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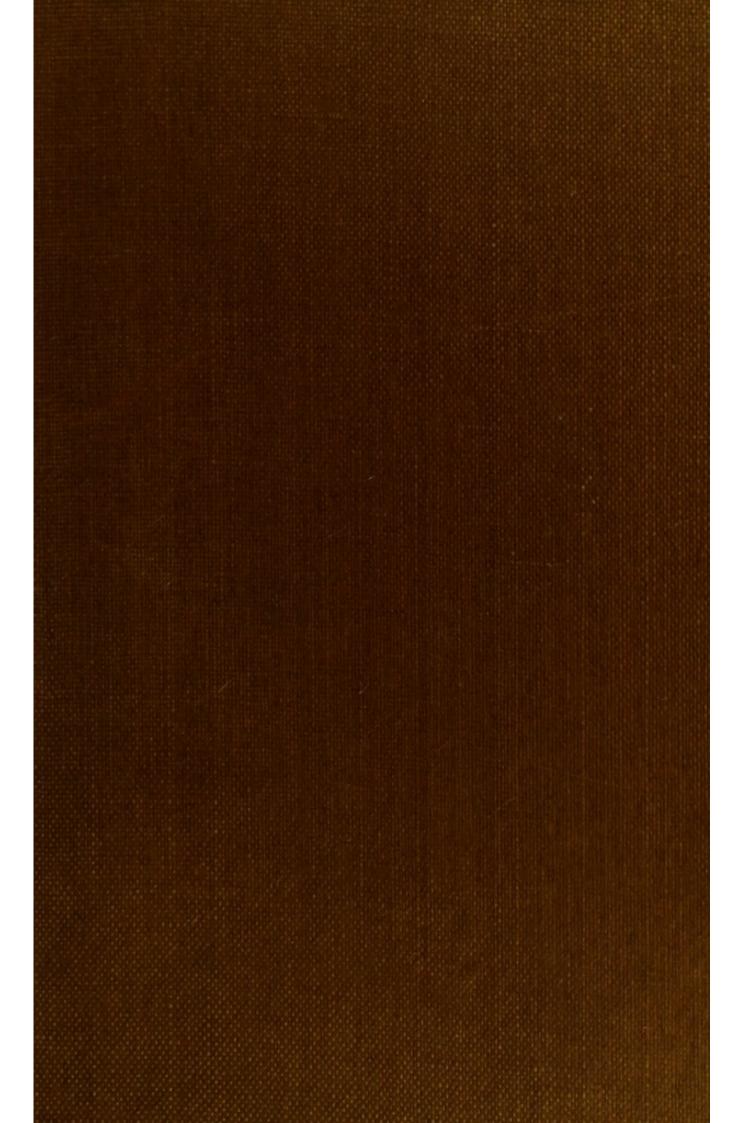
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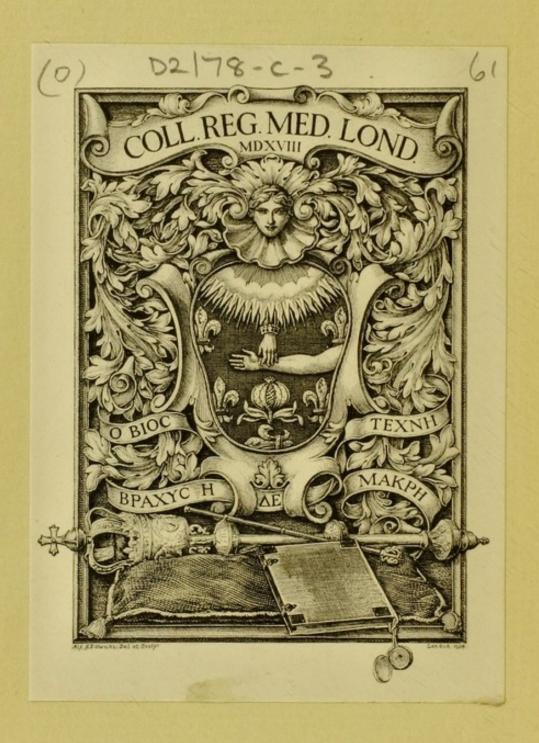
