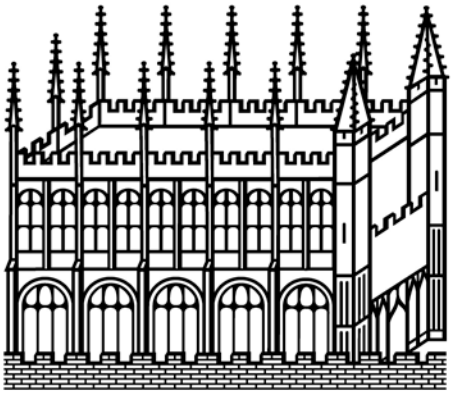

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AN

ESSAY

ON

WARM, COLD, AND VAPOUR BATHING,

WITH

Practical Observations

ON

SEA BATHING,

DISEASES OF THE SKIN,

BILIOUS, LIVER COMPLAINTS, AND DROPSY.

BY SIR ARTHUR CLARKE, M.D.

MEMBER OF THE ROYAL COLLEGE OF SURGEONS OF LONDON,
SURGEON AND AGENT TO HIS MAJESTY'S SICK AND
WOUNDED SEAMEN AND MARINES AT DUBLIN,
TO ST. GEORGE'S DISPENSARY AND
HOUSE OF RECOVERY, &c.

Fourth Edition,

WITH SEVERAL NEW CASES AND OBSERVATIONS.

"Humble as the labours may seem, and confined as the abilities of an individual may be, were he only faithfully to relate observations made with care, to compare them with those of his cotemporaries, and by those to correct the opinions of his predecessors, he would perform no mean service to his art.

"*Medical Sketches, by* SIR JAMES M'GREGOR."

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TO

HER GRACE

THE DUCHESS OF LEINSTER.

MADAM,

The little Treatise, which now in a fourth edition solicits from your Grace that protection formerly accorded to it, by the illustrious nobleman with whom your destinies are happily united, claims a sort of domestic privilege in thus transferring its homage, without forfeiting its allegiance. The submission which is yielded to a power that rules us through our affections, is scarcely less delightful and enobling than the object itself, which inspires it; and whilst in your Grace we behold those peculiar virtues which we used to deem inalienable in the House of Fitzgerald, blended and adorned with every feminine attraction, what Irishman is there that has

ever felt a patriotic regard for that noble family, whose heart does not warm within him, and who does not court an opportunity to lay the tribute of his respectful admiration at your Grace's feet.

Mine, Madam, is indeed an humble offering—but it presumes upon that goodness and condescension, which are the duties of exalted rank, not less than they are the hereditary ornaments of the Duchess of Leinster; happy, if amongst the more brilliant and ambitious trophies, with which her future career will be anxiously decorated, it may hope to be remembered, however simple and unpretending, as one of the earliest and not the least sincere.

With the most profound respect,
I have the honor to be,
MADAM,
Your Grace's most obedient
and most humble Servant,
ARTHUR CLARKE.

North Great George Street,
Dublin, Nov. 1, 1818.

ADVERTISEMENT

TO THE

FOURTH EDITION.

IN obtruding on the public a fourth edition of this little Essay, the only excuse the Author can offer is, that he brings forth the fruits of longer observation and personal experience, on a subject which may be considered as a *remedy* of the *first* importance, in the cure of many obstinate and lingering disorders; and though he is himself the proprietor of one of the largest establishments of Baths in the United Kingdoms, he trusts it will be found, he has discussed the subject with impartiality. He has endeavoured to give a plain represen-

tation of the various baths which invalids may beneficially have recourse to ; and by an appeal to their own cases, to their own feelings, and to their own reasoning on each symptom of their ailments, he hopes it will enable them to ascertain the temperature, and the kind of bath adapted to their complaints and constitutions. The different cases adduced in support of the arguments laid down in this work, have been selected from upwards of four thousand similar cases.

In a Country like this, where SEA-BATHING is so indiscriminately resorted to, and where it is generally considered as an amusement or recreation ; and where the party scarcely ever seeks advice, or has recourse to any preparation but what consists in stripping, it must surely be a matter of importance to lay before the public, a view of the consequences likely to arise from such unguarded and inconsiderate practice. After pointing out those consequences, it has been the Author's endeavour to lay down a code of instructions, deduced

from principles and experience, which he hopes may prove useful to those who have a just regard for their own health, and for that of others committed to their care; and in order that the female reader may be induced to gain information on a subject, in which the disorders peculiar to her sex are so particularly noticed, he has endeavoured to make the language as free from scientific and latin terms, as the nature of the Work would admit.

In this Edition he has added some remarkable cases of *cutaneous* eruptions, and a few observations on *bilious, liver* complaints and *dropsy*, which he trusts will not be deemed inconsistent with the plan of the Work. He has also added a sequel, containing testimonials from *writers* of *authority* and *practitioners of celebrity* in different parts of the world, upon the advantages to be derived from Warm and Vapour Bathing.

His observations on Vapour Bathing in *Fever* he offers with deference, and trusts they will be received impartially. They are pub-

lished with a view to excite enquiry in others, who are attached to larger *Hospitals* than he is, and who have the best opportunities of ascertaining and improving a practice of this kind.

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INTRODUCTION.

THE chief object of the following pages, is to obviate an idea equally unfounded and prejudicial, that the use of the *Warm Bath relaxes* the frame, and renders it more susceptible of cold; and to prove on the contrary, that this remedy, properly applied, *is in reality a Tonic, and fortifies the system against cold.* For this purpose, the Author has brought into view all the practical knowledge he could collect from Medical Writers of the first eminence, whose works are too voluminous, too numerous, and abound too much in technical and scientific terms, to be within the scope of the generality of readers, who seldom have time or inclination to go through elaborate treatises; and if from such writers copious extracts have been taken, it is because they have expressed the Authors thoughts on the subject, in better language

and more to the purpose than he could possibly have done. But, although his object has been chiefly to diffuse a knowledge of what is already established, and has the concurrent sanction of the best writers and practitioners of different countries to support it, yet SOME FACTS WILL BE FOUND IN THIS SHORT TREATISE NOT GENERALLY KNOWN; which the author presumes may be of importance both to the profession, and to the public.

Though the external use of water, for the purposes of health and cleanliness, must have been common in all ages and nations, the practice of bathing as a luxury, or as a remedy, appears to have been entirely confined to the polished nations of Europe and Asia. In the early records of antiquity mention, indeed, is made of bathing, either as a religious ceremony, or as the means of fortifying the body against the hardships and fatigues of war; but with these views, the Cold Bath alone, must in the first instance have been employed.

That the ancient Physicians were not governed by any decided principles, respecting the external application of water, appears from their very loose manner of recommending it. They prescribed ablution and bathing

without mentioning the temperature to be observed, indifferent whether it was hot or cold. *See Avicenna, Trallian, and other ancient writers.*

The practice of bathing formed part of the Mosaic Laws. On various occasions it is mentioned in the Scriptures as a remedy for diseases. It appears from a passage in the 2nd Book of Kings, that the practice of bathing, as a remedy for cutaneous disorders, was well understood in those days, and that certain rivers were celebrated for their medicinal properties. Thus *Naaman*, the *Syrian*, when desired by *Elisha* to bathe in the *Jordan*, for the cure of his leprosy, exclaimed, "Are not Abana and Pharpar, rivers of Damascus, better than all the waters of Israel? may I not wash in them and be clean?"*

In the capital of the Roman Empire, according to *Fabricius*, there were not fewer than eight hundred and fifty-six public baths, some of which were sufficiently large to contain at once eighteen hundred persons; which establishments were regulated by the Legislature.

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* 2 Kings, v. 12.

Among the Turks* and Arabians, bathing was an established custom at a very early period, and is considered as a necessary of life to this day. In Russia there is scarcely a peasant's hut without its *vapour* bath; and at Moscow, public baths are more numerous than the Bagnios at Constantinople. It would however, exceed the limits of this litle Essay, to enter more deeply into the history of bathing. Passing over, therefore, more distant ages and nations, the Author will confine his farther view to its progress in Great Britain and Ireland.

In Great Britain the warm bath must have been common time immemorial, in consequence of its natural hot springs at *Bath*† and *Bristol*, yet till the middle of the last century we have no account of vapour bathing; about that time, an Italian Physician, (Dr. Dominiceti,) formed an establishment in London, to which the late Sir John Fielding gave great publicity, by recording and circulating the cures performed at it, to

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* "Cold bathing is unknown in Turkey an d Tartary,"—Lady Craven's Journey to Constantinople.

† The city of Bath was called by the *Anglo Saxons*, Ace Man's Cester, or *Sick* Man's City.

the magistrates in almost every part of England. Soon after, similar establishments were opened in Chelsea, Knightsbridge, and various parts of the kingdom; particularly at York, Manchester, Newcastle upon Tyne, Bristol, &c.

In Ireland warm baths were first established about forty years ago; but it was not till 1810, that a vapour bath could be obtained in this city,—in that year an establishment was formed in Dublin, in which the Author has had an opportunity of trying the effects of the external application of water, in its different forms and temperatures, on the human body: and the predilection which, it will be seen, he entertains for the vapour bath, is founded upon his personal experience in that establishment.

Since the above, similar institutions have been formed in Cork and Newry, and will probably, with the progress of improvement, become general in all the principal towns of Ireland.

ON

BATHING

IN

GENERAL.

A CELEBRATED Physician* has observed that "*In all things which our Art contains, there is nothing that does* GOOD, *but what may also do* HARM," and that "*when a remedy is used* INDISCRIMINATELY, *it must of necessity very frequently be used* IMPROPERLY:" this observation can in no instance be more justly applied than in that of bathing, as it is now well ascertained, that either the cold or warm bath may be very beneficial to some and extremely injurious to others, according to their complaints or constitutions. The effects of bathing are not the same in all conditions of the system, but derive their character more from the varying circumstances of the patient, than

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* Dr. Meade.

from any intrinsic properties they may possess, of universal activity. *Heat* and *Cold* are neither strengthening nor debilitating in themselves, but become so, merely in consequence of certain states of the body at the time of their application. The same application, which, in a strong person produces increase of strength, may tend immediately to debilitate the feeble; and a remedy, which, used with moderation, is a stimulant, becomes rapidly destructive to vital power, in an excessive dose. Every one knows that the body has a temperature uniformly above that of the atmosphere, in our ordinary seasons: it admits of but a slight occasional alteration, and is nearly the same in the Equatorial and Polar regions. Under the ordinary circumstances of health, the heat of the body indicates 98 degrees, on Fahrenheit's thermometer: it is seldom materially reduced even by sickness, but in some fevers rises as high as 109; these alterations however are unnatural, and are attended by a great waste of strength. The uniformity of temperature is sustained entirely by the vital powers, and the process appears to be carried on with the least expenditure of force, when the atmospheric air indicates 60 degrees: every material deviation from this

point, whether by increase or diminution of temperature, if long continued, draws equally upon the constitution, and produces relaxation proportionate to the extent and duration of the cause; so that in this sense, both heat and cold are directly debilitating powers to the human constitution.

If the body has been for some time exposed to a high range of temperature, the action of the vascular system is increased, and the blood is preserved at its own temperature, 98 degrees, by the evaporation of perspired fluids; this expenditure rapidly debilitates, and a bath at 60 degrees would be tonic under such circumstances, by abating the debilitating cause. If the same person had been long exposed to a range of temperature below the freezing point, the power of life would be equally exerted in keeping up the 98 degrees, but in a different way; and there would follow an equal waste and an equal debility: the same bath of 60 degrees would then prove tonic, by arresting the necessity for such exertion of the vital powers, and giving the constitution breathing time—accordingly, the temperature of snow is sufficient for stimulating frost-bitten limbs. To a person chilled by the ordinary temperature of our wintry rains, and

more especially if of a weak habit, this same bath of 60 would be too cold, and would, under these circumstances, still further debilitate; in such a case, a tepid bath would alone be tonic, by its direct stimulus.

In very feeble persons, who are not equal to support the expense of vital power, necessary for preserving the natural heat during winter, who are subject to cold feet, and generally chilliness, a warm bath is tonic, by an artificial supply of heat. If, however, the same person indulge too long in this luxury, he acquires a quantity of superfluous heat, which generates a necessity for increased perspiration, and thus equally calls too much on his vital powers. To such person, and in such a way, the warm bath is debilitating. The propriety, therefore, of bathing, and the mode of bath which may be admissable, are matters of no trifling consideration, and should never, in disease, be left to the patient's own unassisted judgment.

The body is capable of resisting different degrees of external heat or cold, according to the habit it has acquired: there are instances of its bearing 20 degrees below 0, of Fahrenheit's thermometer, with very moderate clothing, and 115 above it, without alteration.

The celebrated Boerrhaave, from some experiments on animals, concluded that the blood would coagulate in our veins at a temperature very little exceeding 100; more modern trials however have proved, that the human frame can bear for a short time, at least more than double that degree of atmospherical heat, and that too, without greatly increasing the natural temperature of the body.

In the interior of Africa, where the heat is often very considerable, (200 degrees and upwards,*) the heat of the body does not alter, and animals have sometimes been exposed to a much greater degree. Mr. Tillet found that a girl could live for some time in an oven heated to 220; and the late Dr. Fordyce, exposed a dog to a heat of 300 for half an hour, (a heat sufficient to roast him if dead), without his natural temperature being much increased: and the doctor himself told me, he endured the heat of 230 for fifteen minutes, while the thermometer under his tongue pointed only to a 100. The heat of the body has seldom been observed to be less than 94, or more than 110: thus, the power which produces, maintains, and regulates the heat of the

* Fordyce's Lectures.

human body in health, produces heat when the surrounding substances are cold, and produces cold when the surrounding substances are warm.

In order to give as complete and as general a view of the subject as the limits of my present undertaking will allow, I shall first consider the several *varieties* of baths now in use, the effects which each produce on the human body in its healthy state, and then draw conclusions—how far bathing is of use for the preservation of health and the cure of disease.

Certain saline and medical impregnations of the water, together with the differences of temperature employed, from near the freezing point to a heat considerably above that of the body, constitute the principal varieties of baths, which are denominated, *salt water*, or *medicated*, *cold*, *cool*, *tepid*, *warm*, *hot* and *vapour* baths. When the naked body is exposed to the cold air for a considerable time, it is termed an *air* bath, a practice recommended by Dr. Franklin, as a substitute for bathing.

By far the most important varieties of baths are those in respect of temperature. The cold bath possesses the ordinary temperature of

the atmosphere, from above 32 to 65 degrees of Fahrenheit; the temperature between that and a tepid bath, viz. from 65 to 85, may be called *cool;* the medium temperature of the tepid is 90; and from 95 to 98, is denominated warm: when it exceeds blood heat, or the ordinary temperature of the body, it is a hot bath, which is seldom used above 105 degrees: the vapour or *steam* bath, which may be considered only as a modification of the hot, is used from 100 to 130, which degree could not be endured in a denser medium.

According to the mode in which baths are employed, they are usually distinguished into *general* or *partial.* General, when the body is plunged or immersed in water, to which the term *bathing* is more strictly applied; and when the water is thrown over the body, by means of an apparatus which causes it to descend in a shower, it is called a *shower bath;* this last method is by medical men sometimes termed *affusion,* and is practised both with cold and tepid water, with good effects; when the lower part of the body is immersed in water, it is denominated *hip-bath;* or *semicupium,* and when the feet only

are bathed, the bath employed is called *pediluvium.*

In describing the effects and uses of baths, of different temperatures, I shall begin with the

COLD BATH,

whose temperature does not exceed 65 degrees, as that which in this country is most generally employed.

When a person in the ordinary state of health is immersed in a cold bath, he first experiences a general sensation of cold, which is almost immediately succeeded by a general sensation of warmth, the latter rapidly increasing, so as to cause the surrounding water to feel of an agreeable temperature. If the immersion has been sudden and momentary, and the body be immediately dried and covered from the air, the agreeable sensation of warmth continues, the whole body feels refreshed and invigorated, and under favourable circumstances, the natural perspiration is increased.

If, however, the immersion be continued for a considerable time, and the water be

not at the highest range of the temperature assigned to the cold bath, the sensation of warmth goes off, and is followed by numbness and shivering, the skin becomes pale and contracted, the vessels near the surface of the body are evidently diminished in diameter, and the blood which flows through them is drawn towards the internal parts : the person feels drowsy and inactive, his joints become rigid and inflexible, his limbs are affected with pain and cramps, his respiration becomes quick and irregular, his pulse low and small, and his perspiration suppressed. If the immersion be still continued, or if the water be very cold, the pulse gradually ceases, the action of the heart becomes weak and languid, a sensation of faintness and coldness of the stomach is experienced, followed by a rapid diminution of the whole animal heat; at length the vital energy becomes exhausted, and death ultimately ensues.

In the foregoing description, we suppose that the body has been suddenly plunged into the water; if, as it often happens with weak or timid people, the bather enters the bath slowly, or if the water is much below 60 degrees, the sensation of cold is more striking, a shivering is produced, and as the per-

son advances so as to make the water rise towards the belly and chest, a shuddering and convulsive sobbing takes place, sometimes attended with sickness and head-ache.

When the cold bath is applied by way of affusion, or from a shower bath, its effects are generally more sudden and more transient, though by repeated affusions they may be increased or prolonged to any required extent. The degree of returning warmth will depend on the circumstances of the body being preserved from the evaporating action of the air.

The warm glow or increase of animal heat, which so generally follows the sensation of cold, experienced on the sudden application of the cold bath, is to be ascribed to the re-action of the system, which enables it to resist an external impression, by which it might be injured: this re-action is in proportion to the intensity of the cause by which it is excited, and to the vigour of the vital powers, of which it constitutes a peculiar effort. It is this re-action of the system which enables the body to derive advantage from the application of the cold bath; and where the re-action does not take place, or takes place only in a small degree, the cold

bath has been injudiciously employed—hence, where the system has been debilitated by long continued exertion, or disease, the cold bath should be avoided; and when after the use of the cold bath a person feels heavy, inactive, or chilly, or finds himself affected with head-ache, or tightness across the chest, it is evident it does not agree with him, or that he has continued it for too long a time.

From what has been stated it will appear, that the use of the cold bath is attended with the following effects:—a sudden and powerful shock is given to the body on the first immersion; a sudden abstraction of heat takes place from the surface, and a sudden increase of blood to the interior parts; a re-action of the system counteracts the shock, and restores the diminished temperature. In its general and primary effects, therefore, the cold bath, judiciously used, acts as a powerful stimulus to the whole system, by rousing the vital powers to exertion; and to this effect its advantages, as a remedy, are chiefly to be ascribed.

It has been very commonly supposed, even by medical men, that immersion in the cold bath, when the body was considerably heated with exercise or other exertion, is a

dangerous practice; and accordingly it is a general custom with bathers who find themselves overheated, to wait till they are cool, before they plunge into the bath. This opinion, and this practice, have been examined and ably controverted by the late Dr. Currie, who has shown, both from theory and experience, that the opinion is erroneous, and the practice injudicious. This is so true, that he has for some years directed infirm persons to use such a degree of exercise before immersion, as may produce such increased action of the vascular system, with some increase of heat, and thus secure a force of re-action under the shock, which otherwise might not always take place. The popular opinion, therefore, that it is safest to go perfectly cool into the water, is an unfounded error productive of injurious consequences; and if persons, in compliance with this opinion, persist in waiting at the edge of the bath till they are cooled, they should attribute any unhealthy chilliness that may follow their plunge into the water, rather to their own injudicious precaution, than to the effects of the bath or a supposed improper heat of the system at the moment of immersion.

In glass-houses, and other manufactories,

where the persons employed are exposed to extraordinary degrees of heat, such persons, guided by nature, often endeavour to obtain relief by exposing themselves to degrees of cold, which on the commonly received opinion, would in their situation prove inevitably fatal. In this city it is common for the workmen in such manufactories, contiguous to the Liffey, after enduring for some time the consuming heat of their furnaces, to plunge into the river; a practice which they find in no respect injurious: and on the coast of Africa, the women immediately after delivery, seek a refuge from their burning atmosphere, by immersion in the sea.

It seems to be a general truth, that from whatever cause the heat of the body is increased, in proportion to this increase (provided no local disease has occurred) is the safety with which cold may be applied. In the experiments of Dr. Fordyce, Sir Charles Blagdon, and others,* it is repeatedly mentioned, that these gentlemen passed from a room heated to 200 degrees and upwards, into the cold air, with perfect safety. "During the whole day," says Sir Charles Blag-

* Trans. Roy. Soc. Vol. LXV. p. 111 and 484.

don, " we passed out, (and the temperature of the air seemed to have been 240, and sometimes 260 degrees), after every experiment, immediately into the cold air, without any precaution; after exposing our naked bodies to the heat, and sweating most violently, we constantly went into a cold room, and stood there for some minutes before we began to dress, yet no one received the slightest injury."*

From the effects of the cold bath on the healthy body, which have been pointed out, the following conclusions may be drawn, respecting its employment in the cure of disease.

