the hard ointment.

It is not necessary to say another word, at present, excepting that an impression is very likely to prevail, that a greasy ointment is calculated to obstruct and clog the cutaneous surface,

and prevent the skin from acting as an emunctory. To this I can only reply, that in the numerous cases in which the friction with the hard ointment have been used, the natural functions of the skin, far from being impeded, are rendered considerably more active. I hope and trust, therefore, that trials of this treatment may be made, both in public and private practice; and it will give me great pleasure to hear that the plan described and advocated in the preceding pages has been successful in other hands. I shall then consider myself fully rewarded for the continued exertions I have made to improve this branch of medical practice.

FINIS.

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