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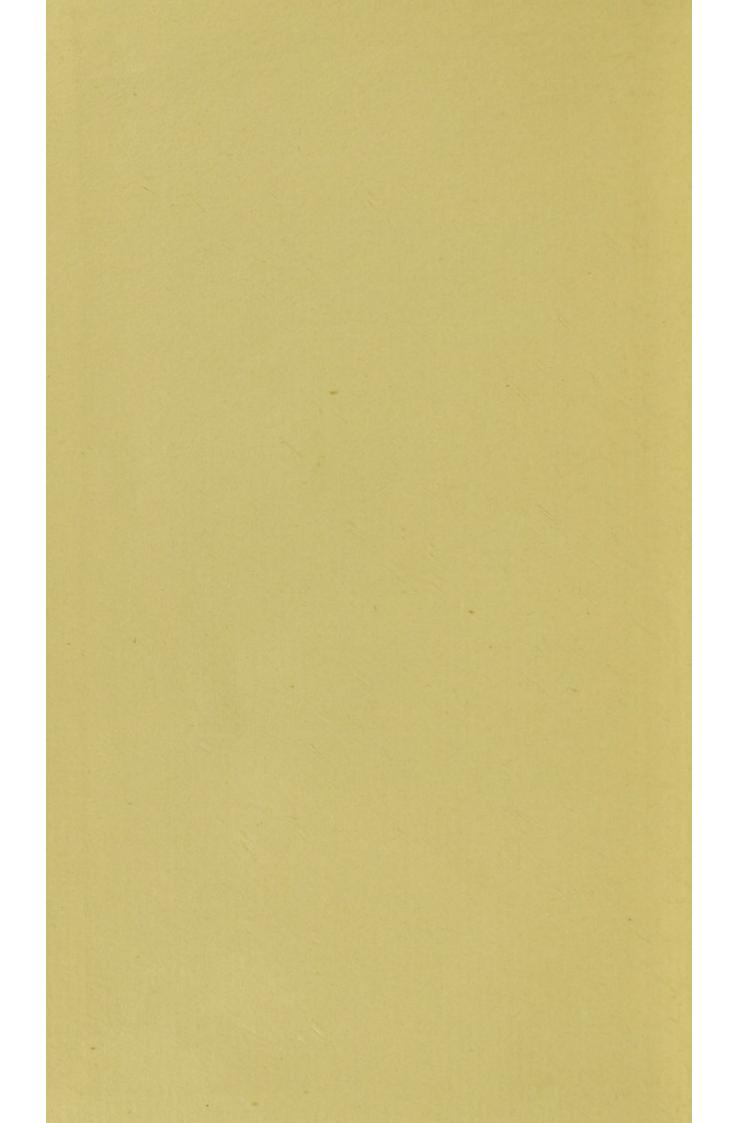
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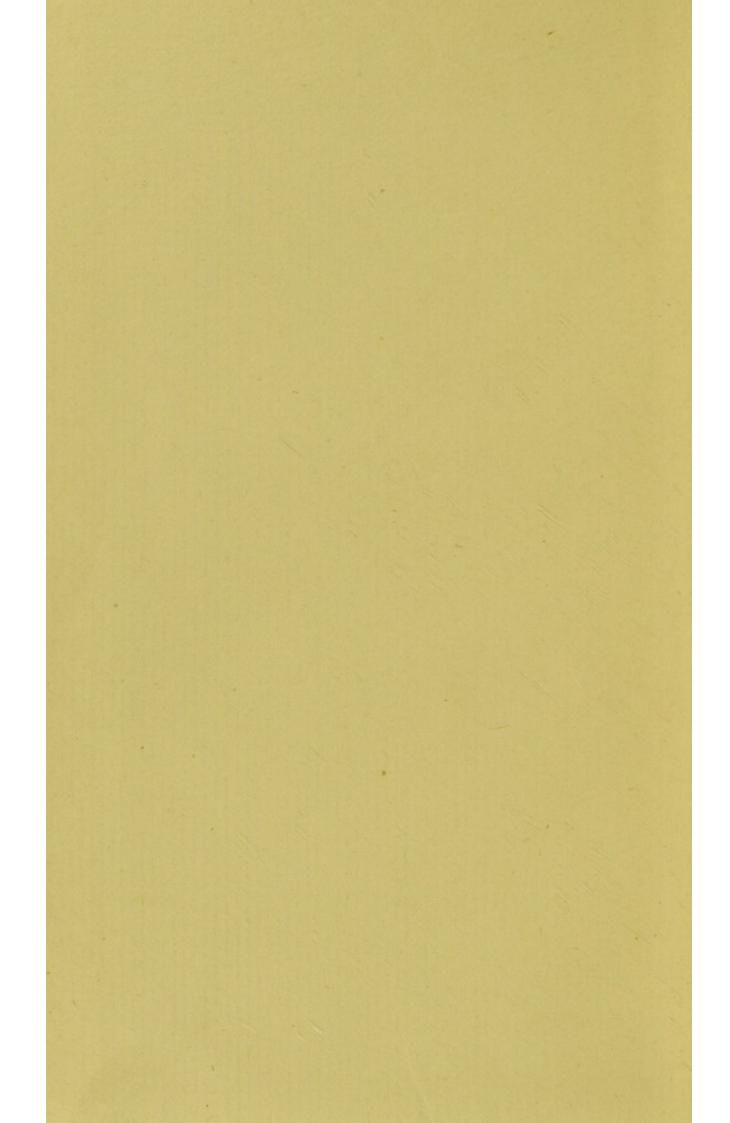