The principle advantages to be expected from cold bathing, in a medical point of view, are either the reduction of excessive heat, or the producing a salutary re-action of the system. In the former way it has been found useful in several febrile diseases, where the temperature of the body is increased above the natural standard; but affusion, in those cases, is more advisable, and more efficacious in reducing the morbid temperature than immersion—this practice must of course then rest entirely in the hands of the physicians.

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* Page 494.

It may not be uninteresting to refer to the practice of cold affusion in Persia, during the seventeenth century, as described by Sir John Chardin, a French Protestant refugee, who made a number of journies into Asia: he was knighted by Charles II.: his works were published at Amsterdam in 1688, and no traveller stands higher for accuracy and fidelity.

The Persian physicians, he informs us, were then, as they are probably still, religious disciples of GALEN, whom they supposed to be cotemporary with JESUS CHRIST, and to have had much intercourse and conversation with him. Bathing was one of their great remedies, especially in fever, as appears from his own remarkable case, of which the following is an abridgment.

"On the 20th of May, 1674, he had reached *Bender Abassi*, on the Persian Gulf, opposite the Isle of Ormus, in the 27th degree of North latitude, where he waited for the arrival of a ship from *Surat*, which was to carry him to India. The place at this season of the year being very unhealthy, he was advised by the physicians not to remain, but to return through Persia by land: he set out on his return accordingly, and on the 23rd was seized with a violent attack of fever, with *delirium*,

He had a French surgeon with him, who gave him every assistance in his power. The air of the country where he was taken ill was so bad, that he resolved to be carried forward in spite of his weakness; and for this purpose, eighteen men were hired, who made a sort of litter, or bier, of canes and branches of trees, by which they carried him on their shoulders to the village of *Laar*. For the first and second day, during this mode of travelling, the fever continued, with frequent faintings, but on the third day he had a crisis, and was relieved.

"He arrived at Laar, at day-break, on the 27th, for they travelled by night only, on account of the excessive heat; there he obtained the assistance of the governor's physician. The fever returned with violence; the French surgeon and himself thought the case desperate, but the Persian physician treated it as of no consequence. "You have," said he gravely, "the fever of Bender; but do not be uneasy, for with God's blessing, I will relieve you from it this very day." Chardin cried, "I am dying of heat!" "I know it," said he, "but you shall soon be cooled." The physician prescribed a quantity of medicine, consisting of two emulsions, a cooling

confection, a quart of some bitter decoction, four bottles of willow water, and a teapot-full of ptysan. Those arrived by an apothecary, about nine o'clock. He swallowed the medicines with extreme difficulty and reluctance, but without apparent benefit. About ten his heat and thirst increased rapidly, and the apothecary told him he should have been happy to give him *snow* water to drink, but that snow being scarce, none could be procured any where but at the Governor's. "As in the extreme heat of my fever," said Chardin, "I thought nothing could be so delicious as a draught of snow water, I sent to beg a little of the Governor, who sent me some about eleven o'clock, and as I had the most raging thirst, I drank with more pleasure and avidity than I had ever done in my life. My apothecary was always near me; it was he who administered the liquid to me: he filled a large vase with barley water and willow water, put a lump of snow into it, and when it was half melted gave me the vessel, and desired me to drink my fill: the pleasure I had in drinking was the greater, because the liquor was very agreeable to the taste, and I took it by the physician's desire. I was lying on the ground floor of the house, in a cool room, my bed

stretched on the ground ; every hour the floor was watered, so that it might be said to have been quite covered with water, but nothing could allay the heat of my malignant fever, which seemed to be irritated, rather than abated, by so many cooling remedies. My apothecary then ordered my bed to be taken up, saying it heated me, and he spread a thin mat in its place, upon which he made me lie down in my shirt, without any other covering, and then made two men come and fan me ; but this was of no avail, the heat connued as oppressive as ever. The apothecary, who paid me the most constant attention, then procured *two buckets* of cold water, and having placed me on a chair, on which I was supported by two men, *poured the water over my body*, and then taking a large bottle of rose water, bathed my head, face, arms and breast : I blessed in my heart the Persian practice of medicine, which treated sick persons so voluptuously, but my French surgeon, who was always by me, could not contain his indignation—" The man is killing you, sir," said he, in a compassionate tone : " What ! *bathe* you with *cold water* in the *heat* of a *fever*, with a pint of emulsion, two pints of decoction, and a pound of confection in your

belly; depend upon it," added he, "that instead of being very soon without fever, as he has promised you, your death will be the end of this business." "I do not know what will happen," answered I, "but at any rate I do not feel as if I were about to die, as you suppose." Indeed at that moment I felt the heat within me diminish, and my senses return: upon my apothecary having felt my pulse, said he, "Your fever is abating." It went off from that time so quickly, that by one o'clock in the afternoon I was quite free from it, even in the opinion of the French surgeon—he was quite astonished, and I was transported with joy. After having offered up my devotions to God, as the first cause of my recovery, I said to the apothecary, that to complete my happiness I must see my physician.

In the evening he arrived, and I received him as a prophet, or as Esculapius himself; he had learned how I had spent the day, and ordered me a mess of rice, boiled in water, with cinnamon and the bark of dried pomegranate, pounded together. I had taken no nourishment whatever for five days.

The manner of applying cold in this case, corresponds with the principles already laid

down. The Persian physician attacked the fever at the height of the exacerbation; he had in view the subduing the morbid heat. Whether the cold affusion, as described by Sir John Chardin, has continued in Persia down to the present time, I am not informed, but that a similar practice prevails in the corresponding climate of *Africa*, appears from the information of *Bruce.—See his Travels, p.* 156, *Shaw's abridgment.*

Where he says, "If the patient survives till the 5th day, he very often recovers by drinking water only, and throwing a great quantity upon him even in his bed, where he is permitted to be without attempting to make him dry, or change his bed till another deluge adds to the first."

The late Dr. Currie, of Liverpool, in his excellent work, published in 1797, has accurately stated the advantages arising from the external application of *cold* water upon scientific principles. The whole of his doctrine may be comprised under the following general heads.

1. In fever the cold affusion must not be employed in the cold stage.

2. As soon as the hot fit is formed, cold

affusion is to be used immediately, and repeated occasionally.

3. In the sweating the stage it is to be cautiously avoided.

The fevers in which this practice was adopted by Dr. Currie, were typhus, intermittents, and scarletina, and it consists with my knowledge and experience of this practice to state, that when the cold affusion is judiciously employed, it produces an abatement of heat, a diminution in the frequency of the pulse, and in most instances a tendency to perspiration.

In the Bengal remittent fever, cold affusion has been practiced time immemorial among the natives, as the following quotation from the *Oriental Field Sports*, Vol. 2, p. 318, will prove. "We must however," says the author,* "do the natives the justice to allow, that the refrigerating principle lately adopted by some of our leading physicians owes its origin solely to the ancient practice of the Brahmin's or Hindoo Priests, of whom the generality affect to be deeply skilled in pharmacy. I believe if taken in time, few fevers would be found to degenerate into typhus, and that very seldom any determination towards the liver in acute

* Captain Williamson.

cases would occur, were the refrigerating course to be adopted. Often have I known my servants when attacked with fever to drink cold water in abundance, and to apply wetted clothes to their heads with great success, the former has generally lowered the pulse considerably by throwing out a strong perspiration, while the latter has given immediate local relief."

Various histories are to be found in the records of medicine, of persons who, under the delirium of fever, have thrown themselves into cold water; in almost all of which it is mentioned, as very extraordinary, that the patients when taken up were perfectly in their senses, and speedily recovered from their disorder. Of these cases, a great number have occurred at sea, where it is evident accidents of this kind are most likely to happen.

In a work on the diseases of seamen, published by Dr. Cockburn, Physician to the Fleet, about the beginning of the last century, several cases are related of sailors, who, in the time of *delirium*, or of having *calentures*,* when lying in their hammocks of a

* Calenture, is a distemper in hot climates, wherein they imagine the sea to be green fields.

calm summer's day, seeing the sea through the gun ports very plain and smooth, imagined it to be a green meadow, got up to walk, and fell into the sea; if taken up alive, and placed in their hammocks, these men sweated very plentifully, and quickly shook off their disorder.

The cold bath is said to have cured *tetanus*, or locked jaw; *epilepsy*, or the falling sickness; *hydrophobia*, or canine madness; and *insanity*. The benefit derived from the cold bath in these disorders, depends on its being used in the paroxysm of convulsion; its efficacy consists in resolving or abating the paroxysms; and when this effect is produced, the return of the paroxysm is greatly retarded, if not entirely prevented. The following cases will illustrate this singular fact.

"A seaman on board the Princess Amelia, East Indiaman, at the Diamond Harbour, where the Company's ships anchor, a very stout, athletic man, in whom the remittent fever had at times alternated with epilepsy, (a disorder very frequent in the East Indies,) jumped over board; at the moment he did this, an alligator was alongside the ship—he seemed at once to become sensible of his danger, and swam with great vigour till he was

assisted. The moment he came on deck, his countenance, which was before grim and unpromising, assumed a more mild and temperate aspect; his pulse, which had been extremely quick and feeble, was now slower and fuller; and his recollection, which had been confused and indistinct, became clear and accurate: he was immediately rubbed dry and put to bed—his senses returned instantly—he fell into a profound sleep, which terminated in a profuse and general perspiration. The consequences were, a very speedy and permanent recovery."

In Currie's Medical Observations, an interesting case of insanity is recorded, which I shall briefly state, as a very remarkable instance of the efficacy of the cold bath in that disorder, after the warm bath, with a variety of other remedies, had been tried in vain.

"L. I. aged thirty-two, a man of very irregular habits of life, was admitted into the Lunatic Asylum in a state of furious insanity, supposed to be brought on by excessive drinking,"—here the Doctor relates the whole of his medical treatment, but it is sufficient for my purpose to state, that the usual powerful methods of coercion were had recourse to, and saline and other purgatives, opium digi-

talis, and the warm bath, with bark and steel, were exhibited, without any tranquillizing effect, from the 2nd of June to the 21st of July: "he became emaciated, and his pulse feeble, and he was more fierce than ever. On the 21st of July, during a violent fit of his disorder, he was thrown headlong into the cold bath; he came out calm, and nearly rational, and this interval of reason continued for twenty-four hours. On the 23rd he was thrown again into the bath, in the height of his fury, as before—as he came out he was thrown in again, and this was repeated *five* different times, till he could not leave the bath without assistance; he became perfectly calm and rational in the bath, and has remained so ever since. He continued for some time in the Asylum, using the cold bath daily, and taking the oxyd of zinc in small quantities. He never relapsed, and was discharged sometime afterwards, in perfect health of body and mind."

In nervous diseases, very much of the good effects of the bath arises from the shock, which the nervous system receives from the suddenness of the immersion;—this effect is to a great degree insured by the use of the shower bath, which is always a good substitute, where circumstances prevent the use of the common

cold bath; and is, in some cases, even to be preferred, as affording a more regulated application, and one that acts immediately on the head.

From these observations it will be easy to enumerate the cases in which cold bathing will prove injurious. When the powers of life are very considerably reduced, and the heat of the body is lowered, there will be no chance of that salutary re-action, on which the virtue of this remedy depends; on the contrary, a still further decrease of strength and temperature must be the result. In general plethora, or fulness of the vessels, and in inflammatory diseases of the more important viscera, the cold bath proves injurious, however high the feverish heat, which accompanies such diseases, may be raised. For, by repelling the blood from the surface, the cold bath causes a greater influx of that fluid into the interior of the body, the inflamed part, already oppressed by too large a proportion of nourishment and excitement, is thereby driven into still more inordinate action, and the disease rendered more violent and dangerous. Another circumstance which prevents the exhibition of this remedy, is the unconquerable dread that it sometimes in-

spires, and which no effort of the mind can prevent: when this unfortunately is the case, re-action very seldom follows the forcible application of the remedy, but a shivering fit takes place, with all the concomitant circumstances, which mark its inutility, and renders its application injurious.

In these cases, the cold bath, in *all* its forms, is inadmissable; and in no instance whatever should it be used, without the advice of a physician. Numbers of invalids, delicate females, puny, rickety, and young children, who crowd the watering places in the bathing season, are materially injured in their health by the unadvised and injudicious use of this powerful application.

SEA BATHING.

Sea bathing has frequently received the credit of a cure, which was entirely owing to the change of air; and many times, unsuspectedly, the gradual and permanent application of the cold bath has originated and laid the foundation, of chronic diseases and peculiarity of constitution. Its utility in *scrofula*, and glandular swellings of the neck, is extremely doubtful. Mr. *Carmichael*, in his

very ingenious Treatise on Scrofula, corrobates my opinion on the effects of the cold bath in that disease. Respecting the inefficacy, or rather injurious tendency of sea bathing, where the patient's vital powers are so deficient that re-action does not follow the immersion, he discards its use altogether; but from the action of the *tepid salt water* on the vessels of the skin, he says it is an auxiliary that cannot fail of being serviceable, and from which he has witnessed the very best effects.

Indigestion, swelled abdominal viscera, enlarged mesenteric glands, obstructed livers, indurated spleens, chronic pains in the stomach and bowels, and many other disorders, are frequently the result of cold bathing.

Darwin thinks that the diseased liver and spleen are generated during the cold fit of the ague: the long-continued shivering fit, which precedes re-action of the cold bath, in feeble patients, is very analogous to that condition of the body.

The cold affusion, and cold bath, have been recommended by many surgical writers to assist the reduction of *strangulated hernia*: I have seen them tried sometimes with advantage, but much oftener without success.

Mr. Hey, of *Leeds* saw a spontaneous ascent of a strangulated intestine, caused by a single immersion in the cold bath; but a solitary instance of its utility should not induce us to try this practice, when we are in possession of a much safer and more effectual remedy, the warm and vapour bath.

In gouty and rheumatic complaints, however—in diseases of the hip joint, lumbago, or sciatica, after the removal of those complaints by the use of the vapour or hot bath, (and in conjunction with other remedies,) the alternation of the cold with the vapour bath, places the system in better state of defence against a renewal of the morbid action; and nothing appears to restore strength so rapidly as the cold bath to such patients. In gouty inflammation, the application of cold water has been much recommended by one physician, (Dr. Kinglake,) but is by no means generally advised—it should be made with great caution, if at all. When the inflammation disappears, the use of the cold bath may assist in renewing the tone of the vessels, and inducing a more perfect and rapid recovery.

There is a point of debility and morbid feeling, after the cessation of a fit of the gout, at which the cold bath has as good an

effect as in rheumatism,* and from the benefits arising from its use, in such cases, the vapour bath should be first used, to induce that state of feeling on the surface, which is so immediately beneficial on the application of cold. This seems consonant to the effects we perceive in inflammations of other parts. The inflammations of the eye sometimes yields to cold applications, and at others resists them, and then the application of hot fomentations may be used with great advantage. In some inflammations of the eye, particular in many cases after the operation of couching, or of breaking up the crystalline humour in the eye, as lately practiced in this city by Sir W. Adams, the alternate use of the *cold* and *tepid* shower bath produced a cessation of inflammation, when neither of them, singly, appeared capable of putting a stop to increased action.

Horace attributed the recovery of his sight to the use of the cold bath, at Clusium and Gabii, after the use of the hot baths at Baiæ.

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* Dr. Kentish.

SHOWER BATH.

The cold shower bath is less alarming to nervous patients, and less liable to produce cramps then cold immersion : it may be considered as the best and safest mode of cold bathing, and is recommended in some nervous complaints with good effect ; but it should never be used without the advice of a medical man.

In two cases of insanity, I have tried it with singular advantage, but while the cold shower bath was pouring upon the patient's head, I had their whole body immeresd in a warm bath. I think the experiment perfectly safe, and mention it for the better consideration of those Gentlemen who are concerned in Lunatic Asylums.

COOL BATH.

When water exceeds the temperature of 65 degrees, and till it arrives at 85, it may be termed cool : a bath of this temperature is seldom employed, except preparatory to the cold bath. The usual custom, and indeed the best preparation for cold bathing, is to begin with a warm, then a tepid, and after-

wards a cool bath; after this course, the bather may in general plunge with safety into the cold bath. In most cases, a bath every second day, from the commencement of the warm bathing to the end of a fortnight, will be sufficiently frequent; afterwards, the cold immersion may be continued daily—but the bather should never remain above two or three minutes in the water; and if not of a strong constitution, should merely make the plunge, and coming immediately out, have himself dried as rapidly as possible.

It may be satisfactory to know, that in situations distant from the shore, where sea water cannot be had, *artificial sea water*, made by dissolving a pound of bay salt in four gallons of fresh water, possesses all the properties of sea water.

TEPID BATH.

On immersing the body in a tepid bath, which takes its range from 85 to 95 degres, no striking sensation of either heat or cold is felt. Here it may be necessary to remark, that the sensation of heat or cold, which a person may feel on immersion in water of a medium temperature, will depend on the de-

gree of heat or cold to which his body has been previously exposed; so that a person much chilled, will, on entering a tepid bath, feel the water warm—while another, who has been heated by exercise, will find it sensibly cold. This is well illustrated by the familiar experiment of immersing one hand in a vessel of cold water, and the other in one of water that is moderately hot, and then plunging both, at the same time, into tepid water; the cooled hand will feel the tepid water warm, while the heated hand will have a sensation of cold. Immersion in a tepid bath is attended with several advantages—the surface of the skin is freed from that scaly matter, which always collects, more or less, in the healthiest persons; and hence the pores of the skin are opened, and the natural perspiration is promoted; the limbs are rendered supple, and any stiffness, which may have been produced by great exertion or fatigue, is removed. Such an immersion has also been found to allay thirst; a proof, in the opinion of most physiological writers, that a quantity of water is absorbed, and enters through the skin. In consequence of this opinion, after the operation of *bronchotony*, the patient is frequently put into

a tepid bath of *milk*, *whey*, or *broth*; and, if we may credit the tables of mythology and the legends of superstition, even *human blood* has been employed for this purpose.

Affusion with tepid water has generally the same result, except that, if the body continues exposed to the air after the affusion, a sensation of cold is produced, and this in proportion as the air is more favourable to evaporation, and consequently to the generation of cold on the moistened surface of the body: hence the advantage of wiping dry the *upper* part of the body instantly on rising out of the bath, while the lower extremities are still covered with the water.

The tepid affusion is applicable to all the diseases to which the cold affusion may be applied, and is generally preferred when there is doubt of the strength being sufficient to re-act, after a cold immersion. It possesses very considerable, though inferior, efficacy; it is safe, easy of application, in a high degree grateful, and may be extended to almost the whole class of febrile diseases.

The tepid bath seems from experience to be the best adapted to the purposes of cleanliness and healthy exercise. That a due attention to a strict purity of person is too often

neglected in this country, cannot be denied. The matter thrown out by the exhaling arteries, is frequently permitted to accumulate for a long time on the surface of the skin ; by obstructing perspiration, this matter is, with justice, supposed to give rise to a variety of cutaneous disorders, which might be prevented, as they are now known to be cured, by bathing in simple warm water. The quantity of white scaly matter which may be observed floating on the surface of the bath, after a person not in the habit of bathing, affords sufficient evidence of the necessity of occasional ablutions.

PREGNANCY.

Among the many benefits arising from this pleasurable and simple remedy, there is one which must give the highest gratification, when more generally known ; and to this I wish most earnestly to draw the attention of the faculty—I mean, the great relief which it affords during the period of pregnancy, to the more delicate and suffering part of the creation.

It has often been matter of astonishment to me to hear it asserted, even by gentlemen of

the faculty, that tepid bathing during pregnancy, will produce either abortion, miscarriage or premature labour. I cannot in words sufficiently strong express my surprise (at this time of the day) to hear opinions boldly advanced which have no just foundation in either theory or practice. Perhaps however when we come to look a little closer into the reasons for holding so groundless a tenet, we shall find that the gentlemen who maintain it, are in reality speaking merely to the effects of bathing the feet, to which alone they will have the candour to admit their experience extends in the present instance; and then how very inconclusive the reasoning must appear which infers that the effects of a general bath of *tepid* water, must necessarily be the same as those arising from the partial immersion of the lower extremities.

The advantages of *tepid* bathing during pregnancy are not confined to lightening the load of gestation, but extend even to the very hour of delivery. The great tension of the body, from the increasing bulk of the fœtus, is prevented, by the relaxation induced in the skin; the bowels are preserved in a free state, to the great comfort and safety of the patient; but above all, a pliability of fibre is created,

which, diminishing resistance, *lessens the pains, and shortens the period* of *actual parturition; and by these means secures from danger the objects of all our tenderness in the most interesting moments of their lives.* These are advantages which cannot be viewed with indifference, by any one alive to the danger and distress attendant on this condition of the female creation, and the practice requires only to be known to be adopted. But improvement or discovery in any art or science, at first is generally opposed, either from motives of prejudice which it offends, or of ignorance which it mortifies. One of the greatest physicians that ever lived acknowledges the truth of this observation as applied to the medical profession in particular. "*There is scarcely an improvement,*" says he, "*in our art, however obvious, that did not experience at first the almost unanimous opposition of the faculty.*" Truth, however, is of a buoyant nature, and generally rises above the force of prejudice, the violence of ignorance, and even the keenest shafts of ridicule.

