gravity varying from 0.990 to 0.985. On the contrary this is what would be naturally expected, and would be the case with any water of the same temperature, and therefore furnishes no reason whatever for assuming the specific gravity of thermal waters to be ruled by laws different from those which obtain for ordinary and distilled water.

18 BRYANSTON STREET, LONDON.

ARTICLE V.—*Some Remarks on the Treatment of Scalds and Burns.*

By JOHN YOUNG MYRTLE, M.D., F.R.C.P.E.

(*Read before the Medico-Chirurgical Society of Edinburgh.*)

IT is well known that, though burns and scalds are constantly coming under the notice of the surgeon, their treatment is too often a tedious and troublesome affair.

A consideration of the questionable success attending so many of the remedies usually resorted to; of the great pain inflicted on the patient, and the irritation caused to the injured parts; of the slowness of the healing process, frequently accompanied as it is by ugly ulcers, and followed by vexatious and disfiguring contractions; has induced me to bring under the notice of this Society a few simple observations on the treatment of this class of injuries, more especially as the plan I am about to recommend causes little or no pain to the patient, and is far more successful than the means commonly employed.

It is not my intention to mention or discuss the various plans adopted in the treatment of these injuries; nor do I profess to make wonderful cures of cases where the textures are seriously destroyed, and in which, should they not prove fatal, the cure is necessarily very tedious; still in cases coming short of this, a hastening of the healing process may be obtained, and the occurrence of troublesome granulations may be prevented—a desideratum by no means small under these circumstances. Neither do I mean to dwell upon the internal and constitutional treatment, but only to present a few practical observations resulting from a twelve or fifteen years' experience as to a peculiar mode of external treatment.

The two plans mainly depended upon in former times for the local treatment of scalds and burns were the sedative and the stimulating; of late the necessity of exclusion from the air has also been acknowledged.

I may at once mention that the plan I have long almost, if not altogether exclusively, put in practice, has been to use ointments, in such a form as most effectually to exclude the air, and at the same time to cool and soothe the parts; taking care, in the case of scalds, to puncture vesications when large, but then only because the pre-

sence of intervening fluid prevents the operation of the remedy, and because extensive blisters are often followed by troublesome ulcerations.

In employing the ointment plan of treatment, there is certainly nothing very novel; and the combination with sulphur may be regarded as of the same nature as the use of flour or starch made into a paste, or the Carron-oil mode of treatment. But as far as my experience has gone, sulphur seems to have almost a specific virtue in cooling and soothing the irritation of the injured part, and in removing the pain and inflammation which result from the application of heat.

When called to see a case of burn or scald, if nothing has been done, I immediately cover all the injured surface with a pretty stiff ointment, composed of simple hog's lard and flowers of sulphur, spread in the form of a good thick layer on linen cloth (which is greatly to be preferred to lint, as the latter is much more apt to adhere to surfaces deprived of their cuticle, if great care is not taken to remove the dressing), which ought always to be changed as soon as the part becomes hot and uneasy, when the sulphur is frequently found in the shape of a tolerably dry paste or crust. This crust ought to be carefully removed, and fresh dressing applied immediately, to be repeated as often as necessary. Under this simple treatment burns and scalds of a slighter character heal in two or three days; and even many cases which were wont to be tedious and troublesome under plans in common use, I find to heal kindly and speedily.

For some years after the adoption of the soothing plan in this form, combined with exclusion from the action of the air, I had the mortification to find that, when the scald had been very severe, or the cutis vera had been much injured by the burn, the cure was delayed by the occurrence of ulceration or sloughing, which I treated with the usual lotions, though too often with but tardy success. A good many years ago, in the course of a conversation with my friend Dr Stark on the treatment of burns and scalds, I acquainted him with my ointment plan, and mentioned my occasional disappointments; when he told me that he had long used another ointment, which, when applied to the injured or ulcerated parts, generally induced a healing, reparative process far more speedily than could be obtained by the washes, etc., generally employed. The ointment in question is composed of common leeks and hog's lard, in the proportion of as much hog's lard as a slice of fresh butter for the table to each leek, which, being allowed to simmer by the fire in an earthen vessel until the leeks become quite soft and tender, and being strained through muslin, on cooling forms an ointment of a lightish green colour, with a slight garlic odour. This ointment I have had many opportunities of testing, and I can confidently testify to its great value in the case of scalds where ulceration has taken place, and of burns where the cutis vera has been materially injured.

In scalds and burns of a minor character I always trust in the first instance to the sulphur ointment; but when a burn is combined with a scald, or if an ulcerated spot appears, I have the leek ointment applied to those parts without delay, and am almost never disappointed in witnessing a rapid cure with comparatively little pain to the patient. In the case of severe scalds, as soon as ulceration threatens the vesicated parts, the cuticle ought to be carefully removed with a pair of forceps and very sharp scissors, so that the leek ointment may be adopted instead of the sulphur, when an hourly improvement will probably be observed.

Without trespassing long on the patience of the Society, it may at this point be desirable to give a case or two as examples of the efficacy of this plan of treatment.