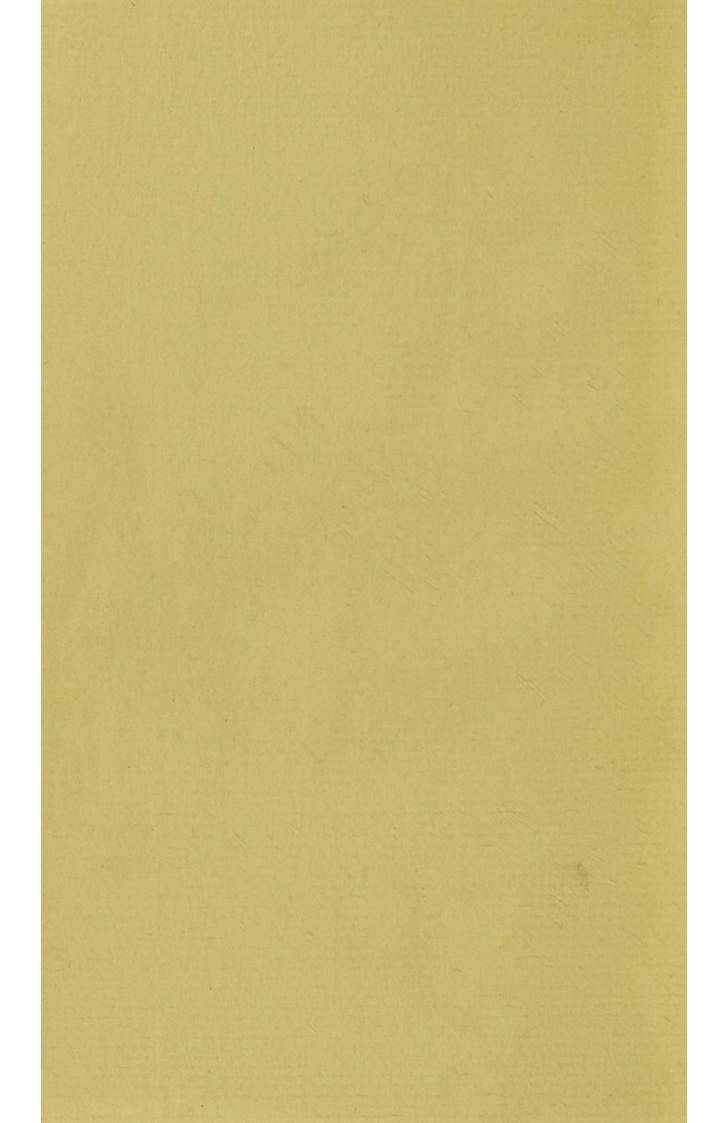












From the Author

NEW METHOD

OF

TREATING

BURNS AND SCALDS.

PART I.

BY

MICHAEL WARD, M.D. S.R.C.C.L.

MANCHESTER:

PRINTED BY ROBERT ROBINSON, ST. ANN'S-PLACE.

1828.

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"SI QUID NOVISTI RECTIUS ISTIS CANDIDUS IMPERTI, SI NON HIS UTERE MECUM."

TO THE EDITOR OF THE LONDON MEDICAL GAZETTE.

Being anxious to publish an account of a new method of treating Burns and Scalds as extensively and with as little delay as possible, for which purposes your plan of publishing weekly seems well adapted, I beg leave to transmit it to you, and to request it may appear in your next number if convenient.

The circumstances which led to its adoption, together with a detailed account of the cases in which it has been practised, with the effect in every instance of immediately (I had almost said instantly) removiny the intolerable pain and smarting which are invariably experienced by this miserable class of patients, will be sent with your permission to be inserted in a future number. In the mean time it might probably be the means of relieving the sufferings of many who are thus afflicted, considering the frequent occurrence of cases of this description, (which of all others, perhaps, are most calculated to excite horror and commisseration,) if the Editors of the different Medical Journals, and other periodical publications, would insert a copy of this paper in their respective Works and Papers, the sooner the better.

The preparation to be used, and the method of using it, I shall now proceed to describe; and it is peculiarly fortunate where the quantity required in many of the worst and most distressing cases will necessarily be considerable, and where every moment is so precious, that it possesses the properties of being cheap, always at hand, and as easily applied by any person who may happen to be present at the time of the accident, as by the most skilful Surgeon; circumstances which are of the highest importance, on account of the rapid progress which the inflamation thus excited constantly makes.—But to proceed.