To the use of tepid bathing during pregnancy, I was led by the consideration of the facility of labour in hot climates, and by a custom still prevalent among the peasantry

in many parts of this kingdom, who make use of an expedient apparently pointed out by nature, to lessen the pains of labour: when the woman has symptoms of approaching labour, the midwife instantly takes hot cinders and ashes into the middle of the *earthen* floor, (which forms a complete vapour bath,) and places the patient over them till the moment of actual delivery.* In the colder regions of the north, in all Russia, Lapland, Sweden, Norway and Denmark, "there is no cottage so poor, no hut so destitute, but it possesses its vapour bath, in which its inhabitants experience both comfort and salubrity; and it makes so necessary a part of the system of living, that it is used by people of every age, and in all circumstances, by infants, and by *women at their lying-in*, in almost all sicknesses, before and after a journey, after hard work or excessive exercise, to obviate the effects of fatigue."†

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* In a letter which I have lately received from an eminent physician in Paris, he states that "it is now becoming the fashion here to put the lady into a warm bath as soon as the labour begins, and to deliver her in the water."

† See Dr. Clarke's Travels in Russia.

INFANCY.

The infant passing from a warm fluid of the temperature of 98 degrees, in which it had been enveloped from the commencement of its bodily conformation till its birth, is suddenly exposed to external impressions of every kind, and in a short time after to all those accidental attacks to which childhood is invariably subject.

At the time of the child's birth and during its infancy, the heart, the arteries, the brain and the liver, are larger in proportion to the body than at any other period; and consequently their secretions more copious: as the body advances in growth, those disproportions are gradually lost; the brain and the liver increase more slowly, and the extremities with more rapidity; but the head ceases to grow much sooner than any other part of the boy.

At this period of life, from the disproportionate size of the head, inflammation and congestions, in the brain are frequent; and in *all* febrile diseases, there is a greater proportion of blood sent to the brain than in the

subsequent stages of human existence: the effects of this preternatural determination to the head appear by convulsions in the eruptive fevers, in teething, and in the fever from worms; but there is some difficulty in distinguishing congestions from accumulation of water in the brain.

Congestion and inflammations in the liver, from the immense size of that organ are also frequent at this period, which in many instances terminate in water on the brain, and sometimes in general dropsy.

I shall not enter into a detail of those diseases, but only observe, that *Sea bathing*, or whatever tends to throw the circulation on those organs, tends also to increase their secretions, to produce congestions, and to retard the developement of other parts of the body, which at this period ought to take place. The predilection which mothers have in general for cold bathing, in order to brace and strengthen their children, as *they* conceive, accounts for the frequent cases of dropsy of the brain which occurs in the early periods of life, and of bilious and liver complaints in the latter periods; which are decidedly the most prevailing disorders in Dublin, arising

from the indiscriminate use of the cold bath.*

I have at present a case of *jaundice* in a little boy of six years old, brought on by sea bathing:—three cases of *Hydrocephalus*, proceeding primarily from hepatic obstructions, brought on by the same cause: and I lately examined the body of a young gentleman, who died at the age of twenty of an *enlarged*

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* I have seen five thousand children and upwards of a day, marched through the streets of Dublin, from the House of Industry, and the different Charter and Parochial schools, to the sea side, and *all indiscriminately* immersed without any regard whatsoever to peculiarity of constitution. I have observed many of those unfortunate little wretches who are thus daily *forced* into the sea, return to their respective institutions pale and shivering, with their little countenances contracted, their lips blue, and their bodies debilitated; but, such is the *mania* for cold bathing in this city, from its contiguity to the sea, that little or no attention is paid to the habitual complaints or to the constitution. *All* are advised to avail themselves of this *universal panacea*, and when any bad effects are immediately observed to arise from bathing, they are attributed to the circumstances of having been too warm at the time of immersion, as to the neglect of due preparation, by the use of medicine, which is considered as an *infallible security* against all danger.

heart, (three times the natural size), which had been increasing from his childhood; at which period, he was, with other children constantly bathed in the sea. Previous to his death the palpitation of his heart was so strong as to be heard beating against his ribs! Mr. Carmichael was present and assisted at the dissection.

Frequent bathing in tepid water at the temperature of 95 at least, by drawing the circulation from the internal organs to the surface of the body, is highly conducive to the developement of the corporeal organs during infancy and childhood, as well as to the preserving the skin in that state of softness and pliability, which is not only a sign of good health, but which tends to facilitate the eruption, and diminish the danger of the various *diseases of the skin* to which children are so subject. During the period of *teething* this practice is attended with the best effects, and in a variety of diseases, when the glands of the mesentery become obstructed and thickened; when the appetite is great and ravenous, but neither health nor strength are the result; the more food given in this case, the worse the disease, as it oppresses without nourishing the system; no healthy appearance

can therefore take place, until these obstructions are removed.

In *Mollities Ossium*, or a softness of the bones, and *Rickets*, the tepid bath, as an auxilary to the following powders, have effected many cures in a much shorter period than any other plan of treatment that I am acquainted with;

Take of the prepared Carbonate of Lime, one drachm,
Powdered Rhubarb, one scruple,
Calomel, six grains.

Mix and divide into twelve equal parts—one to be taken every night,* and the child to be immersed for ten minutes in a tepid bath every morning, during the course.

PUBERTY.

This is a period of great delicacy, and sometimes of danger, particularly with females; until the balance of the circulation is fairly established, there is considerable irritability, and all nervous diseases are in-

* For a child of from two to four years old.

creased: some, particularly St. Vitus's Dance at this time appears.

During the period of puberty, which is usually completed in two years, sea bathing should be avoided; the tepid bath may be used with advantage: the latter facilitates the establishment of the constitution, while the former checks the growth of the body, and protracts the period of puberty.

MIDDLE AGE.

After puberty, and in the middle periods of life, sea bathing may be used, provided no predisposition to diseases of the skin, or to affections of the liver exist. The best mode of bathing, and that which will give firmness and solidity to the frame, increase muscular and mental energy; bestow animation, nerve and activity, in the alternate use of the cold and tepid bath, or the Russian mode of bathing.

In the whole progress of life the body is continually becoming less vascular; the vivid bloom of youth, which is owing to the ramifications of minute arteries in the skin of the cheeks, subsides into the moderate hue of middle life, and this into the wrinkled and shrunk appearance of old age.

OLD AGE.

In old age, similar changes are taking place in other parts of the body; the coats of the arteries gradually become thicker and stronger, and that of the veins thinner and weaker; the latter become more distended, and the livid hue of venous plethora, succeeds the lively tint of arterial action.

A tendency to consolidation in the latter periods of life is apparent; and that which in the child was pliant cartilage, becomes in the old man brittle bone.

In the approach to old age, the tepid bath solaces most gratefully the declining periods of our existence, and protracts that rigidity of fibre, which is at once the great cause and symptom of decrepitude. It also removes those decaying parts of the cuticle, which obstructs perspiration, and gives rise to the scaly appearance and dry harsh feel of the skin, so commonly perceived in the latter periods of life.

After intense thinking, or a close attention to literary labours; after constant action or laborious exercise of the body; after violent

pain or great mental distress, the warm bath is useful; it recruits the faculties both of the body and mind, and increases their activity.

It has been hinted, by Lord Bacon, that the tradition of *Æson* being restored to youth, by means of the medical chaldron of *Medea*, was in fact an allegorical representation of the effects of the warm bath, in retarding the approach of old age; and and in a note to the Loves of the Plants, Dr. Darwin has farther expanded the idea in the following words:

"The story of Æson becoming young, from the medicated baths of Medea, seems to have been intended to teach the efficacy of warm bathing, in retarding the approach of old age. The words *relaxation* and *bracing*, which are generally thought expressive of the effects of warm or cold bathing, are mechanical terms, properly applied to drums or strings; but are only metaphors, when applied to the effects of cold or warm bathing on animal bodies. The immediate cause of old age seems to reside in the irritability of the finer parts or vessels, of our system; hence these cease to act, and collapse, or become horny or bony: the warm bath is peculiarly adapted to prevent these circumstances, by its increasing our irrita-

bility, and by moistening and softening the skin, and the extremities of the finer vessels which terminate in it. To those who are past the meridian of life, and have dry skins, and begin to be emaciated, the warm bath, for half an hour twice a week, I believe to be eminently serviceable in retarding the advances of old age."*

On this principle the Doctor informs us, that "When Dr. Franklin, the American philosopher, was in England many years ago, he recommended to him the use of a warm bath twice a week, to prevent the too speedy access of old age, of which he then thought he felt the approach; and to relieve infirmities under which he actually laboured. It gave him considerable ease in a disorder with which he was afflicted, (the stone)—and answered the other intentions for which he used it—for he died at an advanced period of life, having for many years been in the constant habit of using the tepid bath.

* Darwin's Zoonomia, page 686.

HUMAN LIFE.

There can be no doubt that human existence, by tepid bathing, temperance and proper exercise, is capable of a longer duration than is observable at present. *Cornaro* and others are strong proofs of this; by attention we have wrought a variety of changes in the frame of animals, and as the period of human life is very limited,* it is of the utmost importance to consider whether the constitution of man could not be formed so as to exist vigorously for *twenty* or *thirty years longer* than at present; an object of the greater magnitude, as it is conjectured that the modern habits of so-

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* The following calculation tends to shew this: of 1000 persons, 23 die in birth; 277 from teething, convulsions, and worms; seven in the measles; two women in child-birth; 195 of consumption, asthma, and other chronic complaints; 250 of fevers; 12 of apoplexy, and 41 of dropsy.—Or if we take it in another point of view, of 1000 persons 260 die within the first year; 80 in the second, 40 in the third, and 24 in the fourth; and within the first eight years of life 446, or almost one half of the number are cut off by premature death.

ciety tend to diminish the stature and duration of each successive generation.

"The Russians," says Dr. Sanches, "it cannot be doubted, owe their longevity, their robust state of health, their happy and cheerful temper, mostly to their baths;" and the Doctor adds, "that all indisposition arising from violent exercise, producing chills, with all the attendant bad consequences; that inflammations of any part of the body, even if attended with internal or external tumours and fever, may be successfully combated by the Russian baths: also, in all chronic diseases, arising from excesses in eating or drinking, and the gratifying of other pleasures which debilitate and enervate both the body and the mind, the attentive physician will find considerable aid in the use of the Russian baths," and Took, in his "Life of Catherine," says that the baths are in such general use in Russia, as to produce a decided influence on the physical character of the nation.

The Russians have *cool* water poured upon their heads, while their bodies are immersed in the tepid bath, which is repeated six or eight times during the immersion. This was the manner in which His Imperial Highness the GRAND DUKE MICHAEL of RUSSIA, His

Excellency the Baron Nicholai and *suite*, used the baths in Dublin during their visit to that city in August, 1818. And I was informed by His Imperial Highness's Physicians, Doctors Hamell and Michaelowsky, that such is the mode of bathing generally adopted in Russia, except in the vapour bath of which I shall presently take notice.

The Russian mode of bathing I have been recommending successfully for some years to remove that over distension of the blood vessels, and preternatural fulness in the brain, indicating a predisposition to

APOPLEXY.

The external signs of predisposition to this complaint, are a large head, a short thick neck, full habit, and generally a red face. When a person of this form and habit, has led a life of indolence or inactivity; has indulged in a full diet and frequent intoxications; and is advanced in life, he becomes extremely subject to attacks of apoplexy, and more especially if he be inattentive to the state of his bowels. In general, a swimming in the head, a numbness in the legs or arms, and a more than usual fulness in the face, and sometimes a

bleeding from the nose is a prelude to this disease.

M— G— Esq. aged 62, consulted me on the morning of the 27th of July, 1816. His habits of life, appearances and symptoms, were precisely what I have now described; in addition to them his eyes were suffused with blood, and such a strong pulsation in his temples that I apprehended the immediate rupture of a blood vessel in the brain. He had an unconquerable objection to my opening the temporal artery. I therefore took twelve ounces of blood from the nape of his neck by cupping,* and ordered a brisk cathartic mixture. In the evening after the operation of his medicine, I had him immersed for half an hour in a tepid bath, and directed a gallon of *cool* water to be poured upon his head every five minutes during the immersion. He persevered in this mode of bathing daily for three weeks, which directed the circulation from the

* Cupping, by drawing the circulation to the part where the glass is applied, removes it from the internal parts: —the dry cupping should be repeated until the part becomes red and painful, then scarified. This resembles, in its operation, both bleeding and blistering, and supersedes the use of leeches, or the application of blisters.

head to the surface and extremities of his body, and by a due attention to exercise, and a moderation in eating and drinking, he has continued perfectly well ever since.

A great number of similar cases have presented themselves to me, and I have the satisfaction to state, that by this simple plan of treatment, a very formidable disease has, in many instances been prevented.

WARM BATH.

On entering a bath from 95 to 98 degrees, an agreeable sensation of warmth is experienced; and this sensation is more striking, in proportion as the body has been previously cooled. If, however, the water be not kept up to the highest point of the warm temperature, the sense of increased heat soon diminishes, leaving only a pleasant feel of a moderate and natural temperature. The frequency of the pulse is always decreased, and this very remarkably in those cases where, before immersion, it was preternaturally increased: this diminution of the pulse goes on during a continuance in the warm bath, though the water be kept up to its original temperature; insomuch that a natural pulse has, after

an immersion of one hour and a half, been reduced by nearly twenty beats in a minute; the respiration is rendered slower, and the animal heat is in most cases diminished; the absolute weight of the body, after immersion in the warm bath, is found to be increased, notwithstanding the perspiration which commonly takes place, and the patient feels a peculiar langour and desire to repose, though the spirits are exhilerated, and any previous irritability allayed.

It has been generally thought, that one constant effect of the warm bath is to *relax* and *debilitate* the body; but the remarks and experiments of Dr. *Marcard*, clearly prove, that these opinions are erroneous. He has employed warm bathing in a great variety of cases, where the patients were either naturally of a weak habit of body, or had been debilitated by disease; none of them experienced any debilitating effect, but on the contrary, all of them felt stronger, on the days when they used the warm bath—most of them were restored to their former strength. In a few cases, however, relaxation and debility have followed the use of the warm bath, but these are attributed to the heat of the bath having been too great for the constitution of the pa-

tient, or the immersion having been continued for too long a time.

At *Bath*, many of the guides remain for several hours, every morning, immersed nearly to the neck in the warm bath, without being either relaxed or weakened by it; but on the contrary, they are in general a robust, vigorous, and long-lived race of persons.*

The *affusion* of warm water on the surface of the body, produces very considerable sensation, of a highly gratifying nature, but is followed by a great degree of chilliness, and sometimes it induces pulmonary affection in persons disposed to them; in others catarrhal affections, and the other symptoms, which indicate what is meant by the common expression of having "*caught cold*," are the consequence. The warm affusion is chiefly used in *maniacal* affections, and sometimes with soothing effects. That it produces a powerful influence on the sensorium, the following case, which is related by Dr. *Gregory*, of Edinburg, will shew:—

"H—D— a young man in an apothecary's shop in that town, intending to take an ounce of tincture of rhubarb, swallowed by mistake, an ounce of laudanum. He immediately per-

* Falkner on Bath waters.

ceived his error, and took, as quickly as he could, three grains of tartar emetic, attempting at the same time to bring on vomiting, by irritating the internal fauces. Finding his efforts unsuccessful, he took, immediately, six grains more; and a sudden terror seizing him, from perceiving the effects of the laudanum, he left the shop, and ran as fast as possible to the Doctor's house (but a short distance) for further assistance. The Doctor was in his study, when he heard a furious ring at the hall-door, which was instantly opened, when the young man rushed in upon him with marks of the greatest agitation; before he had time to speak, vomiting came on him; and learning the circumstances of the case from the master of the shop, who followed close after, he encouraged the vomiting by warm water, and incessant irritation of the fauces. Experience had taught the Doctor, that there is no safety without keeping up the vomiting for a considerable time, and it was continued for half an hour or upwards; at the end of which time the stomach became unirritable, and debility and stupor increased upon him; he however contrived to walk home, with considerable difficulty, supported all the way. When laid upon a sofa, his eyes appeared suffused and heavy—

his pulse was ninety-five, and rather feeble—and drowsiness, notwithstanding constant external impressions, was fast gaining ground: in this state, several gallons of *warm water* were poured on his naked body, which had the singular effect of removing entirely the drowsiness, for about ten minutes: but it returned again, and he could scarcely be kept awake by constant shaking—this agitation, however, brought back the vomiting, and he threw up some vegetable acid which had been given him. The *warm affusion* was repeated a second time, with the same effects as the first—the tongue soon after looked white, the skin grew hot, and the pulse rose to one hundred and five. The warm affusion was repeated a third and last time—immediately after which, a very cold fit took place, with great tremor and faintness. He was put into a warm bed and allowed to sleep, but the disposition to it was gone: about nine hours after the accident, he was able to take sago, and fell into a sleep. In this state he continued throughout the succeeding night, and awoke in the morning, languid, but refreshed, and free from all complaint.

The use of the warm water, in this case was in the first instance accidental. The

Doctor had ordered the *tepid* affusion, but observing the water to be warm (probably 96 or 98 degrees) as it flowed over him, and that a great effect was produced, it was continued of nearly the same temperature.

The affusion of warm water is considered more effectual than immersion in the warm bath, in diminishing a morbid temperature. It also diminishes the pulse and respiration, and produces a tendency to sleep and repose. These effects, however, are more transient than those which follow general warm bathing, hence the warm bath is likely to be attended with advantages in those cases of fever where the heat is preternaturally great, but where, from some affection of the lungs, or other unfavourable symptom, cold bathing is inadmissible. It may be applied with safety and efficacy in the paroxysms of hectic fever; in several eruptive diseases, attended with increased heat, and dryness of the skin; in most chronic eruptions of the skin, where it acts chiefly as a detergent and sudorific; in atonic gout and rheumatism, accompanied with stiffness and swelling of the joints; in chlorosis, in slight cases of palsy; in scrophulous swellings; in St. Vitus's Dance and other spasmodic and convulsive affections, where the

cold bath might prove too violent, espec
in hydrophobia, in hysteria, &c.* in all t
affections of the bowels that seem to de
on an irregular or diminished action of
part of the alimentary canal; and in cas
debility, attended with nervous irritation.

ST. VITUS'S DANCE.

Miss ———, aged 16 years, had been affe
with St. Vitus's Dance for 15 weeks, she
violent irregular motions of the right arm
leg, of her head, and sometimes of her w
body: the spasms were almost constant,
tinuing during sleep, which was frequ
interrupted; her speech was very inarticu
her appetite bad, her body costive, her p
slow and not affected by the spasms,
female health irregular, great emaciatio
body and loss of strength; she had taken a
fœtida, aloes, gamboge, and a variety of c
purgatives, on the plan of Dr. Hamilto
Bark, steel, and other tonics had been g

* "The symptoms which immediately constitut
disease," (Hysteria), "may be removed, when violer
blood letting and a brisk purgative along with the
bath." Hamilton on Female complaints, page 47.

without any bracing effects, and the *cold shower* bath,* which rather aggravated her symptoms. On the 10th of August, 1814, I was sent for, and found her affected as I have just described. I ordered her a mercurial purgative, and on the 11th had her put into a warm bath at 98 for twenty minutes; while under the immersion it was with difficulty her attendant could keep her steady, she floundered like a fish,—when she came out her spasms weren ot so violent.

12. She slept more composed last night—ordered the bath as yesterday.—13th, spasms less violent, and the symptoms on the whole considerably abated — ordered the bath to be repeated,—4th, she had no spasms during the night, and is in every respect better to day—the bath to be repeated,—15th, she walked to the baths to day (a distance of half a mile) and back again, after remaining in it for 15 minutes, her bodily strength increasing, her appetite improving, her bowels regular, the convulsive motions nearly gone,—16th, she had no spasms to-day, her speech quite articulate and

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* Dr. Currie in his Medical Reports, says, "In Chorea Sancti viti," I have tried the cold bath *frequently*, but *never* found it of any service, p. 157.

her appetite good, took her bath at 96 f
minutes,—17th, continues well, bath fo
minutes as yesterday,—18th, no return o
complaint, her strength rapidly increa
bath repeated, — 19th, perfectly recov
stopped bathing in consequence of a cl
in her female constitution,—23rd, ordere
to bathe every second or third day
month.

She had no return of her complaint
health and constitution, completely
blished.

When the constitution is injured, a
state of general debility induced, eith
mercury, previous illness, intemperanc
hours, irregularity in diet or exercise,
bathing has been experienced to produc
siderable advantage, when pursued
proper restrictions. I have cured som
tients of impotence arising from debil
both sexes, by the use of the warm b
conjunction with corroborants ; in those
I found stimulants injurious.