An American gentleman and his son, having charge of a department in the North British Rubber Co., carrying on their operations in the old Silk Mills near Fountainbridge, while engaged in superintending one of the processes in the preparation of varnish, were suddenly overwhelmed by a tremendous explosion, in consequence of a flue taking fire and igniting the inflammable gas arising from the varnish, whereby the roof of the building was blown off, and the window completely shattered. They both received a very serious shock, and were immediately removed to their residence in Murrayfield, while a message was at the same time sent for me. In a quarter of an hour I arrived, having taken care to bring a good supply of hog's lard and sulphur along with me. I found father and son pacing up and down the room in an agitated manner, with hair singed, eyes suffused, and the skin of the forehead, face, and neck singed black, and in several places much injured. The arms and hands were also much injured, and all the skin implicated was much inflamed. The father insisted on my attending to the son in the first place, but it was with great difficulty I could persuade the latter to sit down, as he continued pacing up and down, excited almost to madness by the shock he had sustained and the excruciating pain he endured. The dressing being completed, he became perfectly calm, and expressed himself as wonderfully relieved; and when the father had been attended to, both felt so comfortable, that the feeling of the ludicrous got the better of them, and they burst out laughing at each other's strange yellow masks—the eyes, nostrils, and mouth alone remaining uncovered.

The father was able to return to his duty on the morning of the fourth day, and in three days longer all the injured surfaces were healed. He required the leek ointment to the back of his hands for three days only.

The case of the son was much more serious; his forehead, neck, arms, and hands having been severely burned; and extensive vesication, followed by ulceration of an ugly-looking description, especially on the hands, arms, and shoulders, having taken place, the leek ointment was constantly used from the third and fourth

days until the twelfth day after the accident, when every spot was healed and he resumed his duties. Every day, from the second onwards, the ulcerated surfaces became narrowed in a most manifest degree, while by the fourth day, such surfaces as had required the sulphur only were completely healed. In this last case there was high febrile action for three days, requiring constitutional treatment of an antiphlogistic and soothing character.

The only other case I shall relate, I did not see until the Carron oil had been tried for three or four days; the subject of it was a miller, and the injury resulted from the accidental ignition of gas issuing from a broken pipe, by which the outside of the left foot and ankle was burned, and in removing the stocking the cuticle had been torn away.

When I saw him on the fourth day after the accident, I found an ugly dark ashy-looking ulcer, $2\frac{1}{2}$ inches in length, and $1\frac{1}{4}$ inch in breadth, extending upwards from the heel towards the maleolus externus, while the parts around were considerably inflamed and swollen. The leek ointment was applied to the ulcerated spot, and the sulphur ointment to the inflamed surface around, and in three days the healing process was fully established, and in other three days he resumed his employment without inconvenience.

It may be as well to mention that I did not think it necessary to apply a single poultice in any of these cases, and, indeed, I have seldom required to use them since I have been in the habit of depending upon these ointments. Poultices are only required for a few days in cases where sloughs are difficult of separation; the leek ointment answers this purpose as soon as it can be applied round the edges of the slough, promotes the separation, and is not afterwards followed by weak, troublesome granulations.

It will be observed that in the cases I have brought forward, there was a rapidity in the healing process such as we almost never observe to follow the plans in general use; and these cases are only specimens of what I have observed in many like instances.

When the reparative process is slow, and there is a troublesome ulcer, with unmanageable granulations constantly springing up, we may apprehend an unseemly cicatrix; in the cases mentioned above, owing to the celerity of the cure, and the entire absence of granulations, save of a small, healthy character, the appearance of the parts soon became perfectly healthy; nothing worthy of the name of a cicatrix remained after a few weeks, and the faces of our transatlantic cousins seemed all the fairer for the ordeal they had gone through.

I have also constantly used the sulphur ointment in cases of small-pox; and, when carefully and constantly applied, it has never failed to afford relief, and has almost entirely prevented pitting; indeed, so far as I have used it, I may say that I have not had a single case of disfigurement, even in cases of natural small-pox in adults. Its use also in the painful and troublesome excoriations of

children is equally effectual and soothing. As to the leek ointment, it is as well to mention that I have frequently found it very serviceable in foul indolent ulcers, and also in gangrenous bed sores, an instance of which may be mentioned in the case of a patient I attended for my friend Dr Peddie, in which there was hopeless disease of the heart, kidneys, etc., accompanied with general dropsy. When I saw her on the 9th of September last, I found gangrenous inflammation of both lower limbs, extending from a little below the knee to the instep in the one leg, and to within two inches of the ankle on the other, each patch being fully two inches broad. A poultice was applied for a few days until the separation was fully established, the leek ointment was extensively applied, and though the lady died before the end of the month, the sloughs had not only come away, but the sores were rapidly contracting, and were in a wonderfully healthy condition. In a more favourable case I am confident the best result might be expected, and troublesome granulations, such as generally accompany the continued use of poultices, might be in a great measure prevented.

In conclusion, it may be thought by some that so simple a plan was scarcely worthy of being brought under the notice of our Society, and its simplicity may be the very reason of my having so long deferred bringing it forward; yet, if it is simple, it is also safe, very grateful to the patient, and as far as my observation has hitherto gone, I have had good cause to trust to its efficacy. I wish my professional brethren in hospital and elsewhere, who may have better opportunities than I have of treating such cases, to give a fair trial to the plan, and I trust they may find it as great a comfort as I have done, and be able to give as good a report regarding it.

ARTICLE VI.—*Case of Punctured Wound of the Brain—Recovery.*
By P. W. MACLAREN, M.D., L.R.C.S.E., Lasswade.

SEVERE cerebral injuries resemble herniæ in this respect, that each possesses an individual character necessitating modifications in the general plan of treatment. In punctured wounds of the brain, the site and extent of the lesion, the mode of infliction, the state of the fractured cranium, but, above all, the age of the patient, influence the surgeon in determining his choice of remedial agents and framing his prognosis.

It is in order to illustrate the importance of this last element in examples of the above class of head injuries, that I venture to lay before the profession the following case:—

On Sunday morning, May 26, 1861, while in attendance upon a *puerpera*, a boy brought me information that a child, aged two years, had fallen and received a cut on the head. Thinking that the injury was probably a trivial one, and being unable to leave my