We will suppose the clothes of some person, no matter how old or young, to have taken fire, and to have continued burning sometime before the fire could be extinguished; or secondly, that one or more human beings have escaped or been rescued from a House, a Factory, or other Building in flames,* but not until they had sustained considerable, perhaps irreparable injury from the fire; or thirdly, that one or more persons have been exposed to the action of fire by an explosion of gunpowder, inflammable air in a Coal Mine, or any other cause; or lastly, that some unfortunate individual has fallen into a vessel of boiling liquor in a Brewhouse or Distillery; accidents which are well known to be as frequent as they are dreadful. In all these cases, (and of course in all those of the same nature, but of less extent and magnitude,) the first object will be, (after having laid the patient upon a bed or sofa,) without a moments loss of time to take off the clothes AND APPLY BREAD FLOUR, BY MEANS OF A COMMON KITCHEN DREDGER, PLENTIFULLY, AND AS EXPEDITIOUSLY AS POSSIBLE, TO THE WHOLE OF THE BURNED OR SCALDED SURFACE, and this being properly and sufficiently done, carefully applying clean dry linen cloths immediately over the flour, and such bed clothes or other coverings as may be required to keep the patient comfortably warm, but not too hot. AND IN ALL CASES OF EITHER BURNS OR SCALDS STUDIOUSLY AVOIDING THE APPLICATION OF LIQUIDS OF EVERY KIND WHATEVER, INCLUDING OIL; AND LINIMENTS, OINTMENTS AND SALVES, CONTAINING OILS; ALL OF WHICH ARE EXTREMELY PERNICIOUS, AND IN EFFECT, ADD FUEL TO THE FIRE: AND MUST THERE-FORE-I REPEAT, BE CAREFULLY AVOIDED, AND TOTALLY DISCARDED FROM PRACTICE IN EVERY IN-STANCE OF THIS NATURE.

These are the directions to be observed at the first, dredging or sprinkling with flour, so far as regards the external treatment of the case: and supposing it to produce the effect of instantly removing the pain, which has hitherto been the uniform result of its application, the

next (or second) object will be, if the patient feel inclined to sleep, and has no immediate occasion for food, for him to endeavour to do so, either until the pain return, or an inclination for nourishment be expressed; that emergency which occurs first is of course to be first attended to. If the former, (i. e. the return of pain) we must commence by carefully removing the linen coverings or bandages from those parts where the pain is the most considerable (without attempting to remove any of the Flour previously applied except such portions of it if any as do not adhere to the subjacent parts, which will be easily done if a sufficient quantity of FLOUR which can scarcely be too copious, were applied in the first instance,) and then proceed as before to apply FLOUR equably and copiously to the painful parts, by means of the Dredger, which is the easiest and best method of effecting it, if the holes in the lid be sufficiently numerous and large, to allow the flour to pass with the requisite facility. It would also be a good general rule, particularly at the first and several of the succeeding dredgings or sprinklings, to continue the process for a certain time, (longer or shorter according to the extent of the violence, and the degree of pain complained of,) after the parts become easy, (with a view to keep them in that state as long as possible:) and steadily to persevere in it either until the last mentioned object be attained, or the parts affected shall have received a coating or covering of this invaluable article of from a quarter, to nearly half an inch in thickness: and then apply the bandages, &c. as before; and secondly, not to disturb those places which still continue easy in consequence of having undergone one or more sprinklings or dustings, until the return of pain or uneasiness shall indicate the necessity of repeating it. And in this manner we must proceed the first two or three weeks, or until that period shall arrive when it will be necessary to make some addition to the Flour. The plan which I have adopted and have found to answer is this; to begin by adding one part of the Calamina Preparata to three of Flour, (intimately united,) gradually increasing the proportion

of the Calamine, according to the effect produced, until equal parts, and at length towards the close of the healing process, the prepared Calamine alone, was the only preparation employed, excepting a little of the Ceratum Calaminæ (brown cerat, with which an additional quantity of the prepared Calamine to that directed in the Pharmacopeia had been mixed,) spread very thin upon linen and laid over the powder, to prevent the relaxing properties of the Oil from retarding the healing of the ulcers, which are usually formed in bad cases of this kind, and sometimes are very tedious and difficult to heal, though less so, I believe, under this management than any other.