Delicate, weakly and nervous women
may have suffered from miscarriages, a
long train of complaints consequent to
accidents, as sexual weakness attended
pain in the back and loins, &c. will r

disappointed in their expectations of relief from warm bathing.

In strangulated hernia I have witnessed many instances of the good effects of warm bathing, in one of the largest hospitals in London.* I have, however, in a few cases, known it to fail of success: the vapour bath, in such cases, would facilitate the reduction of the intestine with more certainty.

TETANUS, OR LOCKED JAW.

On the 6th of September, 1807, the Maria Tender, put into Dublin, to obtain medical assistance (having no surgeon on board,) for Mr. George Clarke, Master of the said Vessel, who was attacked at sea with Tetanus, occasioned by sleeping with a wet handkerchief round his neck. On my visiting him I found him stretched on the cabin floor, unable to stir or to lie in his hammock,—his jaws completely locked and his head pulled backwards by the contraction of the muscles of the neck, which were rigid, and swelled to an enormous size, and his countenance exhibited a most frightful appearance;—he was about 40 years of age,

* St. Bartholomew's, which contains five hundred beds.

and of a full phlethoric habit. I instantly
16 ounces of blood from his arm and had
put into a warm bath, in which I kept hi
four hours, keeping the temperature const
up to 98; after the bath he was wrappe
blankets and I directed a solutive inje
to be adminstered; two grains of opium
the same quantity of James's Powders
given every third hour;—on the 7th, I
him considerably relieved, he had a co
perspiration, and although he had no slee
passed the night quiet—he was able to t
little broth and a cathartic draught. I or
the bath to be repeated for one hour only
the opium and James's Powders as bef
the 8th he slept the whole of the night,
a moderate perspiration; the spasms rel
and was able to open his mouth sufficien
take nourishment — directed his bath
repeated for half an hour, and to take on
of the opium and James's Powders a
time, and a cathartic draught the foll
morning,—9th, had a good night, his d
operated, and he was able to get up, re
the bath for 15 minutes—omitted the
and James's powders,—10th, no pain o
ness in the lower jaw, the rigidity and
of the muscles of the neck nearly gone, o

the bath to be repeated and a cathartic draught in the morning,—on the 13th he was so far recovered as to be able to proceed on his voyage to plymouth, which he reached in a week in perfect health.

Sir *Gilbert Blane*, in his "Observations on the Diseases of Seamen," mentions several cases of Tetanus which occurred at sea, while he was Physician to the Fleet, which were cured by the employment of opium and the warm bath, in all of which the patients were kept under immersion from five to six hours.

It is the practice in Holland, to immerse patients labouring under Tetanus four times a day into baths of broth, and to continue them in it for half an hour each time, after which the whole body is rubbed over with mercurial ointment.*

INSANITY.

Repelled cutaneous eruptions, obstructed periodical evacuations, suppressed piles, and dried-up sores of long standing, sometimes produce insanity. In those cases the curative plan is obvious; the cutaneous discharge

* Sir James M'Gregor's "Medical Sketches."

must be re-established by blisters, issu setons, and the warm bath. The obstruc by bleeding, deobstruent medicines, and vapour bath. The piles must be recall leeches, and the application of the va bath to the part, or fomentations; and cases of insanity, (as we find a conside determination to the brain,) whatever ten remove blood from the head should be ployed, and every thing that carries blo the head must be avoided.

The utility of bathing in maniacal case mains yet to be ascertained; it has ne believe, been exclusively employed: a *Retreat* near *York*, it has been thought r to aggravate the symptoms of *Mania*; l *Melancholia*, it has been of greater ef than all the other means which have bee ployed there.

DIRECTIONS FOR WARM BATH

When the warm bath is intended to pr increased perspiration, it is best employ the evening, when the immersion shoul exceed ten minutes, and the patient shou removed from the bath to a warm bed. W it is not intended to excite perspiration

time, from an hour after breakfast, till dinner, will be proper: in these cases the bathing may be protracted to fifteen or twenty minutes, according to the feelings of the patient: gentle exercise, in the open air, should afterwards be employed. People appear in general deterred from having recourse to the warm bath in the day time, for fear of afterwards "*catching cold:*" this opinion, which we have shewn to be totally erroneous, appears to have been derived from observing that persons were liable to injury from exposing themselves to cold air, after having been heated and fatigued by exercise: but the state of the body, after having been in the warm bath, is very different. In the one case, the body, debilitated by fatigue, is parting with its heat rapidly, by increased perspiration, (continually evaporating, and generating cold on the surface of the body): in the other, being surrounded with a medium of nearly its own temperature, the heat of the system is prevented from escaping, and has rather a tendency to accumulate. By this means the body is better able to resist the action of cold, immediately after coming out of a warm bath, than perhaps in any other given situation. The experiments of Count Rumford, made on his own person, are so

decidedly in favour of the safety of bathing, that I shall take the liberty of st them in his own words.

"Being at Harrowgate on account health," says the Count, "I at first wen a bath heated to about 96 degrees, every day; at first I went in about ten o'cl the evening, and remained in it from fifteen minutes, and immediately on c out of it, went to my bed, having bee warmed, to prevent my *taking cold.*

"Having pursued this method for time, and finding myself frequently fe and restless after bathing,* I accidenta conversation, mentioned the circumstar an intelligent gentleman who happen lodge in the house, and who had long b the habit of visiting Harrowgate every He advised me to change my hour of ba and to avoid going into a warm bed on c

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* The circulation of the blood of people in health, is always accelerated towards evening. W this effect be attributed to the stimulating effects or to the debility consequent to the exertions of tem during the day, it appears to be increased warmth of the bath, which too frequently increase tion, as in the Count's experiment, and is often f by a restless and watchful night.

out of it. I followed his advice, and shall have reason all my life to thank him for it.

"I now went into the bath regularly, every third day, about two hours before dinner, and on coming out of it, instead of going into a warmed bed, I merely had myself wiped perfectly dry with warmed cloths, and dressing myself in a bedgown, I retired to my room, where I remained till dinner time, amusing myself with walking about the room, and with reading and writing, till it was time to dress for dinner.

"The good effects produced by this change of method, were too striking not to be remarked and remembered. I was no longer troubled with any of those feverish heats after bathing, which I experienced before, and so far from feeling *chilly*, or being particularly sensible to cold on coming out of the bath, I always found myself less sensible to cold after bathing than before: I even observed repeatedly and invariably, that the glow of health and pleasing flow of spirits, which resulted from the full and free circulation of the blood, which bathing had brought on, continued for many hours; and never was followed by any thing like that distressing langour which always succeeds to an artificial increase of

circulation, and momentary flow of sp
when produced by stimulating medicines.

" I regularly found that I had a bette
petite for my dinner on those days wl
bathed, than on those I did not; and
that I had a better digestion and better sp
and was stronger to endure fatigue, and
sensible to cold in the afternoon and eve

" As these favourable results appear
be quite regular and constant, I was inc
to proceed to a more decisive experimer
now began to bathe *every second day*
finding all the advantageous effects, wl
had before experienced from warm ba
still continued, I was encouraged to g
step further, and I now began to bathe
day.

" This experiment was thought to b
hazardous, by many persons at Harrov
and even by the physicians, who did not
approve of my proceedings; but, as no i
venience of any kind appeared to resul
it, and as I found myself growing str
every day, and gaining fresh health, a
and spirits, I continued the practice
actually bathed *every day* at two o'cl
the afternoon, in a bath at the temperat
96 and 97 degrees, during thirty-five d

"The salutary effects of this experiment were perfectly evident to all those who were present, and saw the progress of it; and the advantages I have received from it have been permanent, and the good state of health which I have ever since enjoyed, I attribute to it entirely."

In the *influenza* which prevailed in this city in the spring of 1812, and from which few escaped, the benefit of the warm bath, in conjunction with other simple remedies,* was very remarkable. In above sixty cases wherein I recommended its use, it not only shortened the period of indisposition, but prevented a relapse, which in a great number of instances, where the bath was not employed, occurred. The system may be fortified against catarrhal, and other inflammatory affections of the chest, so prevalent in this moist and variable climate, by accustoming the body to bear changes from heat to cold; by this means, any degree of cold may be borne without injury, and for this purpose, exposure to external air, *immediately* after the warm or tepid bath, (except in some cases of disease) is useful; the custom of the

* In some cases it was necessary to bleed, previous to bathing.

African women, and the Russians fully p
this. I do not mean, however, to recomn
the African or the Russian modes of batl
in their full extent, although from experi
on my own person, I can vouch for their sa
but they will shew us the security and u
of accustoming our bodies to great vicissit
of heat and cold, by which means they
rendered insensible to those smaller varia
of temperature, which are so frequent in
atmosphere, and are, in this climate, al
entirely the cause of our large stock of
eases.

THE MEDICATED OR SULPHU BATH.

When *Medicated Baths* of the same tem
ture are employed, it is generally supp
that the impregnating matter produces o
system, effects similar to those which w
follow their internal exhibition: that th
so in some instances, cannot be denied, b
most cases the effect is very trifling. Im
sion in a sulphureous warm bath, comn
produces an increased perspiration; a
similar use of a chalybeate bath, especia
it contains any alluminous impregnatio

followed by a corrugation of the skin, and an increased action of the vessels. These can be readily explained, from the absorption of the sulphureous gas in the former instance, and the corrugating effects of the alum and chalybeate on the skin, and thus producing pressure, and consequent contraction or acceleration of the fluids in the vessels near the surface. But, that alkaline or earthly salts should produce any remarkable effect when applied in solution in the way of bathing, is not to be expected, as these salts cannot, we conceive, thus be made to enter the absorbents of the skin ; indeed, that they are not absorbed, is evident from this circumstance, that even sea water will allay thirst, merely by wetting the surface of the body with it : it is therefore reasonable to conclude, that the *advantages of sea water over fresh*, as a bath, have been much exaggerated, and depend rather on irritation of the skin,* than upon any absorption which takes place of the saline materials. This effect will be increased by heat, friction,

* Hence I have found the warm *salt* water bath *injurious* in almost every species of cutaneous disorders, in consequence of the irritation produced by the particles of salt deposited on the skin.

or a long immersion; but in cases whe immersion is merely momentary, as i plunging bath, or where the affusion is ployed, and where the body is immed dried, salt water can have little more adva than that of convenience, where fresh cannot be had.*

DISEASES OF THE SKIN.

The difficulty of investigating the cau cutaneous complants; the variety of forms assume, and the tediousness and uncertai their cure, often render them sources of barrassment to the medical practitioner, a as of misery to the unfortunate sufferer. various are the symptoms and modific which unfold themselves in the eruptiv eases which attack the human race fro cradle to the grave, and so numerous ar useless remedies that have been recomme from Hippocrates down to the present that it would be quite superfluous to enu them. I shall therefore confine my atte

* The advantages of sea bathing over fresh w any, are chiefly deducible from the greater specific of the former.

to those diseases of the skin, and of those remedies of which I can speak from ample experience.

The *cutis*, or true skin, is formed of the termination of the superficial exhalent arteries, veins, nerves and absorbents, covered by the *cuticle* or scarf skin. The true skin (whatever may be the complexion of the person) is always white, and the scarf skin, which has neither blood-vessels or nerves, is itself colourless: there is a mucus substance between those two skins, called the *rete mucosam*, which gives colour to the body, and on which the complexion entirely depends: the colour of this substance, is black in the *negræ*, copper-colour in the *mulatto*, brown in the *Egyptian*, and white in the *albinos*, and in the people of cold climates.

The cuticle or outside covering is a fine transparent close-setting tunic, drawn over the whole surface of the body, and may not be improperly called a kind of tight *shirt*. The foulness of this tunic is a frequent occurrence, producing, if not washed, pimples, tetters, and other diseases of the skin. To a clean person, therefore, a *dirty cuticle* will appear to be a dirty shirt.*

* Doctor Mitchell on "Perspirable fluids."

That a due attention to a strict puri
person is too often neglected in this cou
cannot be denied; and that the matter th
out by the exhaling arteries, is permitte
accumulate on the surface of the bod
equally true. This accumulation on the
face of the skin, stops the pores, and by
structing perspiration gives rise to a varie
cutaneous disorders which might be preve
as they are now known to be cured by bat
in simple warm water. The quantity of
scaly matter which may be observed flo
on the surface of the bath after a person n
the habit of bathing, affords sufficient evic
of these facts, and shews the necessity o
quent ablations.

This insensible and inorganic medium
scarf skin,) renders the introduction of
tances into the system, which are in co
with the body more difficult; or in other w
renders absorption on the surface of the
less energetic than on the surface of int
cavities; hence cutaneous absorption ha
little activity under certain circumstances,
some Physiologists have doubted of its
istence, and various experiments have
tried to prove that the skin has no absor
power whatever, but the increase of weig
the body, after remaining for some time

warm bath :* the evident swelling of the inguinal lands after long continued immersion of the feet in water, an observation made by RICHERAND, and which I have often repeated on myself: the effects of cathartic and vermifuge medicines, applied externally,† the effects of mercury by friction, and the effects the medicated baths in a number of cases, some of which I shall relate, incontestibly prove that absorption is affected by the skin under different circumstances with more or less activity.‡

Sir Peter Lalonette has written a very ingenious work on the cure of some diseases,

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* This is a point that HALAER denies, but it is very evident he never subjected himself to the experiment.

† "Cathartic and vermifuge medicines applied externally," says Darwin, "to the abdomen, seem to be taken up by the cutaneous branches of lymphatics and pouring on the intestine by the retrogade motion of the lacteals, without having passed the circulation." Zoonomia, Vol. 1, p. 499."

‡ Some writers and practitioners are of opinion that the cutaneous vessels, particularly of those parts of the body which are exposed to the air, absorb *oxygen* from the atmosphere, which causes in some constitutions eruptions on the skin; if so, may not the action of the *Sulphurated Hydrogen Gas*, in the greater number of diseases of the skin, be rationally explained on the following

by immersing the body in mercurial vapc
in which he relates a number of cases. A
of leprosy, of eight years standing, was c
by the *sulphurated* vapour bath, under
direction of a physician of eminence and
extensive practice in this city;† which, wit
foregoing, leave no doubt on my mind o
absorbing powers of the skin. Much has
written on this subject, and various substa
have been contrived, with a view of g
nourishment through the skin: baths of
have been administered with this view, v
diseases in the throat prevented swa
ing.

" That the surface of the skin absorbs
fluids which come in contact with it,"
Mr. Cruikshank, " I have not the least d
A patient of mine who had a stricture i

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principles. Most of those complaints depend u
inflammatory state of the system, and there are in g
evident marks of a superabundance of oxygen; s
the heat and florid colour of the parts affected; t
phurated hydrogen gas will most powerfully di
this oxygen by uniting with it and forming water.

* I have witnessed a number of similar exper
tried in Bartholomew's Hospital, but many of
failed, and I believe the practice is now laid aside

† Dr. Lentaigne.

oraphagus,* received nothing either liquid or solid into the stomach for two months, he was exceedingly thirsty, I ordered him the warm bath for an hour evening and morning for a month, his thirst vanished in the same manner as when he used to drink by the mouth."

By the structure of the skin we see that it both secretes and absorbs: that poisons and antidotes have been infused into the system through it, cannot be denied; and that healthy and morbid matter has been secreted from it is equally true: but the principal use of the skin is to carry off from the system, the redundant heat and moisture by the sensible and insensible perspiration. On the fitness then of this organ, to perform those duties in a great measure depends the state of health of the individual; if the perspiration be in excess, the system is enfeebled by the evacuation; and if it be deficient, disease must ensue.

There exists between the skin, the stomach and bowels, a *sympathy*, or what is called in medical language a "consent of parts," that is, when one part (suppose the skin) is affected, the other (the stomach and bowels) sympa-

* Cruikshank's Anatomy of the Absorbent Vessels.

thises, as it were, and takes on an analo action.

There exists also between the skin and liver, or in other words, between the *pers tion* and *biliary secretion*, one of the stro sympathies in the human frame.* This consideration of the *first practical import* not only in the cure of cutaneous dise but of *bilious*, *dyspeptic*, and other compla for by directing our operations towards one of the functions in question, we can sively influence the other. For example vapour bath or James's powders, by ducing a perspiration, increases the secr of bile, and mercury while it promotes secretion of bile, increases at the same the insensible perspiration. This co of parts between the skin and the liver, counts for the augmented secretion of bi warm weather and in hot climates, corresp ing with the increased perspiration.

Cutaneous eruptions, particularly on face, are commonly the consequence of previous affection of the liver, or of the mentary canal, and arises from *sympath* tween those organs and the skin. The

* Dr. Johnson on "Tropical Climates."

often mistaken for scorbutic* eruptions, and treated as such without any effect. Their cause is sometimes very obscure, but they may be almost always traced to some circumstance which has obstructed or checked the *sensible* or *insensible perspiration*: hence it must be obvious that in *all* eruptive complaints the Barege or medicated warm bath promises relief, and must be considered the most powerful auxiliary in the cure of those disorders, and I will venture to say, that there is no class of disorders in which *cold sea* bathing has been

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* "The term *scorbutic*" says Dr. M'Bride in his Introduction to the Practice of Physic, p. 615, "is often indiscriminately applied even by medical men, to almost all the different kinds of cutaneous foulness; and this vague way of speaking is owing to some writers of the last centuary, who comprehended such a variety of symptoms under this denomination, that there are few chronic diseases but may, according to this scheme, be called *Scurvy*." In the same manner *Savauge* remarks that the antients applied the term *Opthalmia*, to inflammatory complaints of the eyes, from whatever cause they originated, or whatever part of that organ they affected; hence they recommended an hundred different remedies of the most various and opposite kinds for the cure of one disease, and their advice is of no use to us, because we cannot tell in what species of the disease the medicine would be of any service. Nosol. Tom. 1. p. 86.

so *improperly*, though so universally recommended. I am aware that I shall require all my reader's patience and impartiality, while I differ so essentially from the general opinion and practice.

Dr. A. P. Buchan, in his excellent treatise on SEA BATHING, says, that CUTANEOUS DISEASES are not benefitted, but in general rendered worse, by bathing in the sea. As many people, however, with complaints of the skin, either by their own accord, or by the advice of others, do resort to the sea, I have omitted no opportunity of enquiring among those persons, who, from their situation, were likely to afford me information on this subject; and though some have told me, that bathing in the sea must do good in eruptive complaints, because it makes them come out, that is, it makes them worse, I have not discovered any good grounds to induce me to alter the opinion now stated.

In almost every species of cutaneons disorders there is more or less of inflammatory action, or increased circulation in the part affected: hence the cold bath must act as a *repellent*, forcing the circulation and that *matter* which the vigour of the constitution has thrown upon the skin to some internal part, thereby pro-

ducing a congestion in the liver, the lungs, the brain, or some other vital organ. I once knew an instance of an eruption being repelled by the cold bath, produce a brain fever, which ended in madness; and several cases are on record of repelled eruptions having produced liver complaints, asthmas and dropsies; particularly in the feeble periods of infancy and old age. Those should render us watchful at all times to avoid repelling eruptive diseases.

In slight eruptions which sometimes itch so violently as to prevent sleeping, the cold bath has been very generally recommended, but without any advantage. In several cases of this kind in which cold sea bathing had been continued for a fortnight, three weeks, and a month, and the itching by its use aggravated, —the warm medicated bath gave immediate relief, and in a short time removed every appearance of the complaint.

CASE OF SURFEIT.

A young Lady consulted me on the 17th of July, 1814,—the entire of her face was covered by an eruption commonly called *a surfeit*, which was accounted for by her taking a glass of Ice when her body was heated by dancing.

The cold sea bathing had been recommended her, which she used for several weeks. She had taken in that time quantities of the Lisbon diet drink, by way of sweetening her blood, without the slightest alteration for the better. I directed her to use the medicated bath daily, to rub her face on coming out with a little sweet oil, and to take a calomel purgative occasionally. In ten days I saw the young lady again, the eruption had disappeared, leaving only stains on the skin which soon wore away.

Among the ancients, the practice of anointing the surface of the body with odoriferous oil, was generally associated with the use of the bath. Lord Bacon in his "History of Life and Death," regrets the disuse of this custom, and thinks the revival of it would be conducive to the preservation of health and the prolongation of life, by regulating the perspiration and keeping it within due bounds: and his opinion is corroborated by Dr. Currie, who says, "the use of sweet oil instead of clogging the pores, keeps the skin moist, and whilst it guards against *excessive*, promotes *moderate and necessary* perspiration."

B—— C—— Esq. had a white scaly eruption on his legs, which were swollen to an

enormous size, resembling the *Elephantiasis*. He had just returned from Harrowgate, where he had been for two months drinking the waters and trying other remedies. He applied to me on the 20th of July, 1814. I ordered him the Barege bath every day at 98, and to take a calomel pill with cathartic extract occasionally. After one dose of the pills and using the bath six times, his legs were reduced to their natural size, and the eruption totally disappeared.