Having now described the external or local treatment with a minuteness which may appear to some unnecessary, unless the distress and anguish to which this unfortunate class of patients are exposed, and the novelty, utility, and importance, of the practice inculcated, (which is partly intended for general and popular use, in order to avoid the delay which is so often fatal in these cases) prove a justification, it will be proper to make a few observations on the internal treatment with regard to diet, and medicines, should any of the latter be required, which I trust will be found to be equally consistent with sound theory and ratiocination, as the former have been proved to be simple, yet beneficial and salutary in practice. At present, however, I am compelled to defer my remarks upon these and other topics connected with the subject, to a future (yet I hope an early) number of your Journal; only observing, that with regard to diet, every reasonable indulgence should be granted consistent with propriety, to the wishes of the patient, so long as the tongue be clean, and the natural and vital functions are properly performed: avoiding, of course, the heavier and stronger kinds of animal food, pie crust, fermented and spirituous liquors, spices, &c. for some time at first, and substituting milk diet and puddings, with broth, soup, &c.; and occasionally a little chicken or fish at dinner. With regard to medicines, they should, I think, generally speaking, be given very sparingly, and with great

caution; particularly anodynes and opiates, which can seldom, I conceive, be useful, even in severe cases, supposing them to be doing well under the local treatment here recommended. If sleep cannot otherwise be obtained especially if the case be hopeless, opiates, (Dover's Powder, Pulvis Ipecac: Comp. would, perhaps, in some cases, be preferable to the Tinctura Opü,) given in proper doses every four or six hours, rather than in one large dose at bed time, until sleep be procured, might probably have a good effect. Or if the skin of one or both arms, or legs, or thighs, or of a sufficiently large surface of some other convenient part of the body should have escaped being injured, the use of the Opiate Friction, every two, three, or four hours, might probably be efficacious in procuring sleep, either alone, or in conjunction with the usual means.*

As aperients, those that operate gently are the best, such as a little castor oil; or a tea-spoonfull or two, of the Electuary of Senna, with a little Rhubarb or Jalap and Supertartrate of Potash; with either of which a draught of the Imperial Drink may be taken occasionally to prevent costiveness.

REMARKS.

It will now be proper to say something in vindication of the strong terms which have been employed in recommending the free and plentiful use of flour as being infinitely preferable to all others,* as a local application in cases of burns and scalds, from whatever cause, or in whatever way arising. Indeed, supposing its effects to be similar in the hands of others to those which accompanied its use in the three cases (one burn and two scalds) in which it has been employed by myself, (and I see no reason to the contrary) they will be of the most pleasing and gratifying description imaginable; a just idea of which will be best conveyed in the words of the patients themselves; (accompanied by cor-

^{*} See "Facts establishing the Efficacy of the Opiate Friction in Spasmodic and Febrile Diseases. Also Outlines of a Plan to investigate the Nature, Causes, and Method of Cure of Hydrophobia and Tetanus. By Michael Ward, M. D. Member of the Royal College of Surgeons, in London, late Surgeon to the Manchester Infirmary, Dispensary, &c. &c."—Sold by Hill and Burgess, Windmill-street, London.

responding actions, which must have been seen to be duly appreciated.)

"OH! HOW COOL AND COMFORTABLE IT IS," "I HAVE NO PAIN NOW," "IT IS QUITE GONE;" were the immediate and spontaneous expressions of my first patient, (whose arm was scalded from above the elbow to the fingers ends,) which were often repeated in a loud and rapturous tone of voice and manner, the instant (almost before) the flour could be said to be fairly in contact with the parts affected. Nor did the pain return till several hours had elapsed, and was then only slight, and was speedily removed by repeating the use of the FLOUR DREDGER (first removing the linen roller); which method of treatment was continued, at first three times, and afterwards, twice a day for three days, when scarcely any appearance of the accident remained, and the patient returned to her usual business,

In this manner was an accident, which if it had been treated in the usual way, would have been attended with great pain and inconvenience for several weeks, completely cured in three days.

In the other two cases, the one a burn, the other a scald; both of which happened to Mrs. D-, the effects were equally favourable and decisive in demonstrating the happy consequences resulting from the practice which it is the object of this communication to inculcate. It is also remarkable that the expressions of Mrs. D-were exactly similar to those already quoted as having been used by Hannah Pearson, (who was the subject of the first case) with this addition, frequently repeated at the first and subsequent sprinklings or dustings, viz. that the powder, (she did not know it was flour) which was applied to her foot and instep which were severely scalded, (more so from the difficulty experienced in removing the shoe and stocking) and afterwards to her thumb, which was burnt, WAS WORTH A GUINEA A GRAIN; so instantaneous were its effects in removing the pain.*

^{*} Another curious coincidence was, that the three cases which afforded me so many opportunities of submitting this method of treating BURNS AND