A Nobleman, aged 30 years, had a red scaly eruption which covered his upper and lower extremities as well as his entire body, which was moist and itchy during the night. He had been afflicted with it for ten years. He had drank the waters at Harrowgate, Buxton, and Aix-la-Chapelle. He had been under the care of the most eminent physicians in London, had undergone two courses of Mercury, had taken quantities of the decoction of Sarsaparilla, had used the warm salt water bath, sea bathing, citron ointment, &c., from some of which he occasionally got relief. He was advised by his London physicians to go to Barege, previous to which he came to Dublin to make some arrangements for his journey. On the 14th of October 1815, his Lordship consulted me. I advised him to try an artificial

Barege warm bath, every day while he remained in town, to rub his body with sweet oil after bathing, to take a Plummer's pill every night, and one or two cathartic pills occasionally.

On the fourth day his skin became softer and smooth to the touch, which encouraged him to persevere, daily using the medicated bath for half an hour at 98, with the other remedies, and at the end of six weeks he was perfectly cured.

B—— A——, Esq. consulted me on the 24th of September, 1817. He had several white scaly patches of different dimensions on his body and extremities, some of them above twelve inches in circumference and of an oval form, others circular and not exceeding the size of half a crown. Under his arms, about his loins, knees and elbows, and the entire of his hands and feet were covered with shining scales, and encircled by a dry red and slightly elevated border. Under the scales, the skin was red, smooth and shining; he had several small patches on his head, about the temples, on his ears, and about the roots of his hair, but none on the face. The nails of his fingers and toes were thickened, and of a yellow opake horny appearance, incurvated at the extremities:

the eruptions on the joints were accompanied with extreme soreness, pain and stiffness, so great as to render motion impracticable and to confine him to his bed. He was afflicted with this disorder for near twelve months, could assign no cause; had tried several remedies. Upon examination, I discovered a slight affection of the liver, but not such as to produce any constitutional disturbance; his appetite and digestion were good. At the end of seven weeks he had not a speck upon his body. For the first three weeks, he used the medicated bath daily, took a pill every night composed of calomel, cathartic extract, and James's Powders; and in the morning a solution of Epsom Salts in infusion of Roses and sulphuric Acid. He applied at night a slightly stimulating ointment, which was washed off in the bath the next day. For the last four weeks he used a fresh water warm bath every second day, and the medicines occasionally: this was the whole of his medical treatment.

The many similar cases that have occurred to me since the publication of the first edition of this Essay, are almost beyond number, most of which, from the slightest shade of diseased secretion to the most obstinate and confirmed

Leprosy, derived benefit from similar treatment.

In the dry red scurfy eruptions, commonly called *scorbutic*, which break out principally upon the hands and arms, sometimes on the legs, in spots of various dimensions from the size of a barley-corn to that of a crown, and which usually appear in the spring and autumn,* in persons of middle and advanced age, and sometimes, though rarely, in young people, the Barege bath is highly efficacious, and frequently removes the complaint.

CUTANEOUS DISEASES OF CHILDREN.

In the early periods of life, eruptions of various sorts make their appearance, of which it is impossible to convey an accurate idea, by mere description, divested of technical terms. Some resemble measles, others the small pox; some

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* The Spring is the season of peculiar activity in animal bodies, and disposes the human skin to alter its state similar to the tendency observable in the skin of animals to throw off its covering before Summer. A similar pre-disposition, less strong, prevails in the Autumn, the period of general decay.

have the appearance of *nettlerash*, and others of what has been vulgarly called *Scurvy*, and technically called *herpes:* all these eruptions, however different in appearance, yield to a well-regulated use of the warm or medicated bath, with occasional calomel purgatives.

The following recipe for a medicated bath, I was favoured with by a French Physician, which is the form I have successfully recommended in a variety of cases of cutaneous disorders, from the slightest eruption on the face and skin, to the most obstinate scorbutic complaints, approaching to leprosy. It is the *medicated bath* used by *Bonaparte*, and may be prepared in the following manner :—

To produce water similar to that of the *Source Royal*, at *Barege*,—Take for every gallon of water you wish to impregnate,

Two grains of alumine,
Two grains of carbonate of lime,
Two grains of hard Spanish soap,
Four grains of muriate of soda,
Twenty grains of dried carbonate of soda, and
Sixteen grains of the sulphuret of pot-ash;

grind the materials together, and boil them in

as much water as will dissolve them ; stir them over the fire, till the sulphurated hydrogen gas is disengaged, which is known by the smell of rotten eggs ; then mix the ingredients with the water of the bath, previously prepared.

When this combination is formed and the proper degree of heat added, we may expect every salutary effect by this artificial water, as certainly, as if used at its natural source.

Julius Cæsar and the Roman General Sertorius, bathed in the waters of Barege to restore energy to their rigid limbs, after their campaign in Gaul and Spain. Henry the IV. of France, frequented them in his youth, and Louis the XVI. dignified them with an Hospital for his wounded officers, and another for his soldiers ; who, when past all other means of cure, were, from the remotest parts of France, sent to Barege as a last and *sure resource.*

Several works descriptive of these springs have been published, and as more cures are recorded by the Barege waters, than by any other medicinal spring in *Europe*, I have used them in preference. Mons. *Dessault*, published an essay recommending their use in Stone and Gravel, and Sir Christopher Meighan, published a treatise on their use for the

cure of gun-shot and other wounds, muscular contractions, scirrhous tumors, and many other disorders: but the general use of the waters at Barege, is for disorders of the skin, gouty, rheumatic, rigid and palsied limbs, and cases of painful wounds. Mons. Montant, at the Military Hospital at Barege, has given an account of their utility in such cases.

The state of warfare in which France, till lately has been engaged for a long period, produced such a number of maimed officers and soldiers, that they were unable to send them all to the natural Thermal springs, which had formerly been their custom. They therefore formed establishments of *artificial baths* at their Military Hospitals, the result of which I shall state as reported by their inspectors, and published in an account of baths by Dr. Kentish.

During the time of the French Monarchy it was the custom to send the maimed and crippled soldiers to Barege, with a view of restoring to them the use of those limbs which had suffered from the hardships of war. When the revolutionary war raged, the number of those honourable victims increased in such abundance as to preclude the possibility of affording

them relief at the medicated springs of Barege, Aix-la-Chapelle, or Bourbonne les Baines. Chemistry which had more than once been the saviour of the republic, was again put into a state of requisition. The Chemists analized the mineral waters at their sources, and pointed out the means by which these natural productions might be imitated by art. The inspectors of the armies, Doctors *Heurtelont*, *Parmatier*, and *Des Ganettes*, gave directions to the officers of the Military Hospitals to use *Artificial Medicated Baths*. These were prepared accordingly, and used under the same circumstances as the waters at their source. In the year 1807, the inspectors drew up a report shewing the result of their practice in the following Military Hospitals.

In the hospital at *Toulon*, 70 patients were submitted to the trial of the artificial medicated baths—37 were much relieved, 23 were perfectly cured, and the remaining ten were in such a state as to preclude the expectation of relief.

The hospitals at *Rennes* and at *Lisle*, were not so fortunate in their number of cures, but on the comparative scale of 100 patients treated by the artificial medicated baths, and the same

number at the source of the medicated springs; the success of the former was fully equal to that of the latter.

As those powerful sources of relief are inaccessible to the subjects of this country, it is a consideration of the first importance to be enabled to supply this defect. Chemistry has happily put this in our power, and as *all* mineral waters can be imitated with a scrupulous exactness at home, where we have the power of creating any temperature, we can accommodate the heat to the state of the patient, and by varying the degree from the scale of the natural hot springs at Barege, Aix-la-Chapelle, and Bourbon les Bains, the benefits arising from those springs may be obtained, and that this can be done at home, cannot be denied. If, therefore, the valetudinarians who resort annually in crowds to the watering places on the continent, could be induced to seek health and amusement in their native country, much useless emigration might be spared, and the immense sums lavished abroad, being circulated at home, would contribute in no mean degree to the industry and civilization of the lower classes of people in this country.

At the source of the natural medicated warm baths, the temperature remains for ever the

same, and the patient is ordered from one spring to another, merely on account of temperature; frequently from Bath to Buxton, and from thence to Matlock. The advantages then of the artificial medicated baths over the natural springs are obvious, the temperature may be regulated, and the strength of the bath may be increased or diminished according to the will of the physician, or the state of the patient, through the whole treatment of the disease, and the expence and trouble of going to the different sources, may be thus avoided.

HOT BATH.

The effects of the hot bath differ in several particulars from those of the warm. The sensation of heat experienced on entering a bath above 98 degrees, is in general very striking and permanent. The pulse is increased in frequency and force; the superficial veins become turgid; the face is flushed; the respiration quicker than natural, and sometimes hurried and laborious; and the perspiration is increased. If the heat of the bath much exceed 98 degrees, or if the immersion be continued beyond a few minutes, the determination of the blood to the head is greatly increased

the arteries of the neck and temples throb violently; a sensation of anxiety at the breast comes on, threatening suffocation; the person grows giddy, and feels a fluttering at the heart. If these warnings of approaching danger be not attended to, the bather soon becomes insensible, and is carried off by apoplexy.

Water of this high temperature is scarcely ever employed in the way of affusion, nor is such an application likely to be attended with advantage, except in some paralytic affections of the limbs: in these cases it is not unusual at *Bath*, and other hot springs, to pump the hot water on the affected limb. By this *dry pumping*, as it is generally called, the hot water is applied to the affected parts under a higher temperature, than when it is drawn off into the reservoirs commonly employed for bathing.

From the effects produced by the hot bath, it appears that this remedy is a powerful stimulus, to be employed only in a few cases, where the ordinary stimuli are ineffectual: accordingly, it is seldom resorted to in medical practice; and almost the only cases in which the general hot bath has been employed, are those of confirmed and obstinate palsy; but its use is now almost entirely superseded by the Vapour Bath.

VAPOUR BATH.

The Vapour Bath in use in this country is simple in construction, and effectual in its application; it is well adapted for the use of hospitals and dispensaries, and is calculated, from its simplicity and efficacy, to bring into general use an agreeable and salutary practice, as well as a powerful remedy in many obstinate diseases. It is an aparatus to which the steam of boiling water, either simple or medicated, is conveyed through pipes from a common *digester*, or *steam boiler*, modelled from one invented by the honourable Basil Cochrane.* In this apparatus the stimulant power of heat is modified and tempered by the moisture diffused through the air; and as

* See his Book, published in London, in 1809, on "An Improvement in the Mode of administering the Vapour Bath;" and in the 30th volume of "The Transactions of the Society for the Encouragement of Arts, &c." page 181, may be seen a description of a Vapour Fumigating or Shower Bath, constructed by Doctor Cumming, of Denbigh, in North Wales, for which he received a medal of the Society. It resembles Mr. Cochrane's, and is perhaps better calculated for Hospitals.

the elastic vapour, like air, is a less powerful conductor of heat than a watery fluid, the effect of vapour in raising the temperature of the body, is much less than that of the hot bath. Its heating effects is also farther diminished by the copious perspiration which ensues; so that on all accounts the vapour bath is safer, as it is in most cases more effectual than the hot water bath, and may be employed with success, where the hot bath would be attended with danger.

The vapour bath may be applied to the whole body, or to any part of it: its immediate effects are, to excite or increase the action of the superficial arteries, by which the determination of blood to the deeper seated parts is diminished: this increase of circulation at the surface of the body, produces a copious perspiration, which may be continued, as it is excited, at pleasure.—It should, however, always cease before debility begins.

The utility of this application is obvious in all cases of internal inflammation; it draws a great quantity of blood to the surface, and relieves the internal parts by the secretion of the skin, which is the mode nature takes to resolve inflammations and fevers. Besides an increased perspiration, other effects are produced

on the system; equal and due action is restored to the surface, a highly agreeable sensation is produced, which renders the influence of cool air safe and desirable.

FEVER.

In the first stage of fever called the *shivering* or *cold fit*, the vessels on the surface of the body are contracted and the functions of the alimentary canal deranged; the blood being propelled from the surface, takes up its residence in some of the vital organs, as the brain, the liver, the lungs, &c. producing a morbid action, or what is medically called, a *congestion* in one or other of these organs.

These determinations to particular organs, are what some late writers on this subject, consider the original cause of fever. I shall not enter into the question whether this doctrine be true or false, inasmuch as it is generally believed that many fevers are *primary* from their very commencement; that is, that they have no "*local habitation*," but whether those organs are primarily or secondarily affected, I believe all will agree, that the symptoms are the same and require the same means of cure.

In the cure of fever a determination to the surface of the body, in order to relieve the internal organs from the effects of the congestion, is by many deemed necessary:—to produce this effect the *Genuine James's Powders* certainly holds the first place, where it does not injure the tone of the stomach or fatigue or distress the patient: but where this medicine cannot be exhibited, or where it does not produce the desired effects, I know no remedy so likely to produce them as the vapour bath, which seems to act not only by increasing the tendency to perspiration, but also by occasioning a determination of blood to those parts of the body to which it is more immediately applied. It is in this way that bathing and fomenting the feet seems to relieve inflammatory affections of the head, and in all fevers, where any of the viscera contained in the cavity of the abdomen are *primarily* affected, there are no means (blood letting excepted) which afford such sudden and permanent relief as that which is obtained from the vapour bath.*

Perhaps there is no remedy that carries along with it such an appearance of novelty and danger as vapour bathing in fever, and I

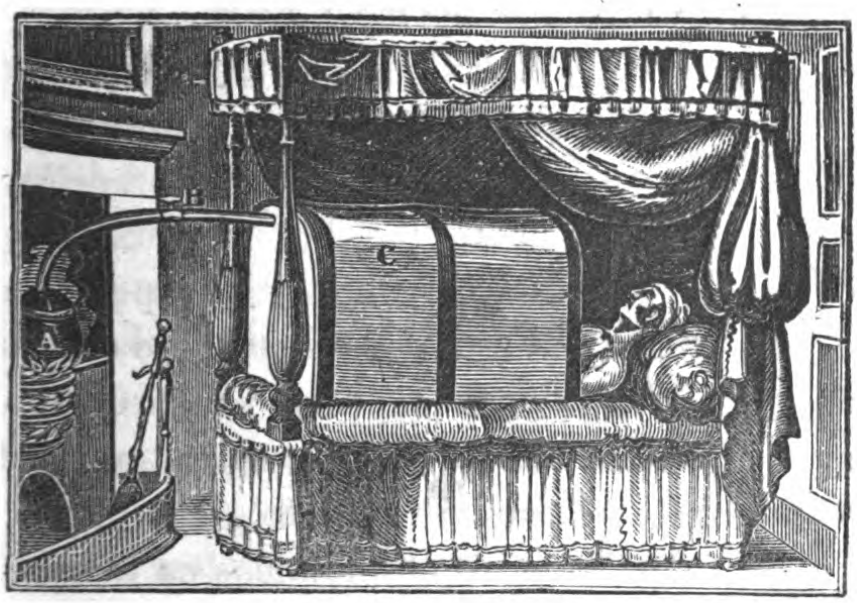
* Thompson's Lectures on Inflammation.

am aware, that in recommending it, I shall probably be censured for its apparent rashness; but I will not hesitate to say, that there is no remedy more safe, and more easily sustained, than the vapour bath in that Disease.

In all first attempts obstacles will occur, but the chief objection to vapour bathing will not I apprehend arise merely from the general aversion to new and uncommon practices. Fear, I own, and a regard to reputation, prevailed long with me: necessity at last prompted me, under an affecting persuasion, at the same time, that while this remedy remained untried, the despairing patient was not allowed every fair chance for life. The unquestionable benefit which in most trials arose from its use, soon dissipated the common prejudice against it. I no longer dreaded it as a precarious or a dangerous experiment, but with a sort of wonder regarded it as a more certain and agreeable means of safety, and relief in those aggravated circumstances of fevers, which so often elude our greatest industry and our greatest skill. And when other remedies are found to avail little, or may not be at hand, and the time to produce their effects is short, it is no small comfort and security to the sick and those about them to know, that there is yet one in reserve

from which, in most cases, good effects may with some assurance be expected. It is no small advantage too, that it can be applied to the patient in bed, and that all can have equal access to it, being an easily prepared and cheap remedy.

The annexed cut represents a simple contrivance, but nevertheless a convenient and efficient apparatus, which I have for some years past been in the habit of using, instead of the portable vapour bath described in the first edition of this work.



The steam is conveyed from the digester or steam pot *a*, through the leaden tube *b*, into the waggon-roof frame *c*, which may be made of hoops of whalebone, wood or cane, and covered with a blanket. A cradle used by sur-

geons to keep the weight of the bed cloths from pressing on fractured limbs, suggested the above, which it nearly resembles, and is laid over the patient in bed precisely as the cradle is over the fractured limb, under a blanket or any other covering that will confine steam.

The following manner of preparing a vapour bath is practised by the Mandingoes in the Interior of Africa.* "On the first attack of fever, when the patient complains of cold, he is placed in a sort of vapour: this is done by spreading branches of the *nauclea orientalis* upon hot wood embers, and laying the patient upon them wrapped up in a large cotton cloth, water is then sprinkled upon the branches, which descending to the hot embers soon covers the patient with a cloud of vapour, in which he is allowed to remain until the embers are almost extinguished. This practice commonly produces a profuse perspiration, and wonderfully relieves the sufferer.

Dr. Johnson, in his observations on the yellow fever says, that the vapour bath which is now introduced to the Navy, is likely to prove one of the most useful auxiliaries to draw the

* See Travels in the interior of Africa, by Mungo Park, Esq.

blood to the surface of the body, and relieve the internal congestion which exists on the vital organs.

The more general and immediate effects of vapour bathing in fever, are, it disposes to a calm and sound sleep, and seems to regulate the discharge by the skin, promoting it when too little, and restraining it if in excess,* without injuring the tone of the stomach or reducing the patient's strength, objects of the first consideration. The exacerbations which happen sooner or later in the evening, is lessened if not prevented, the head is preserved from delirium, and the symptoms are kept moderate until the morbid action ceases or the disease terminates.

The time for continuing in the bath may be from 10 to 40 minutes, the temperature from 110 to 120.

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* This contrariety will not appear strange to those who know that medicines are possessed only of relative powers, and that according to the constitution, or to the present condition of the parts, the same remedy will in different subjects produce various and opposite effects; nor was it unobserved by the ancients. "Bathing" they tell us "is proper in fevers whether hot or cold;" and farther take notice as a singular circumstance in it, that "it allays thirst, in those that are dry, and causes it to such who before were not dry."

Frequent use, if ever the vapour bath should be brought into use, in a variety of cases can only determine in what kinds of fevers vapour bathing is a fit remedy, and what are the times most proper for bathing, whether early or later, on the increase or in the decline; in which a regard must be had likewise to many other circumstances as they respect the disease itself, the season of the year, the age of the patient, the sex and constitution.

Military, Naval, and Fever Hospitals, afford the best opportunities every way to ascertain and improve a practice of this kind, which from an ample experience of it in the Naval Hospital in Dublin, during the late war, I am confident that when directed with judgment is perfectly safe, easy and effectual.

In upwards of 100 cases of fever which occurred in the above Hospital, in which the vapour bath was employed, the disease was arrested in its commencement. Those with other remarkable instances of its utility which occurred lately in St. George's House of Recovery; I shall, at a future period, give to the public,—were I to state them here, it would lead to a much larger work than I at present intend, and would be more calculated for a different class of readers: I wish at present to

state the powers of the vapour bath, and to leave the Profession at large to use it in cases in which their better judgment may deem it serviceable.

INFLAMMATION OF THE BOWELS.

The following case of *Enteritis*, or inflammation of the bowels, occurred to me in June 1814: as this disease is one of the most acute which affects the human body, and one which frequently terminates in *gangrene* and *mortification*; the most powerful means of cure are always immediately employed.

P— C—, a publican, aged thirty-six years, of a strong constitution, but much addicted to drinking, was attacked with inflammation in his bowels; the symptoms were as follows:— an acute pain in the whole abdomen, pulse hard and frequent, (120 in a minute,) the extremities cold, with great prostration of strength, flatulency, sickness, and violent reaching, his tongue was dry with great thirst, and such a spasmodic contraction in the abdominal muscles, that his body was bent forward and compressed, which occasioned a quickness in his breathing. It was evident in this case, that

not a moment was to be lost: I therefore took twenty ounces of blood from his arm, and had him instantly put into a vapour bath, heated to 120 degrees, where he remained for half an hour; he felt considerable relief, but the inflammation not subsiding, I repeated the bleeding and vapour bath in four hours; the pulse however still continued hard, and as in this disease we have not much time to consider, I repeated this process four times in the course of twenty-four hours. With these, and other subsidiary remedies, his pulse became soft, a general relaxation succeeded, which terminated in a profuse perspiration and sound sleep.

The debility in this case was not so great as might be expected from the profuse evacuations, and his recovery was rapid.

As the patient could not be removed from his chamber, under those circumstances a common tin slipper bath was procured, and the vapour coveyed from a small steam pot or digester, through a piece of lead pipe inserted into the aperture in the front of the slipper; the patient was placed in it, first having been rolled in flannel, and having lined the bath with a blanket, the vapour of the hot water was most effectually applied, and to prevent the steam escaping, a blanket was placed

round his neck and shoulders, which also served as a valve.

The inconvenience attending the use of the common warm bath in private houses, owing to the quantity of water requisite for immersion; the length of time necessary for preparing it; and the difficulty of preserving the temperature—form great objections to its use, which are not felt in the application of the vapour bath; the readiness with which the latter may at all times be used, and the ease with which the temperature can be regulated, afford decided advantages in its application.

BILIOUS AND LIVER COMPLAINTS.

There is no organ in the body so liable to be affected as the liver, and the deceptive appearances of the several diseases to which it is subject, and the great danger of their being mistaken for diseases of other organs, requires the most serious attention and acute discrimination. Considerable derangement frequently takes place in the liver, without being sensibly felt, (the nerves of the liver being small in comparison to its bulk), consequently bilious and liver complaints, acute inflammation excepted, are insidious in their attack, slow in

their progress, and gradually undermine the constitution without alarm, until the disease advances so far as often to baffle the skill of the physician ; and so prevalent are those complaints now in this country, that bilious and liver complaints, may be said to be the *endemic diseases of Dublin*, and that the sound or diseased state of the liver, is the grand source of health and disease in the inhabitants.

It is universally allowed by medical writers and practitioners, that bilious and liver complaints arise frequently from the application of *cold* during and subsequent to *perspiration*, other causes produce those complaints, as injury done to the digestive organs, by excess or intemperance in eating and drinking, or from peculiar organic structure, called *temperament*, &c. : but the majority of cases, I believe, will be allowed to arise from cold.

I have already alluded in the chapter on cutaneous disorders, to a sympathy or consent of parts between the skin, the liver, and the alimentary canal : this mutual influence will explain the effects produced on the biliary organs by the sudden application of cold. The *perspiration* and *biliary secretion are both arrested.* For not only is the animal heat too rapidly abstracted, but the extreme vessels on

the surface of the body, and the extreme branches of the vena portarum of the liver, are struck torpid, the passage of the blood through the liver consequently obstructed, and a temporary *congestion* in that organ is the result.* It is then plain, that by frequent repetitions, the ducts of the liver will loose their tone, and as atony is the parent of spasm, constrictions of those ducts must at these times take place; the bile will become viscid, occasionally from a stagnation; and be with more difficulty brought forward into the intestines, during the subsequent increased action of the vessels: and thus, obstructions will form, and an inflammatory congestion be constantly impending, till time or some accidental aggravation of the causes above mentioned, produce HEPATITIS or INFLAMMATION of the LIVER.

Various examples can be adduced to prove the existence of this mutual influence or sympathy between the skin, the stomach, and the liver. Every one knows the effects of emetics and nauseating medicines on the skin and perspiration, the same effects are produced on the biliary secretion, that is an increase of perspiration and an increase of the secretion of bile at the same time. Hence in all cases where

* Dr. Johnson.

bile is secreted in too large a quantity, the exhibition of emetics is improper. This sympathy is equally visible where the secretion of bile is *deficient*. If we observe those emaciated invalids who croud watering places in the summer, with indurated livers, sallow complexions, torpid bowels, and a deficiency of bile, we invariably find the skin *dry*, harsh and constrict to the feel, without any thing like the softness and moisture of health.

In Diabetes and Dropsy, where the perspiration is notoriously defective, there is the most decisive evidence of diminution in the biliary secretion. In chlorosis bile is secreted in less quantity than in health. In maniacal habits there is generally a *defect* in the secretion of bile: in both cases there is a dry skin and a deficiency of perspiration. The torpid state of the skin in Melancholy, Hysteria, and in most nervous disorders, exactly coincide with that of the liver and bowels. Hypocondrical complaints are always attended with dyspepsia, diminished secretion of bile, dry skin and with great torpor of the alimentary canal. The symptoms of dyspepsia and diminished secretion of bile, which are now rendered more conspicuous among females from their sedentary life, are most effectually removed by warm or vapouring bathing, which are the *surest*

means of producing a regular and healthy discharge from the pores of the skin, and (from the sympathy between it and the liver) an increased secretion of healthy bile. The same may be said of exercise, which powerfully promotes the secretion of bile as well as perspiration. On this account I generally recommend exercise after warm or vapour bathing (when the strength of the patient, and the weather permits) in preference to going in a carriage.

In the Edinburgh Medical Journal, Vol. 2. p. 5, a curious case is related of obstinate dyspepsia (where bile is generally deficient,) which could not be cured till exercise (the broad sword) brought on a flow of copious perspiration. In similiar cases, where such athletic exercise could not be used, I have found the warm bath and small doses of mercury attended with advantage. In those cases the bath must first act on the skin, and probably on the liver, from the sympathy between them, while on the other hand the mercury which is known to increase the action on the liver, may produce its diaphoretic effects on the skin from the same consent of parts already alluded to.

In bilious complaints dyspeptic symptoms arise and generally mislead the patient into a

belief that the complaint is only indigestion, particularly if no pain on pressing the region of the liver is felt, but in general if the patient be attentive to his own feelings, he will find an unexpected step on uneven ground will frequently cause a most unpleasant sensation at the pit of the stomach or in the right side, as if something dragged there. Disturbed sleep and frightful dreams precede and accompany bilious disorders. I mention these as only the warning symptoms of a liver complaint, which may be removed by avoiding the causes that produce them, by a few doses of calomel and cathartic extract, (see prescription, p. 120,) and the use of the warm or vapour bath. It will be easily understood how these remedies will prevent a liver complaint, by drawing the circulation to the surface of the body, and promoting the insensible perspiration, thereby relieve if not prevent internal congestion.

Liver complaints sometimes make their approach in more questionable shapes, and from the pulmonic symptoms which frequently attend them are mistaken for Consumption.—Mr. B—— aged 27, was supposed to be labouring under consumption, he had been under the care of a medical gentleman of eminence for six months, he had taken Iceland Moss perse-

veringly for three months—had tried digitalis, ammoniacum, squills and other pectorals, had been bled, blistered, &c. he was at length considered in the last stage of consumption, and ordered the country air and goat's whey. On the 4th Nov. 1814, previous to his resigning an employment he held in a public office, he consulted me. I was curious to measure the capacity of his lungs for inhaling atmospheric air by the *Pulmometer*, (an instrument invented by Dr. Kentish, of Bristol). From his emaciated and hectic appearance, and the history he related of his complaint, I did not suppose he could inhale more than two pints of air, but to my great surprise, at the first inspiration he took in seven pints, which from the size of his body, was as much as his chest was ever capable of containing. This proved to a mathematical demonstration, that his lungs were not diseased, and that the pulmonic symptoms were secondary, or symptomatic. On minute examination, I discovered his liver to be the organ primarily affected, which a gentle course of mercury and warm bathing effectually cured in eight weeks.

Mrs. E——, aged 25, was under my care thirteen years ago—after a lying-in she caught

cold, which produced cough, pain in her side, and other pulmonic symptoms. Two of the most eminent physicians were consulted, one of whom continued daily to attend her for near three months, during which she had taken quantities of Iceland Moss, Digitalis, &c. She was ordered, and tried country air, asses milk, goat's whey, &c. Her emaciation and debility came on so rapidly as to alarm her friends and physicians, and after a consultation she was ordered to Bristol; she sailed on the 17th of March 1805, under the apprehension that she was journeying "to that bourn from whence no traveller returns." When she reached Shrewsbury, she consulted the late Dr. Darwin, who pronounced her disorder "*Liver*," and immediately, notwithstanding her emaciated and debilitated appearance, put her under a course of mercury and warm bathing, which in three months (without going to Bristol,) completely cured her. She returned to Dublin in July following, and is now in perfect health, and the mother of a numerous and healthy offspring.

Bilious and Liver complaints are now thought to be so common, particularly among those whose health and constitution have been impaired abroad, while serving in the army

and navy, that I trust a few simple directions for *their* regulation may not be deemed useless or inconsistent with the plan of this work.

Among the remedies for those complaints, mercury given in small doses and slowly, certainly holds the *first* place, as it effectually promotes the secretion of bile, and excites the extreme vessels on the surface of the body to action. To encrease this effect and to determine to the skin, the warm or vapour bath is the most powerful auxiliary. The connexion between the biliary and perspirations processes, will elucidate the operation of these remedies, and may suggest the use of others.

Our attention is next to be directed to the stomach and bowels. The diet in all bilious and liver complaints will require the strictest attention, and the great secret in strengthening a weak stomach is, to give it little work to perform. There should therefore, be the greatest moderation in the use of the plainest food only, and that of the easiest digestion, very little wine, and if any spirits, must be much diluted. Common water will do more in strengthening the stomach than any medicine, especially if the bowels are kept open: all fat, salted or smoked meats, rich suet or plumb puddings, butter sauces, and high sea-

soning, are to be avoided. The food should be plain fresh meat, simply boiled or roasted, with only its own juice or gravy, plain light soup or broth, and occasionally light bread or rice pudding, a small portion of well boiled vegetables, without butter may be used: large quantities of vegetables raw or not well boiled and sallads never fail to produce flatulency or acidity, where the stomach is weak, and are therefore highly improper. A cup of coffee soon after dinner, should be preferred to tea, and supper always avoided.

One or two of the following pills taken occasionally at bed time, will move the bowels gently next morning, will carry off diseased, and promote healthy secretions of bile, and will be found to obviate that mental despondency and long train of nervous symptoms so constantly attendant on bilious and liver complaints.

Take of Cathartic Extract, one dram,
Calomel, half a dram,
James's Powders, (genuine) one scruple.
Mix and divide into 20 Pills.

The quantity of calomel or James's powders may be increased or diminished according to the effects we wish to produce.

Diseases arising from an *excess* of bile, or an increased secretion, are equally distressing as those which are caused by a deficiency. In the *Autumnal Bowel Complaints, Cholera Morbus and Dysentery*, for example, if we give purgatives we increase the secretions which are already too abundant, and keep up a disease perhaps for three or four weeks, which might be checked in as many days by a contrary treatment. After a dose of rhubarb and ginger, or oil of castor, I have found the following medecine seldom fail in curing the complaint in two or three days,

Take of chalk mixture, six ounces,
Tincture of Cinnamon, half an ounce,
Laudanum, one drachm.
Mix, and take two table-spoonfuls after every liquid motion.

Should the complaint however continue, or run into a cholera morbus, or terminate in a dysentery, more active measures must be adopted: larger doses of opium must be given combined with calomel,—the warm bath —starch injections with laudanum, and if the liver appears to be overpowered with blood, a

dozen or two of leeches must be applied to the side, or some blood taken from the arm, to procure a free circulation to the rest: light nourishing diet, more animal than vegetable should be used.

Where there is a *deficiency of bile*, which often occurs after those bowel complaints are cured, the *Baume de vie** regulates and carries on the functions of the alimentary canal—excites the peristaltic action of the intestines—prevents the accumulation of mucus, and neutralizes any disengaged acid in the stomach or bowels.

In inflammation of the kidnies and other internal parts, the vapour bath has a decided advantage over the hot water bath; and in glandular obstructions, in both young and old subjects, the relief afforded by it, leaves no doubt of its efficacy. Dr. Bradsley, in his

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* This is the *Decoctum Aloë Compositum* of the London Pharmacopiæ, a medicine which I have for many years been in the habit of prescribing at St. George's Dispensary, where not less than seven thousand patients are annually relieved, one half of whom are afflicted with *Dyspepsia* arising from a deficiency of bile—the remainder with a very few exceptions are *Diseases of the Skin*, and Liver Complaints.

Medical Reports, and some others, have given their testimony in favour of the superior power of heat applied through the medium of steam, to heat applied by the means of water. Dr. Kentish relates a case of chronic diarrhœa, which had resisted all the known means of relief, and a case of chronic catarrh, which very much resembled consumption, both restored to perfect health by the use of the vapour bath. In the latter he had recommended the alternate use of the cold bath. These cases shew that increased secretions from the bowels, and defluxions from the lungs, are relieved by determining the circulation to the skin. On this principle the vapour bath must prove useful in a variety of complaints, that proceed from checked, or obstructed perspiration, and are attended with defluxions from other parts. In female obstructions and painful evacuations, the warm or vapour bath used *daily*, for some time *previous* to the expected period, is attended with the happiest effects,*

* Hippocrates, a Greek physician, who flourished four hundred years before the birth of our Saviour, in his book on female complaints, prescribed the *hot* bath in cases of suppression, particularly when it occurred after parturition.

in chilblains, in tetanus, in diseases accompanied by a dryness of the skin, as *diabetes*, *dropsy*, &c. as also in water on the brain, in the chest, and in asthma, this remedy has been attended with considerable advantage.

HYDROCEPHALUS, OR WATER IN THE BRAIN.

Miss A——, aged 8 years, was attacked on the 4th of May 1814, with pain in her head, sickness in her stomach, and vomiting—she became languid, her eyes heavy and strongly susceptible of light, which gave her much uneasiness, her pulse was quick, her body costive, and her appetite bad; she had taken some calomel and jalap, which had no effect. On the 5th the pupils of her eyes became dilated—head-ache more severe, and the vomiting incessant. For some days previous to this attack she appeared rather heavy, her bowels costive, and slept badly, she had two brothers who died of water on the brain, one at the age of three years, the other of eight. From those circumstances I could not be without apprehension for the event of this case, and proposed to her father (who con-

curred with me in my apprehensions,) without loss of time, to apply two dozen of leeches to her temples, and directed four grains of calomel to be given every six hours.

The 6th, her head was not all relieved by the bleeding, which was very copious — her pulse was 160, small and wiry—her skin hot and dry, her feet cold, the pupils considerably dilated, nnd not susceptible of light—the vomiting more urgent, nothing whatever remaining on her stomach—the bowels still constipated—ordered ten grains of calomel every four hours, solutive injections every six hours, and a blister to the head. The 7th, no alleviation of symptoms, nor operation of any consequence from the medicines—her pulse extremely feeble and above 160, her belly hard, skin parched and dry, vomiting constant —ordered pills of cathartic extract, &c. injections of turpentine and oil of castor, bottles filled with hot water to her feet. The 8th, little or no hopes of her recovery, her stomach still irritable, rejecting every thing she takes, has had no sleep since the 4th, nor any alvine evacuation.

The Vapour Bath now occurred to me, and as a dernier resort, I had her put into it for a quarter of an hour, after which she had a

most copious evacuation of dark green matter; slept for two hours, the vomiting ceased, and a gentle perspiration broke out over her whole body; her pulse fell to 130; the propensity to vomit having subsided, pills of aloes and rhubarb were substituted for the cathartic extract and calomel, and given at short intervals — the injections were continued — the alvine evacuations became copious, but the fœces were particularly fætid and of a dark green colour. The 9th, she had a tolerable night—the vomiting returned, but on putting her again into the bath it ceased, and she fell into a sound sleep and gentle perspiration—her mouth became sore and affected by the mercury, having taken upwards of two drams in the course of four days—the bath was repeated every day for a fortnight, her belly became more and more regular, till at length natural motions were procured, and all symptoms of her complaint disappeared; she is now in perfect health.

DROPSY.

In reading a late publication from the pen of a learned Professor of Medicine, I was not a little surprised to find the following

assertion,—that "*Dropsy is one of the best known and most fatal of all chronic diseases.*" In adopting the term dropsy, (which is but a single symptom,) as the name of a specific disorder, we are likely to include in it many obstinate and incongruous diseases: like headache or pain in the stomach, dropsy is too vague a term for nosological arrangement; like them it arises from a variety of causes, and like them it forms a part of many complaints. *Hydrops*, says HEBERDEN, *non tam ipse morbus quam morbi alicujus signum.* It is the concomitant of many visceral diseases; it follows occasionally in the train of fevers; it arises often from accidental injuries; from obstructed perspiration; suppressed discharges, natural and artificial; and is generally present in all cases where death is ushered in by debility.

Throughout every part of the body, and in all its great visceral cavities, there is a constant exhalation of a vapoury fluid, oozing from the exhalent extremities of the arteries, and bedewing every fibre of our frame: this fluid is absorbed as fast as it is formed by the corresponding mouths of the lymphatic vessels carried back again to the general mass of blood

from which it had been separated. If at any time this fluid be poured forth in quantities greater than can be taken up by the absorbents; or if on the other hand, the absorbents should in any degree lose their usual power of action, (the exhalation remaining unaltered,) an accumulation of fluid must necessarily take place, consequently the body will be thrown from a state of soundness and health, into that of weakness and disease.

In almost every species of dropsy, the functions of the skin, of the liver, and of the kidnies, are interrupted; consequently the perspiration, the biliary and the urinary secretions are defective; the pores of the skin being stopped, the fluid of the insensible perspiration not transpiring, is of course accumulated under the skin in the cellular substance, or in some of the cavities of the body: the biliary secretions being suppressed, the circulation in the liver becomes obstructed, and congestion in that organ takes place. Whether these are the causes, or the effects of Dropsy, is a question not necessary here to discuss, as the treatment of the disease is a matter of much greater consequence, but this I will venture to assert, that by giving a free circulation to the blood

in the liver, which may be effected by blood-letting;* by drawing the circulation from the vital parts to the surface and extremities of the body, which is practicable in almost every case of dropsy by the vapour bath; by other evacuations, and the exhibition of tonics without stimulating and a light nourishing diet, we may produce a suspension of the symptoms, if not effect a cure in nine cases out of ten of this "most fatal of all chronic disorders," by promoting the absorption of the accumulated fluid, and by preventing a fresh accumulation, which are the obvious indications of cure in *all* dropsies.

The following ten cases of dropsy occurred to me in the course of three months practice in 1817, six of whom were cured, and four considerably relieved by this mode of treatment. I shall particularize them according to the date of my attendance.

Mrs. M——, of Dorset-street, applied to

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* Congestion and inflammation should not be confounded. In inflammation, bleeding is the genuine remedy, and the whole treatment must be lowering: while in congestion, at the beginning a part of the blood must be removed in order to procure a free circulation to the rest; but if the cause of the congestion be weakness, it must be removed by other means.

me on the 22nd of June; she had laboured under dropsy of the belly for near three months, which was cured by three blood-lettings, eight vapour baths, twenty-four blue pills, combined with James's Powders, one every night, and a *Baume de vie* draught every morning.

Lieutenant A——, a retired marine officer, consulted me on the 26th of June for dropsy, which he had laboured under for six weeks. He had suffered from repeated attacks of the liver in tropical climates; his emaciation and debility were great. He was bled five times, used the vapour bath every second day, took a pill containing calomel, James's Powders, and Cathartic extract every night. At the end of four weeks the dropsical symptoms disappeared, but there remained an induration in the liver, for which I directed him to go through a steady course of mercury, and warm bathing in the country. He left town on the 28th of July, considerably relieved, and has had no return of his dropsy since.

Mrs. K——, South George's-street, had dropsical symptoms for two months, she consulted me on the 4th of July. She was bled twice, took a vapour bath every second day for a fortnight, a blue pill every night, and a

Baume de vie draught occasionally. She was cured in five weeks.

C—— K——, Esq. from the country, applied to me on the 14th of August. He had been afflicted with dropsy for upwards of six months. I took blood from him every third day, and put him into a vapour bath the intermediate days for a month; when the symptoms of an inflammatory diathesis disappeared, I put him through a course of blue pills, with James's Powders, till his mouth was affected, after which, with a light nourishing diet, warm bathing, and Cascarilla draughts with Epsom salts, &c. He returned to the country in three months perfectly cured.

Mrs. N——, of Summer-hill, consulted me on the 26th of August for dropsy. I caused her to be bled five times, and to be put into a vapour bath every second day for three weeks. She took about two dozen of blue pills, with the Cathartic draughts, occasionally, and was well in five weeks.

James Appleton, a Greenwich pensioner, residing on the North-strand, had dropsy for six weeks. He applied to me at St. George's Dispensary, on the 2nd of September, to be tapped: the following day I drew off three gallons of water, directed him to be bled twice

a week, and to be put into a vapour bath every second day. He took the blue pill with squills and calomel, &c.; at the end of three months he was so far recovered as to be able to work at his trade, which was that of a painter. He was bled eight times, and used the bath sixteen.

E. B——, a servant maid, was sent to the above institution on the 5th of September, for the cure of dropsy. She was blooded three times, used the vapour bath six times, and with other remedies was well in six weeks.

J. S——, Esq. of Cambden-street, had dropsical swellings in his legs for a considerable time, which gave him no alarm till an accumulation in his abdomen took place, which affected his breathing, produced cough* and other distressing symptoms. On the 14th o

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* *Hippocrates* twice tells us that *cough* is a fatal symptom; a prognosis which the observations of *Morgagni* and *Bonetus* justify. I question, however, if that symptom be marked early in the disease, and an appropriate plan of cure adopted, whether its fatality would not be much lessened. In general it denotes a tendency to Hydrothorax, with more or less disorganization of the pulmonary system, and will be formidable in proportion as it conspires with other symptoms to produce extensive organic injury and a broken-down constitution.