Nor is there any thing incredible or mysterious in this, if we reflect a moment upon the modus operandi, which is, I conceive, equally simple and intelligible, viz. that by its instantaneous operation as an absorbent powder, in allaying the irritation, and partly by its coldness, diminishing the temperature of the inflamed parts, it immediately arrests the rapid progress of the inflamation, and forms a fit medium or covering to prevent the access of the atmospheric air to a part of the body, which is at all times peculiarly susceptible of its action, (especially upon a large and extended surface of it) but which is now rendered a thousand times more susceptible than before, by causes which are too obvious to mention, Hence arises that distressing tremor (or rather rigor) which so often occurs even in slight cases of this kind, but infinitely more so where the injury sustained is severe and extensive. From hence also, I infer, that even in cases where all hope, or, at least, expectation of the patients recovery must be futile; the speedy, free, and plentiful application of FLOUR to the burnt or scalded parts, will, I trust, indeed I have no doubt, smooth the passage of these unfortunate and miserable objects to the grave.

Now, if this representation be just, and I pledge myself to prove its accuracy, I should be unpardonable were I to withhold the facts, which have occurred to me, from the public. Nay more, I should be inexcusable, if I did not by every proper and justifiable method in my power, endeavour to spread the knowledge of them as speedily as possible, to the inhabitants generally, and the faculty in particular, (whose attendance on all occasions of this kind-the experienced and judicious part of them I mean-will be desirable, and on many indispensable) NOT MERELY IN

I have also to observe, that though I have declined the practical part of Surgery, I shall not withhold my assistance in the day time if called upon, until the plan recommended shall become generally known and properly understood.

SCALDS to the test, took place in two different families, with whom I resided at the times when the accidents happened, otherwise, (though I wish not to enhance the benefits which may result from the discovery, if so it may be called) having declined the practice of Surgery, except in consultations, no such opportunity might, in all probability, have occurred to me.

GREAT BRITAIN AND IRELAND, BUT TO THOSE RE-SIDING IN EVERY PART OF THE GLOBE.

Nor will this be deemed enthusiasm by any humane person, who has heard in a single instance, as I have in many, the groans, and witnessed the misery and anguish which are endured in bad cases of the kind here treated of; on the contrary, I am greatly mistaken if he do not coincide with me in the opinion, that whatever has a tendency even to alleviate much more to remove the sufferings of this pitiable class of patients; (no matter by what means: indeed the more simple and easily attainable the better,) is justly entitled to the attention, not only of the profession. but of the Community at large. How far the scheme now proposed can be considered as coming under this denomination, experience must decide; and to this I think I may with some degree of confidence appeal. At all events should its merit be such as to stand this test, and I shall be greatly surprised if it do not, THE REMEDY BEING CHEAP, ALWAYS AT HAND, AND AS EASILY APPLIED BY ANY PERSON WHO MAY HAPPEN TO BE PRESENT AT THE TIME OF THE ACCIDENT AS BY THE MOST SKILFUL SURGEON, will have a corresponding and powerful influence in favour of its adoption.

I shall conclude this hasty sketch by observing that on no occasion can the maxim, "non progredi est regredi," be more appropriate. Indeed the success would be greatly promoted by the influence which such a sentiment is calculated to produce in hastening the prompt and effectual application of the remedy as soon as possible after the accident.

I have the honour to be, Your's obediently,

MICHAEL WARD, M. D. S. R. C. C. L. &c. &c. Manchester, April, 1828.

(TO BE CONTINUED.)

Robert Robinson, Printer, St. Ann's-Place.

A NEW METHOD

OF

TREATING BURNS & SCALDS.

PART II.

Having been formerly one of the Surgeons of the Manchester Infirmary, Dispensary, &c. (from September, 1790 to January 1805,) it was frequently my lot to meet with cases of extensive burns and scalds, which when severe, I had generally the mortification to see prove fatal, without being able with very few exceptions, even to mitigate, much less remove, the excruciating torments with which these melancholy accidents are attended .-The method of treatment then in use was to apply liquor calcis & oleum lini, p. æ. to the burnt or scalded parts for some time at first; followed by a variety of ointments or salves, either with or without the carbonate of lead or prepared calamine, according to the views of the practitioner. How extremely inadequate to fulfil the indications of rational practice these must have been, it were needless to shew.

Finding my efforts to afford relief in cases so pitiable and of such frequent occurrence were almost always defeated, the subject often occupied my mind, in order to discover an application of some kind or other, calculated if not to cure, (which in the worst cases it would be unreasonable to expect,) at all events to relieve the pain, by allaying the irritation, and thus if possible, arrest the progress of the inflammation and consequent vesication and ulceration which are the invariable attendants of severe burns and scalds, and which might also have the advantage of being easily procured, and applied without loss of time, (circumstances which are of the utmost importance, on account of the rapid progress which the inflammation

thus excited constantly makes;) by any person of mature age who might happen to be present at the time of the accident. These appeared to me great and necessary desiderata; but little did I imagine that any external application possessing most, much less all these good qualities, could be found to reside in one simple substance, and that always at hand, cheap, (no trifling consideration where the quantity required in bad cases must of necessity be large,) admitting also of being applied with the greatest practicable celerity, as well as facility.—Yet such I am happy to say has been the result. See Part 1, in "The Lancet", of May 10, 1828; to which will now be added, (in accordance with the pledge there given,) a brief narrative of the cases.