September he sent for me, and placed himself under my care. In two months he was well, after losing blood five times, and using the vapour bath every day for a month, &c.

Mrs. E——, of Great Britain-street, laboured under symptoms of dropsy in the chest; on the 22nd of September, I ordered her to be bled and to use the vapour bath every second day. In the course of three months she was bled four times, used the vapour bath eight days only; a blister was applied to her chest, which was kept open by savin ointment. She took the blue pill with squills and digitalis every night; the Cathartic extract with calomel and James's Powders occasionally. With those and other evacuations, she was so far relieved from the cough, &c. in less than three months, that she considered herself cured, but the relief I considered to be merely a suspension of symptoms.

Mrs. R——, of Caple-street, had dropsy for three months. On the 25th of September she sent for me. On the 20th of October she was considerably relieved, after three bloodlettings, six vapour baths, and other necessary evacuations.

To dwell upon the particular symptoms which marked each case, or upon the apparent

causes which produced them, or the exact doses of the remedies exhibited, would far exceed the limits of a work of this kind; it is sufficient for me to state here, that symptoms which denoted an inflammatory diathesis and indicated blood-letting, were present in them all, and that the cupped and buffy state of the blood, and the relief that followed each blood-letting, confirmed the propriety of repeating the operation.

The following case of dropsy was the first in which I carried blood-letting to any extent, and the effects of it in that instance were such as to induce me to persevere in that plan of treatment, both in hospital and private practice with the happiest effects.

Edward Fadden, able seaman, aged 32, belonging to his Majesty's Yatch, the William and Mary.

This was a case of General Dropsy, that is of Anascarca, Ascites and Hydrothorax. He was sent to the Naval Hospital on the 18th of July, 1814; when he came in, the thorax, abdomen and cellular texture were involved in one common deluge, the extremeties, &c. swollen to an enormous size,—his breathing extremely difficult, he could only inhale two pints of air by the Pulmometor,—he had a

short troublesome cough with a watery expectoration, and an asthmatic countenance—he was obliged to be supported in an erect posture being unable to lie down from a sense of suffocation which he felt when horizontally inclined—his skin was dry and harsh to the feel—his arms and legs cold and affected with a numbness—his pulse small, quick and feeble—his appetite bad—his thirst urgent—his body costive—his urine scanty, high coloured and containing a large portion of serum, coagulable by exposure to heat—great debility, emaciation and petechiæ.—He had previous to his admission taken mercurial purgatives, digitalis and squills.—He was always fond of grog when at sea, and drank it frequently to excess.

Conceiving his disorder to arise from some visceral affection. I was induced to try blood-letting (lately suggested by Dr. Blackhall, of Exeter,*) and put him into a vapour bath with a view to determine to the surface and of producing a moisture on his skin; after the first operation the swelling of the extremities considerably subsided and his breathing became relieved, but the swelling of the abdomen

* See Blackhall on Dropsy.

increasing, I was obliged to perform the operation of Paracentesis and drew off 13 quarts of water, after which I discovered a considerable enlargement of the right lobe of the liver, with acute pain on pressure—from this circumstance and the manifest relief obtained by the first blood-letting and vapour bath, I was induced to repeat both operations every third day, taking from 8 to 12 ounces of blood at each venæsection and keeping him in the bath from 10 to 15 minutes at the temperature of 120 each time of using it. The blood was always thickly buffed. In the course of six weeks I bled him sixteen times, and put him into the vapour bath after each operation—I put him through a steady course of mercury —gave him strong purgatives of calomel, jalap and cathartic extract, on the plan of Dr. Hamilton ; gave him opium, digitalis, squills, and cream of tartar occasionally, which I found of great comparative utility, and afterwards the acetated tincture of steel with infusion of Quassia.

On the 26th of November following, I discharged him from the Hospital and sent him to Plymouth, on board the Basalisk Gun Brig. On leaving the Hospital he could inhale 5 pints of air by the pulmometer, his appetite was

good—his alvine evacuations (which were clay coloured,) became natural—his pulse 70, and of moderate strength—his flesh and strength increased, but his urine continued scanty, high coloured, and still loaded with coagulable serum, and notwithstanding the great amendment in his general health, and being free from pain in both hypochondria, the water accumulated so rapidly in the abdomen as to require tapping once a fortnight.*

I have only to observe on this case, that although the bleeding (upon which I principally depended, as I employed the vapour bath only as an auxiliary) did not remove the disposition to encreased exhalation, yet much of his complicated disease was alleviated, and that he was alive the day he was discharged, justifies the practice I adopted.

The advantages derived from the vapour bath, in restoring the strength of persons debilitated by the use of mercury, induced me to employ that remedy more frequently during its exhibition, in the hope of *preventing* those evils it had only been hitherto applied to remove. In pursuing this indication, I could not but be struck by the greater facility with which

* He died shortly after his arrival at Plymouth.

the mercury acted upon the constitution, the comparative rapidity of the cure, as well as the diminution of the poisonous effects of the mineral, when the bathing was employed in conjunction with it: I have, in consequence, generally adopted, and after an ample experience in the Naval Hospital and private practice, for eight years, (since the establishment of Baths in Dublin,) I can assert that in every instance where I combined these two remedies, the patients recovered in nearly half the time, and with little more than one half the quantity of mercury usually employed in such cases. The bath was used every day, by which means the system was strengthened against the debilitating effects of the mercury, and fortified against the influence of cold. Thus may the constitution be preserved, and the cure of many obstinate disorders rendered less difficult, by the assistance of a powerful, though perfectly safe auxiliary; and thus may be prevented, the puny and degenerate offspring of those, who from their shattered, broken down, and enfeebled constitutions, caused by disorders contracted in warm climates and at home, are obliged to undergo repeated courses of mercury; a necessity which seldom fails, even in the strongest constitutions, of producing a predisposition to

scrofula, and perhaps other diseases in their offspring. And here let me observe, that no act of benevolence could be more essential to the comforts of the community, than that of establishing vapour baths for the poor, in *all* the Hospitals and Charitable Institutions, with which this great and populous city abounds: the lives of many might be saved, and the expenditure for medicine be considerably diminished.*

The following case occurred to me in August 1810. Lieutenant ——, of the Royal Navy, having used a large quantity of Mercury, was obliged to go to sea, and while he was under its influence rashly plunged into cold water. He was almost instantly seized with excruciating pains in all his joints, a contraction of his hands and fingers soon followed, his appetite forsook him, and he became extremely emaciated. In this deplorable state he was sent

* Since the publication of the first edition of this work, vapour baths have been fitted up in the *Richmond* Surgical Hospital, in *Sir Patrick Dunns* Clenical Hospital; in the *Whitworth* Hospital, in *St. George's* Dispensary, and House of Recovery: and a medicated vapour bath is now erecting in an institution which has been lately established for curing *diseases of the skin*, called the *Dublin* Infirmary.

to sick quarters. I immediately ordered him the vapour bath, and after repeating it for thirteen times, during a period of twenty-eight days, he perfectly recovered.

RHEUMATISM.

Rheumatism, which, in consequence of the moist and variable atmosphere, to which our contiguity to the sea exposes us, is one of the most frequent, difficult and tedious complaints we have to treat. The stomach, from the use of antimonials and other sudorifics, is too frequently debilitated, and the constitution thereby injured; should sudorifics therefore be deemed necessary in such cases, the vapour bath in point of efficacy yields to no drug, and as the system does not suffer by its exhibition, it deserves a decided preference.

Various obstinate cases of months standing have occurred in the Naval Hospital; Rheumatism being a disorder with which sailors are frequently attacked from their being so much exposed to moist air, and damp cloathing: these, without a single exception, have recovered in a very short time by the use of the vapour bath.

Chronic rheumatism is a disease nearly allied to palsy, as the vessels from previous distension are rendered paralytic, and contract spasmodically on the fluids, probably in too large a proportion. The vapour bath is particularly useful, and will often alone cure the disease. In that species of Rheumatism confined to the *hip joint* called *Sciatica*, vapour bathing is a most valuable remedy.

SCIATICA.

John Muiller, seaman, aged 24 years, a native of Sweden, residing at the Retreat in Drumcondra, had been afflicted with sciatica for seventeen months — He had been twenty weeks in Sir Patrick Dunn's Hospital, where he had taken a variety of remedies, he had been blistered several times and had a caustic issue inserted in his back which was kept open for eleven weeks. He was discharged from the Hospital in April, 1814, and recommended to try the country air.

On the 4th September following, he applied to Surgeon Carmichael, who ordered him calomel and James's Powders combined, and blisters, without any apparent benefit. On the

29th of September, he was carried to me recommended by Mr. Carmichael. *His lower extremities were paralized---the pains in his loins and hips excruciating, and his body greatly emaciated.* I ordered him into the vapour bath at 120 for half an hour, on coming out he felt free from pain. He continued the bath daily for a fortnight at the same temperature and walked home from it every day, at the end of that time he was restored to the perfect use of his limbs, free from pain and sufficiently strong to return to his ship.

The above was a remarkable instance of the efficacy of the vapour bath, and excited the attention of Surgeon Carmichael, who witnessed its effects in this case. The managing Committee of Sir Patrick Dunn's Hospital, at the suggestion of the Physicians, have fitted up a vapour bath, at that institution, since the above period.

Patrick Reilly, aged 25 years, by trade a Carpenter, had a swelling, stiffness and pain in his knee and ankle joints, for eighteen months, which confined him and rendered him unable to work at his trade during that period, and resisted a number of remedies which he tried in the country both internally and externally. He resided at Dumshaughlin, and was

carried to town on the 1st of September, 1814, to get into an Hospital, he was directed by one of the medical attendants to try the sea bathing, which he did for a fortnight, but finding the pain and stiffness increased by it, he gave it up, —on the 1st of October, he was advised to try warm bathing and applied at the Baths. I had him put into the *vapour bath* for 20 minutes, after the first bath he was able to walk home (a distance of a quarter of a mile) with ease. He continued the bath *every* day for a week, and every *second* day the week following, when he was free from pain, stiffness and swelling, and returned to the country perfectly recovered at the end of the fortnight.

In scirrhous tumours of the breast, in glandular swellings of the neck, and in enlarged mesenteric glands, it has been used with advantage.

GLANDULAR SWELLING IN THE NECK.

J — C—, aged four years, had a swelling in the right parotid gland, which gradually increased for a month till suppuration commenced, on the 20th of October, 1814, I was

sent for to open it, it being on the point of bursting—I advised the operation to be delayed to try what effect the vapour bath might have and had her put into it for 10 minutes at 110,—a poultice of bread and milk had been applied which I ordered to be continued, and gave her a dose of Calomel and Rhubarb, (5 grains of each). In the course of a week, after bathing every second day, the tumour was reduced to one half the size, absorption having taken place, and in less than six weeks the tumour totally disappeared without leaving any mark whatever During her bathing the poultice was continued while any redness appeared on the skin, and the calomel and rhubarb repeated twice a week which affected her mouth.

After dislocations of the shoulder, elbow, ancle and other joints, cases often occur in which the Surgeon finds reduction a difficult task; he is obliged to use very powerful extension, in a variety of directions, and frequently without success; and after fractures of bones, where effusion sometimes remains in the ligaments of the joints, or under the sheaths of the tendons; and in paralytic limbs, arising from external causes; and in cases of deafness arising from cold, I have known great benefit derived from vapour bathing.

A remarkable instance of its efficacy in a case of luxation of the fore-arm from the humorus (the elbow joint,) with a fracture of the olecranon, occurred not long since in a sailor, who fell from the main yard of the foremast in a collier. The poor fellow remained for three days without any surgical assistance, his vessel being at sea. I happened to be on the quay when it came in, and accidentally met him when looking for an hospital; I enquired into his case, and on examining the arm, found the swelling and inflammation so considerable as to threaten mortification, and prevent any attempt at reduction; I recommended the man immediately to try the vapour bath, which he did, three times a day for four days, at the end of which the swelling, &c. were subdued, the skin and muscles became relaxed, and the dislocation was reduced with great facility, so that in a short time he recovered the perfect use of his arm.

CASE OF GRAVEL AND PARALYSIS.

The following case will shew the great advantages that are likely to be derived from the application of this remedy, in calculi and gravelly complaints. J——L——, a servant,

aged about fifty years, had been long afflicted with pain in the region of the kidnies, which extended down to his thighs, his abdomen was hard and swollen with a sense of weight and pressure downwards. He frequently passed calculi, and always with excruciating agony; at length he was seized with a Paralysis that affected one side, so that he was obliged to leave his situation, having lost the use of his right arm, thigh and leg. In this state he applied to me. I ordered him into the vapour bath, and after being in it for fifteen minutes he discharged a quantity of calculi and sand, with infinitely less pain than on former occasions, and he felt considerable relief in other respects. He persisted in the use of the vapour bath, with sometimes the intermission, of one or two days, (occasioned by the wetness of the weather,) for near three months. He is now restored to his health, and the use of his limbs.

GOUT.

It has been observed and acknowledged, for upwards of two thousand years, that "*persons who have suffered repeated paroxysms of gout, very rarely become entirely free from it during the remainder of their lives.*" This constitutes

in common language, an *incurable* disease; and an opinion highly injurious to the advancement of medical science, has unfortunately sprung out of this observation, "*that the gout is not only incurable, but that every attempt to mitigate the suffering of the patient is attended with danger.*" This opinion has paralyzed the Faculty of Medicine for at least two hundred years, and nothing has been done for the unfortunate sufferers, under the fear of doing mischief; so that patience and flannel have been their only consolation. In consequence of this snpineness of the regular practitioner, gouty patients become a prey to empiries, who feign many pernicious remedies for their cure: of this description was the *Duke of Portland's Powder*, &c. which relieved indeed a few, but they afterward all died of apoplexy—*Omnes ad internicionem cœsi*, says Cadogan.

Since the days of *Sydenham*, Physicians seem to have been afraid of gout, from the unfortunate events which thus followed what were considered as cures, and the utmost usually done was to protect the stomach; but a bolder practice has been lately ventured on by Dr. Heberden and others, who have written upon the efficacy of *Bark*, the extract of

Aconita, of *Cicuta*, &c. the *cold bath*, *leeches*, and other topical applications, so that the possibility of mitigating the torture of gout, is now established beyond a controversy.

Of the several methods which the more active practice of modern times has introduced, none seems better calculated to combine relief and safety with general applicability, than the vapour bath. Its general effects in rheumatism, and other inflammatory diseases, the relief of tension and abatement of pain, which follow its use, as well as its extensive powers of restoring a broken constitution, afford strong grounds of expectation from its application in this disease. But not to dwell upon *a priori* reasonings, which cannot quadrate with the ever varying opinions of theories entertained upon so obscure a disease, it will be sufficient to appeal to experience, which will abundantly exhibit the benefit which *does* accompany the use of this remedy.

The following case, related by Doctor *Meyers*, a Licentiate of the Royal College of Physicians in London, and an eminent practitioner there, in a Letter to the Honorable *Basil Cochrane*,* on the effects of the Vapour

* See his Treatise on the Vapour Bath.

Bath on his *own person*, must carry conviction along with it.

From Dr. Meyers to the Honorable Basil Cochrane.

" DEAR SIR,

" Your very polite attention to me, and the very beneficial, as well as agreeable accommodation your kindness has afforded me, by the use of your invaluable and improved vapour bath, when suffering under severe lameness and indisposition, from late and repeated attacks of the gout, demand from me my most particular acknowledgment. The utility of the bath to invalids of various classes, is too obvious to urge me to enter into a minute detail of your very useful invention. By your machinery, vapour of any degree of heat, whether medicated or not, may be conveyed with facility and comfort to any part affected, and when required, to the whole body.—Every one conversant with the innumerable ills that await the human frame, must have deplored with me, the difficulty, the inconvenience, the loss of time, and, in some cases, the utter impossiblity to obtain a warm water bath in the sick bed-room, and when obtained how insufficient and difficult the management. All this

is effectually obviated by your ingenious contrivance; for in a room of very limited dimensions, your vapour bath, to any degree of heat, may be introduced to answer every purpose the practitioner may have in view; and it is so portable, that a servant may transport it from one room to another, at a minute's notice. The inspection will convince any one; it will therefore be unnecessary for me to dwell any longer on the subject, as you so generously intend making your plan public. The expence to obtain your apparatus, will be within the power of many; I have no doubt, therefore, of its general adoption in private families, on a small scale, and in hospitals, for the use of the poor, on a larger one. After eighteen weeks painful confinement to my chamber, by a most unrelenting fit of the gout, I was induced by your invitation, and the persuasion of several of my medical friends, to be put into my carriage to inspect your vapour bath. I saw it, approved it, and immediately used it—and repeated it for eight times, about the heat of 120 degrees on Fahrenheit's thermometer, and continued its operation each time twenty minutes. On my first trial, I was directly solaced and eased from pain, and am now enabled to pursue my wonted and pro-

fessional occupations with ease and comfort. I can now, without assistance, get in and out of my carriage, though on my first visit to you, I was unable to do the one or the other without much help; and it was with difficulty, and by the use of crutch-sticks, I got through your hall. My general health, since my first visit to you, has much improved: the exercise, the variety that has since engaged my mind, the change of air, from close confinement, has conjoined to restore me, under heaven, completely. I am, therefore, fully satisfied of the excellence of your vapour bath, and its general utility in a variety of complaints to which the animal œconomy is subject, when judiciously administered. But I will now conclude this long letter, without adding any thing more on this subject, as I trust the world will soon be in possession of your plan, which will indeed be a blessing to the suffering part of the community, and which, by due management, may and will become a lasting benefit to mankind.

"I am, &c. &c.

"JOSEPH HART MEYERS."

John-street, America-square, London.
June 6, 1809.

To the Hon. Basil Cochrane.*

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* This gentleman, who is son of the late, and brother

Another case no less decisive occurred to me lately, which I shall take leave to briefly

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of the present Earl Dundonald, after a long residence in India, returned to England about six years ago, with a constitution very much impaired. His chest was loaded with phlegm, he laboured under a severe and almost incessant cough, and his voice, which was feeble and interrupted, sometimes failed him. After his return to his native country, with a philantrophy unparalelled in the annals of humanity, he erected in his own house in Portman-square, London, a *suite* of warm and vapour baths, on an improved plan, to which a free and easy access was given. He was the first of course to try the vapour bath on his own person, and such were the effects it produced, and the change it made in his constitution, that they appeared to him, to use his own words, "the operation of magic:" he expectorated with ease, and very copiously; the stricture on his chest was removed, he breathed freely, his cough left him, and his whole frame acquired new health and vigour.

As soon as the effects of this remedy were known, numerous applications were made, and such was the ardour and zeal of this truly benevolent man for the relief of his suffering fellow creatures, that he invited the whole Faculty of London to witness its effects, and threw open the doors of his establishment to them, to make such experiments as they might deem necessary, in order to demonstrate its excellence. From this gentleman I received an invitation in July, 1812, to visit his establishment, and the result of my observations at that time were in strict conformity with those which followed from my

state, as it strongly confirms the Doctor's testimony.

Captain ——, of the Royal Navy, aged forty-two, had been confined to his chamber for a fortnight, with gout in both his feet: on the 27th of April, 1813, after taking a dose of medicine, he was suddenly seized with sickness, vomiting, and most excruciating pain and cramps, with a sense of coldness in the region of the stomach. I had him instantly placed in a vapour bath, heated to 120 degrees. In ten minutes the vomiting ceased, and his stomach retained a draught of cinnamon water with æther; and in half an hour he was so far relieved from pain as to be able to get out of the bath without assistance, though with great difficulty he could be put into it. In two days after he walked out, perfectly recovered; he however continued to bathe every day for a week, and since that time has had no return of his complaint.

There is another advantage I have not yet taken notice of, which the vapour possesses over the warm bath—I mean its application to

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own practice at home, and gave me a still higher opinion of the general powers of vapour bathing over diseases, hitherto most formidable and obstinate.

the internal surface of the lungs; a surface which, if every air vessel was spread out, would probably much more than equal in extent the whole surface of the body: indeed some physiologists calculate this surface at ten times that of the body. Upon the absorbing powers of the lungs, much has been written. The experiments of Dr. *Rousseau*, of the Island of Hispaniola, of Dr. *Darwin*, of Dr. *Beddoes*, and the practice of the Chinese Physicians,* concur in shewing that the absorbing powers of this organ afford a ready road into the system, both for the causes of disease, and for the remedies which restore health.

Dr. Darwin invented a box for the application of powders to the surface of the lungs, for the cure of ulcers, &c. but the mode of impregnating vapour with medicinal herbs, has many advantages over the Doctor's dusting box. There are few substances, either vegetable or mineral, which may not be dissolved,

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* They inoculate their children by putting some of the dry infection of the small pox into a little musked cotton, which they put up the nostrils of the child, and then make them breathe through this contaminated medium, by which means it inhales the contageon, and becomes infected.

and applied to the lungs through the medium of vapour, and when exhibited in this form, they must be absorbed with great facility.*

DIRECTIONS FOR VAPOUR BATHING.