The first happened about nine months ago, when my attention was aroused by the screams of some one who seemed to be in pain. On proceeding to the kitchen I found the mistress busily employed in rubbing the maid's arm, (which was scalded from the elbow to the fingers ends), with goose grease which she intended to cover with a poultice of scraped potatoes.* My first object was to remove the goose grease, which was effected by applying soft linen cloths, in such a way as by gentle pressure, to absorb it from the arm and hand; the patient shivering as if she had been in the cold stage of an intermittent. I then procured a flour dredger, (which happened fortunately to be full,) and sprinkled the scalded parts as completely and expeditiously as I could, and had scarcely begun this operation, when the cries of the patient ceased, her countenance and actions which were before expressive of agony and torture, assumed a contrary aspect, and like her expressions, conveyed no ideas but those of gratitude and pleasure. "Oh how cool and comfortable it is," "I have no pain now," "it is quite gone,"-were her own

^{*} Not only goose grease and scraped potatoes, but even vinegar, and cloths dipped in cold water, extraordinary as it must appear, have their advocates; than which nothing can be imagined more irrational and absurd. It is to be hoped, however, that the profession will at length be rescued from the charge of empiricism on the one hand, or inadequacy in the means employed to fulfil the ends proposed, on the other.

words, which were frequently repeated, (accompanied by corresponding actions which must have been seen to be duly appreciated,) the instant (almost before) the flour could be said to be fairly in contact with the parts affected.

(What might be the ideas and sensations of CO-LUMBUS when his eyes first caught a glimpse of AMERICA, I shall not presume to say, but it is not possible, I humbly conceive, for them to have been more poignant, or of a more pleasing and gratifying description than mine, at that moment.)

Nor did the pain return till several hours had elapsed, and was then only slight, and was speedily removed by repeating the use of the flour dredger; which was continued at first three times, and afterwards twice a day, for three days, when scarcely any appearance of the accident remained, and the patient returned to her usual business.

CASES 2 & 3.

The second and third cases in which I had recourse to flour as a remedy for burns and scalds, happened five or six months ago to the same individual. A brief sketch will suffice.

Mrs. — scalded the top of her foot and instep. The effects extended the size of a hand, and were more severe from the difficulty experienced in removing the stocking; the most central part having sustained the greatest injury. With all speed flour was applied, and repeated at proper intervals, with the effect of immediately banishing all pain and uneasiness from the scalded parts, which it had no sooner touched than she pronounced it "to be worth a guinea a grain." Except in the centre of the scalded part, where an ulcer was formed, (which was treated as described in "The Lancet," p. 176,) very little appearance of the accident remained after the first few days. Before the ulcer was healed she had the misfortune to burn her hand by exposing it to the action of wax and oil of turpentine in a state of ignition. In this case also the application of flour produced immediate relief, and was the only remedy required, prepared calamine excepted.

The train of reasoning which led to the experiments appears to me as plain as the inferences to be drawn from the latter are unavoidable.

To attempt to prove that the methods of treatment commonly resorted to are quite inadequate to produce the desired effect, would, I conceive, be superfluous. They are in fact, and have long been a disgrace to the profession, and must at all events be superseded by others of a more rational description. If this be admitted, very little more I conceive need be added to what has been already said in favour of the mode of treatment now recommended. Indeed it is only recently that the idea of applying flour by means of the dredger occurred to me. Long ago, in reflecting upon the subject I had reasoned myself into the belief of its efficacy, accompanied by a determination to try the experiment on the first occasion that might offer.

So far I had proceeded in Part 2, (which has been unavoidably delayed,) when I was agreeably surprised by a letter from Mr. Tatham, Surgeon, at Kendal, (a gentleman who was previously unknown to me,) of which the following is a copy. To me it appears to do equal credit to the head and heart of the writer, demonstrating as it does, his wish to diffuse generally, what he considers valuable information, upon a subject of great and general importance; arising from the opportunity he has had of putting to the test, "with the happiest consequences," the plan of treatment recommended in "The Lancer" of May 10, 1828, page 175, &c.

The remaining observations which I intended to make, I will, with your leave, defer at present,—only adding, that the delay from the 19th of July when the letter is dated, to the 31st, was accidental.