The temperature necessary for the vapour bath, and the time for using and remaining in it, must depend upon the purpose for which it is designed. From ten minutes to a quarter of an hour, is sufficient, in general; but there may be cases where half an hour or an hour will be necessary.

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* Several patients labouring under Pulmonary Consumption, whose lives were despaired of by the most eminent Physicians in Russia, have been lately cured in Petersburgh, by inhaling atmospheric air impregnated with the *vapour of boiling tar*, under the directions of Doctors Bluhm and Von Roos.

In St. George's House of Recovery, or Maison de Sante, I have three cases of Pulmonary Consumption now trying the effects of the Tar fumigation, conducted in the manner recommended by the above-mentioned Physicians; and it consists with my knowledge and observations of this new remedy to state, in corroboration of the testimony given by those gentlemen, that the Tar fumigation lowers the pulse, renders the cough less troublesome, and produces very salutary effects on the pulmonary system. The result of those cases, with some others, I shall submit to the public at a future day.

The best time for using the vapour bath, is in the morning, or at any period before dinner; after the body is properly dried and rubbed, the cool air is grateful, and perfectly safe; there is no danger whatever from cold—the truth is, *we are less liable to cold after warm or vapour bathing, than at any other time*, for the increased circulation on the surface of the body, keeps up a great degree of heat, which the non-conducting state of the skin long preserves in the medium of even a cold atmosphere: that this is a fact, experience on my own person, and observation of the effects produced on others, enable me to affirm; consequently the fear of "*catching cold*," expressed on such occasions, is both groundless and injurious. The reader, it is hoped, will pardon the repetition of this fact; so general is the prevalence of the opposite opinion, and so mischievous the errors in practice it produces, that the truth cannot too often be inculcated, in a work of this description.

In December, 1812, when the thermometer was below 32 degrees, I went into a steam bath heated to 130, which is five degree above the *burning* land wind on the *coast of Coromandel;* I remained in it for ten minutes, and after having my body well dried, without any additional clothing to what I am accustomed

to wear, I walked to Ring's-end and back again, a distance of upwards of two miles, without any injurious consequences; on the contrary, I felt invigorated, and as it were, defended from the coldness of the atmosphere.*

From what I have stated it must not be concluded, that immediate exposure to the external air in all instances, after warm or vapour bathing, is safe: there are exceptions in several states of disease, wherein the object is to ensure an increase of perspiration. In these it is obviously our business to remove the patient to bed, to encourage the continuance of it; but, when the bath is used for cleanliness, refreshment, or as a luxury, the rule admits of no exception.

The Russian constantly plunges at once from the vapour to the cold bath, or exposes his body to the rigorous frost; this sudden transition hardens him to all the severity of climate, and to every vicissitude of weather—a transition which seems unnatural and dangerous to us. And we are also told, by *Lady Mary Wortley Montague*, that the Turkish ladies, who do not yield in point of delicacy,

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* See the experiments of Fordyce and Blagden, before cited.

to those of this country, bear this sudden alternation of temperature, equally well with the Russian peasant. She further adds, that they continue bathing at least four or five hours together, and without taking cold, they go immediately from the hot bath to a cool apartment.

Having briefly shewn the effects of the Russian method of bathing, I shall take a short view of the Turkish manner. The following beautiful description I have taken from *Savary's* letters from Egypt.

" The first apartment, in going to the bath, is a large hall, which rises in the form of a rotunda, and is open at the top, to give a free circulation to the air. A spacious estrade, or raised floor, covered with a carpet, and divided into compartments, goes round it, on which the bather leaves his clothes. In the middle of the building is a *jet d'eau*, which spouts from a bason, and agreeably entertains the eye. When you are undressed, you tie a napkin round your loins, take a pair of sandals, and enter into a narrow passage, where you begin to be sensible of the heat. The door shuts to, and at twenty paces you open another, and go along a passage at right angles with the first ; here the heat increases :

they who are afraid of exposing themselves suddenly to a stronger degree of it, stop in a marble hall in the way to the Bath, properly so called.

"The Bath is a spacious and vaulted apartment, paved and lined with marble, around which are four closets. The vapour incessantly arising from a fountain and cistern of hot water, mixes itself with the burning perfumes, and produces the most agreeable effects. Extended on a cloth spread out, the head supported by a small cushion, they stretch themselves freely in every posture, whilst they are enveloped in a cloud of odoriferous vapours, which penetrates into every pore. After reposing there for some time, until there is a gentle moisture over the whole body, a servant comes, presses you gently, turns you over, and when the limbs are become supple and flexible, he makes all the joints crack without any difficulty: he masses and seems to knead the flesh, without making you feel the least pain.* This operation finished, he puts on a

* This process is termed *Shampooing*, which is an expedient neither known or understood in this country, but generally used in India and the Levant as a luxury, often resorted to as a remedy in very high estimation. The

stuff glove, and rubs you a long time. During the operation, he detaches from the body of

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operation is performed by people regularly trained to the office, called *Shampoo men*, and to be agreeable must be done with art: it consists in gently pressing and turning the body, rendered previously supple and pliant by warm and vapour bathing; the Shampooman causes the following joints to crack without any trouble; the wrist, the elbow, the shoulder, the vertebræ of the neck and of the back, the instep, the knee, and the hip; and he performs this task as if he were a perfect anatomist. When last in the Mediterranean, I saw and submitted to the operation, which was done in the usual manner; to effect the purpose in the dorsal vertebræ, the shampooing attendant was placed upon a low chair, and made the bather sit upon the ground before it, putting the knee against the concave part of the back, and laying hold of both shoulders, he suddenly pulled them backwards, and at the same time gave the body an oblique sliding motion, which caused the dorsal articulations to crack with two distinct explosions, nearly similar to the report of a small pop-gun; as this was done with much expertness, the sensations were singular, and for a moment rather disagreeable; the shampooing attendant began to knead the limbs, grasping, pounding, and gently squeezing the flesh with the whole hands, like so much dough, from the extremities to the centre, thereby removing every sensation of pain, and concluded the business by putting on a camel hair glove, and by rubbing the skin briskly, which took from it all the porus theromatus obstructions

the patient, which is running with perspiration, a sort of small scales, and removes the imperceptible impurities that stop the pores; the skin becomes soft and smooth, like satin. He then conducts you into a closet, pours the lather of perfumed soap upon your head, and retires. This closet is provided with a cistern and two cocks, which supply hot and cold water—here the bather washes himself. Soon after, the servant returns with a depilatory pomatum, which in an instant makes the hair fall off the places to which it is applied: both men and women make general use of it in Egypt—it is composed of a mineral called *Rusma*, (supposed to be an *oxyd of arsenic*,)

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and rendered it soft and smooth as satin. The sensations after steeping and macerating a long time in warm water, and in steam, after the process of shampooing, are certainly very different from sensations of weakness; they are delightful; for in the bath health is admitted at every pore, while the latter process imparts to every particular joint its full freedom and all its latitude of motion, the whole gives an ease, a pliability, a suppleness, and an activity equally invigorating to the mind and to the body, which may serve both to correct the vulgar prejudice of the 'relaxing effects' of warm bathing, and to confirm the justness of the inference the ancients drew of the *mens sano in corpore sana.*

which is of a dark brown colour: the Egyptians burn it lightly, knead it with water, mixing it with half its quantity of slacked lime: this greyish paste, applied to the hair, makes it fall off in two or three minutes, without giving the slightest pain. After being well washed and purified, you are wrapped up in hot linen, and follow the guide through the windings that lead to the outer apartment; this insensible transition from heat to cold, prevents our suffering any inconvenience from it. On arriving at the estrade, you find a bed prepared, and when laid down, a child comes to press every part of your body with his delicate fingers, in order to dry you thoroughly. The linen is changed a second time, and the child gently grates the callosity of the feet with pumice stone; he brings a pipe and Mocha coffee.

"Coming out of a stove, surrounded by a hot and moist vapour, where the perspiration gushed from every limb, and transported into a spacious apartment, open to the external air, the breast dilates, and you breathe with voluptuousness—perfectly massed, and as it were regenerated, you experience an universal comfort; the blood circulates with freedom, and you feel as if disengaged from an enormous

weight, together with a suppleness and lightness to which you have hitherto been a stranger; a lively sentiment of existence diffuses itself to the very extremities of the body, while it is lost in delicate sensations, the soul sympathizing with the delight, enjoys the most agreeable ideas—the imagination wandering over the universe, which it embellishes, sees on every side the most enchanting picture, and every where the image of happiness. If life be nothing but the succession of our ideas, the rapidity with which they then recur to the memory, the vigour with which the mind runs over the extended chain of them, would induce a belief, that in the two hours of that delicious calm that succeeds the bath, one has lived a number of years."

Bathing, with the Egyptians, as well as with the Russians, makes a part of their daily wants, and is used as a luxury, In every town and village there is a public bath, the use of which has a powerful influence on the health of the people, by removing the causes of those complaints, which would seriously afflict them, without such prevention, in a climate where perspiration is so copious, and where frequent ablution is so necessary: by

this means they avoid a number of cutaneous diseases, as well as rheumatism, catarrhs, and fevers.

With these facts before us, there can be no doubt that the vapour bath is a powerful and safe addition to the means we possess of combating disease. It is singular, that the civilized natives of Europe received the small pox inoculation from the uncultivated people of Asia, and that we are again indebted to the same people for this instrument of utility and comfort:—but it has been the fortune of Physic to receive its best instruments from the hands of uneducated experience, rather than from the deductions of the happiest hypothesis.

TESTIMONY OF WRITERS OF AUTHORITY, AND PRACTITIONERS OF CELEBRITY.

Sir Gilbert Blane, Physician to the Prince Regent, formerly Physician to the Fleet, and afterwards to St. Thomas's Hospital, says, in his treatise on the "Diseases of Seamen," that the warm bath is of great service in Dysentery and Bowel Complaints, especially where the gripes and tenesmus are severe. The same distinguished Physician relates

several cases of Tetanus which were cured by Opium and the Warm Bath, in all of which he kept the patients under immersion from five to six hours.

Dr. Thompson, professor of Military Surgery in the University of Edinburgh, in his Lectures on Inflammation, says, " the Warm Bath seems to act not only by encreasing the tendency to perspiration, but also by occasioning a determination of blood to those parts of the body to which it is more immediately applied. It is in this way that bathing the feet seems to relieve inflammatory affections of the head and throat. I have not seen any experiments, nor am I acquainted with any which have been made with a view to ascertain its use in the inflammations of the chest; but in all inflammations of the belly and of the viscera, contained within that cavity, there are no other means of cure, blood-letting excepted, which afford such *sudden* and *permanent* relief as that which is obtained from hot fomentations and warm bathing."

Doctor James Johnson, Surgeon to his royal highness the Duke of Clarence, in his treatise on the " Influence of Tropical Climates," says, " the Vapour Bath now coming into use at the Naval Hospitals abroad, bids

fair to prove a powerful auxiliary in soliciting the blood to the surface, and thus relieving (in the Yellow Fever,) the internal organs from the effects of congestion."*

Dr. Bancrofft, Fellow of the Royal College of Physicians of London, Physician to the Army, and formerly in America, in his Essay on the Yellow Fever, Dysentery, &c. recommends in urgent cases of Dysentery "the Warm Bath continued for the space of an hour, if the patient can bear it so long."

Dr. Rush, of Philadelphia, mentions in his Medical Observations, "that the Warm Bath was found in many cases to be an effectual remedy for an obstinate Diarrhœa, consequent on Dysentery."

Dr. Rollo, late Surgeon General to the Royal Artillery, in his book on Diabetes, observes, "that the most important benefits have been derived from warm bathing and fomentations."

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* This is a book which I think every gentleman going to the East or West Indies, ought to provide himself with, and may be useful to those at home, whose health and constitutions have been impaired abroad; it is the production of a man of sound judgment, of accurate discernment, and of great professional knowledge and experience.

Dr. Moseley, Physician to Chelsea Hospital, in his treatise on "Tropical Diseases," advises "Baths and Frictions with warm Oils to open the pores and bring the humours to the surface of the body in bowel complaints."

Dr. Thomas, of Salisbury, in his "Modern practice of Physic," says "most cases of Dysentery, and particularly during the acute stages of the disease, may be relieved by immersing the patient in a Warm Bath."

Dr. Jameson, in his treatise on Cheltenham Waters says "the cure of these complaints (Cutaneous) is extremely difficult, so far as internal remedies have power over the dry scurfy state of the skin. The great dependance ought to be placed upon *external* remedies, such as warm and tepid bathing. These will soften the skin and wash the humours from it. Hence it is that so many cures are performed on Leprous patients at the *Bath Hospital*, and that the valuable addition of the fumes of Sulphur to the cleansing property of hot water, have rendered the Baths so celebrated in *Scurfy* disorders.

The same Author observes, "the Warm Bath, by promoting the flow of bile, proves serviceable in bilious diseases, and relaxes the gall ducts in cases of jaundice and biliary

concretions. Likewise by exciting an external circulation it relieves the internal parts of the body from obstruction, and allays both vascular and nervous irritation, so as to induce sleep and to relieve from the fatigues of a journey in a rapid manner, and by softening and cleansing the skin, it proves of great service in most *Cutaneous* diseases."

Dr. Marcard mentions in his treatise on bathing, "that the Danes would never be free from Cutaneous disorders until they introduced the use of the Russian Baths:" he had resided in both countries, and drew his conclusions from experience: he also adds "that the same means would be most likely to destroy that terrible disease in Poland known by the name of *Plica Polonica*."

Dr. A. P. Buchan in his practical observations on Sea Bathing, a work of great merit, being the result of 16 years experience of a physician who annually visited different watering places, for the purpose of sea bathing, says "in almost every treatise which I have perused on this subject, sea bathing is recommended as a remedy for certain diseases of the skin. This opinion appears to be founded rather on theory than experience. At one period every species of cutaneous defadation

was comprehended under the term scorbutic; and, from some general notion of sea water being a remedy for every thing that came under the denomination of Scurvy, it was supposed to be beneficial in all eruptive complaints, or perhaps a too submissive deference to the judgment of Hippocrates, who recommends sea water as useful in cutaneous itching, accompanied with acrid discharges, has in this instance influenced the opinion of medical men. 'Aqua marina his qui prurigi-nem sentiunt, et qui ab acribus pumoribus vellicantur, tum balneo, tum fotu *calida* prodest.' But it is to be observed that the Father of Physic confined his recommendation to the use of *Warm Baths*, or fomentations of sea water.

Doctor Tuomy, Professor of Physic to the University of Dublin, in his "Treatise on the Principle Diseases of Dublin," states in his chapter on Hepatitis, that "the warm bath may be used occasionally, with a view to soften the skin, to determine to the surface, and to mitigate internal pain; it is also useful in moderating the severity of distressing or profuse perspiration."

Doctor Jaques, resident physician at Harrowgate, says, "I have had several patients who

remained in the warm bath from *one to two hours every day for two or three months* without debilitating the body, or in any way injuring the constitution; but on the contrary, thereby gained both health and strength. The use of the warm bath twice or three times a week, has assuredly a very renovating effect upon old and emaciated people, and I am confidently of opinion that its use has no inconsiderable tendency to retard the advances of those infirmities naturally incident to old age."

The same author observes, that "many people are deterred from using the warm bath before dinner in consequence of their apprehensions of taking cold from subsequent exposure to the air; this fear is however wholly groundless, since the body is then in a fitter state to resist the effects of cold than at any other time.

Mr. Faithorn, formerly a surgeon in the East India Company's service, states in his "Treatise on Liver Complaints," that "while he was in a Tropical Climate, he had long suffered from a diseased liver, which necessarily led him to reflect deeply on that disease, and to devise what were the best measures that could be adopted to counteract its general and baneful effects. On the use of the warm

bath, he says that it is " an assisting agent in removing obstructions in the liver; this it does in promoting and preserving a due balance between the absorbent and the exhaling apparatus; and as this is often lost in an eminent degree in visceral affections, so the warm bath offers a useful auxillary to the other measures we have already detailed; it not only acts on the external surface in rendering the circulation free and unembarrassed, but it affords a grateful, mild, and uniform stimulus to the whole body; it also refreshes the mind and diffuses over the general system a sensation of ease and pleasantness; it particularly upholds that wonderful economy and harmony in our interior organs, on the disposition of which, the healthful comfort of existence so much depends;" but the same author observes, " in the application of the warm bath, as a coadjutant source of relief in hepatic disorders, it is right to notice, that it cannot be employed with advantage or security until some of the portentous obstructions are previously removed; therefore on its timely and judicious management, the practitioner only must decide."

In a very ingenious treatise from the pen of Doctor Harty of Dublin, on Dysentery, a work

of great research, and one which gives a complete summary of the opinions and practices of all the modern writers on that disorder, the author observes, that the "warm bath is a means of relief much overlooked in dysentery, and yet it is one, from the few trials which have been made of it, I should be disposed to consider as bidding fair to stand foremost among the most effectual remedies against this disease."

CONCLUSION.

In the foregoing pages the Author has endeavoured to point out the state of health and constitution in which the various kinds of baths may be employed with advantage. He has also pointed out some diseases, and other circumstances, in which they may prove injurious: and it will appear, that in many instances where the cold bath is improper, the warm and vapour bath may be used with advantage, and *vice versa*. It will also appear, that the alternate use of vapour and cold bathing, is likely to be productive of great benefit. He will now recapitulate, and place in one view, the diseases and other deviations from health, in which those remedies may be proper or injurious.

As a general instruction, whenever the cold bath is deemed proper, the warm, tepid, and cool bath should be first used, as a preparative; the patient should remain in, the first and second time, for ten minutes, and only immerse the body for a minute or two, when he proceeds to use the cool bath. The bather

should always go into the cold bath when warm, and seldom exceed one plunge; this produces a quick return of warmth, a glowing healthful appearance on the countenance, and an additional flow of spirits—when this is not denoted, the cold bath should not be repeated.

In cases attended with fulness of the habit, it may be necessary to bleed, or take a dose of medicine, before attempting the use of the bath.

In hysteria, in epilepsy, insanity, hydrophobia, and other convulsive disorders, the cold bath has been used with advantage—the principal circumstance to be attended to in the employment of this remedy in those complaints, is to use it during the paroxysm.

In all disorders affecting the head, with pain, giddiness, sense of fulness, hydrocephalus and deafness, in all diseases of the breast, in asthma, catarrh, water on the chest, and every species of consumption, in indigestion, chronic pains in the stomach and bowels, in all internal inflammations of the liver, spleen, kidnies, intestines, &c. in gout, rheumatism, diseases of the joints, scrofula, glandular swellings, in every species of dropsy, and in all eruptive and cutaneous diseases, in early infancy, in *every* period of pregnancy,

and in advanced life, the cold bath is injurious.

On the other hand, the warm and vapour bath, properly regulated, will be found principal agents in the cure of most of the foregoing disorders, and in all cases where the action of the absorbents is required to be increased, in eruptions of every kind, in œdematus swellings of the limbs, in stiffness and contractions of the joints, (whether an original disease or the consequence of others,) in all those disorders called *nervous*, in every case requiring a course of mercury, in early infancy, in the latter periods of pregnancy, and in the decline of life to the last stage of existence, the warm and vapour bath may be used with advantage and safety.

The cases to which the vapour bath seems best adapted, are chiefly gout, rheumatism, palsy, several affections of the skin, as leprosy, and ulcers; also, after dislocations, and in white swellings of the joints. It is also of use in female obstructions, chilblains, tetanus, dropsy, diabetes, strangulated hernia, and inflammations of the stomach and bowels. It is evident that its first effects would be attended with danger, in a plethoric state of the body, or where there is much determination

to the head—in such cases, therefore, previous steps must be taken to remove plethora or relieve the head.

From its power of determining to the surface of the body, it is useful where any acrimony is to be discharged, or where any unequal balance of the circulation is to be removed. In the former view it may be employed in several affections of the skin, as leprosy, ulcers and syphilis; in the latter, in chronic catarrh and diarrhœas. In the first it chiefly assists the effects of mercury, and in the latter supplies the advantages of a milder climate.

Such then are the circumstances which regulate the practice and ensure the utility of bathing. By the perusal of these pages, the reader, while he is guarded against the ill consequences of an injudicious, unregulated or unadvised use of a powerful remedy, may perceive grounds for hope of success, in the treatment of many obstinate and chronic complaints, by its timely and guarded application. From the vapour bath, especially, the greatest expectations may be indulged in the cases above enumerated; for, unless greatly blinded by prejudice, the Author has rather undervalued than overrated its utility.

With respect to the main object of this work, the removal of prejudices too frequently entertained, which impede the general benefit to be derived from bathing, it is hoped that enough has been said: like other prejudices, they can only yield to time, and it will be highly gratifying to the Author of these pages, should he be so fortunate as to contribute to the shortening of that period.

FINIS.