Yours respectfully,

MICHAEL WARD, M.D.

Manchester, July 31, 1828.

" Sir.

"The following case being one in point relative to your plan of treating burns and scalds in a manner certainly somewhat novel, but likely in all probability to afford satisfaction to parties concerned, I have sent it to you by an eminent physician of your acquaintance,* to dispose of in any way you choose.

On Friday morning, July 11th, I was hastily sent for to attend a fine boy, aged 5, who had just met with a most violent scald, from receiving upon his face and neck the contents of a small pan of boiling water, which had blistered the skin to a considerable degree. On entering the apartment where he was I had occasion to witness great distress on the part of the attendants, owing to the piercing cries of the sufferer, who complained of burning pain, and the uneasiness created by the application of cold cloths, which greatly irritated the tender parts by his perpetual restless condition and desire to be moved. Finding that the greatest difficulty would arise from his resistance to the application of the cloths, or any thing that would require frequent change, I determined to make trial of the plan of covering the affected parts with flour, as stated a short time ago in "The Lancet," therefore immediately requested to have the dredger brought up from the kitchen, that I might cover the whole of the scald with flour, which I did to the almost instantaneous relief of the sufferer, and the great gratification of his mother and relations, who seemed rather astonished with the simplicity of the remedy, and its happy effects, which soon enabled me to leave the house, after directing that the dredger should be copiously used whenever there was any exposure of the injured parts, and that a little of an anodyne composed of Laudanum and Tra. Hyosciami be given for the sake of ensuring ease and comfort, though there appeared no absolute necessity for such medicine. At my next visit, a little before noon, every thing wore a comfortable aspect-the flour covering the face and neck. the boy perfectly quiet, expressing himself as very easy whenever inquired of concerning his condition. In the evening there was nothing untoward of moment; a little swelling about the mouth and nares was to be noticed, but the whole system was wonderfully composed. I ordered barley water or tea for drink, and another dose of the anodyne for the purpose of shortening the night,-likewise that flour be put upon any part that might appear moist or uncovered. At my visit next morning I had the gratification of finding the little patient in every respect as well as could be wished, having passed a tolerably easy night, and able to answer questions very comfortably. Pulse nearly natural-tongue moist-breathing free and quietswelling about the mouth &c. rather abated, though rendering the taking of any thing painful. The inflammation which at my first visit threatened the most unfortunate consequences had been amazingly kept under,-in short, under existing circumstances nothing could proceed more favourably. As the bowels had not been moved lately, I wished a dose of Ol. Ricini to be administered, and the diluents to be continued. At night there existed the same composure as before, and freedom from fever or extension of inflammation. THE FLOUR KEPT ALL ABOUT IT COOL, and had in many places formed a compact paste. Some diluents were taken in the course of the day, and as the Ol. Ricini had produced but a slight effect it was ordered to be repeated. No anodyne to-night. On Sunday I had the pleasure of still observing my patient go on satisfactorily -in a way, indeed, such as I had never seen before in similar cases where so much pain and distress had commonly rendered attendance truly unpleasant. Here the suffering was for the most part trifling-little, nay, almost no reaction had taken place, nor was there what could be deemed one unfavourable symptom. The Ol. Ricini answered better to-day, and owing to the difficulty of inducing him to take medicine, I considered any thing further unnecessary, beyond a few drops of Tra Hyosciami now and then for the purpose of allaying any restlessness that might arise from the stiffness of his face, as well as for keeping

his bowels regular. To relate any thing in detail further concerning this case would only be a useless expenditure of time—it will be sufficient to say that the boy is speedily recovering his wonted spirits and looks—his face and neck becoming free from the flour, which was allowed to come off in flakes, leaving some parts underneath dry and free from excoriation, and others undergoing very slight suppuration so as to afford hopes of there being in the end but small if any disfiguration, notwithstanding the appalling nature of the accident at first.

It would have been no easy matter in some houses to have kept the inmates satisfied with a method of cure apparently so simple and homely, but in this instance, the father and mother of the child being persons of intelligence, there was no difficulty of such a nature; to obviate which it may be needful occasionally to have the flour sent in a formal manner. Covering the whole with a cloth or cloths is recommended generally for the sake of keeping the air more perfectly excluded, which must be desirable, especially in winter, but in this case it could not be done owing to the repugnance of the child, who would allow nothing but flour to be applied; and it could not fail to strike one that this substance possessed a high power in conducting caloric, whether in powder, or after it had formed that amylaceous paste, which with moisture it did in many places; for there always was an expression of comfortable coolness after its fresh use.

I am, Sir,
Yours respectfully,
EDWARD TATHAM,—Surgeon."

" Dr. Ward, Manchester."

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