ART. VII.—*Contributions to the Pathology and Treatment of Eruptive Diseases of the Skin.* By J. MOORE NELIGAN, M. D., M. R. I. A., Physician to Jervis-street Hospital, and Lecturer on the Practice of Medicine in the Dublin School of Medicine.

I PURPOSE, in a series of short essays, to bring before the profession some facts regarding cutaneous diseases, which, in the course of my experience, have forced themselves on my attention; and, at the same time, to offer some observations that have been derived from their treatment, in both hospital and private practice.

Of the various affections of the skin, there are none which more obstinately resist remedial measures than the scaly eruptions. Constituted by Willan into a distinct order, and divided by him into four classes, lepra, psoriasis, pityriasis, and ichthyosis, this arrangement has been generally adopted; and although the necessity or practical advantage of any subdivision of eruptions distinctly characterized by the peculiar epidermic secretion of scales may be doubted, I am very unwilling, as I have already stated in a previous communication in this Journal, to complicate the study of an already difficult subject in practical medicine, by any innovations on what may be termed established principles. Mr. Erasmus Wilson, in his beautiful pictorial work, and also in his volume on diseases of the skin, removes from Willan's order of squamous eruptions, pityriasis versicolor, and pityriasis nigra, adopting Rayer's nomenclature of chloasma and melasma, and regards them as *alterations* in the colour of the skin, accompanied by a foliaceous or mealy desquamation, and not by the separation of true scales. As, however, in both of these forms there is a squamous secretion, differing only in degree from the more distinctive separation of scales in the other classes of the order, and as there does not appear to be any essential difference in their treatment, I pre-

fer to regard them, with Willan, as varieties of pityriasis. Ichthyosis must, I think, be removed from the order, for in it there is no separation—throwing off of the scales, or desquamation, which I look on as the most characteristic sign of this group of cutaneous eruptions; and I would furthermore simplify the classification, by reducing the classes to two, namely, psoriasis, under which appellation I would include the various genera of lepra, and pityriasis.

Probably the greatest difficulty in the study of cutaneous eruptions has arisen from the multiplicity of subdivisions into which they have been arranged by successive authors. Each writer endeavouring to improve on those that preceded him, instead of attempting to simplify the subject, and make his classification subservient, not alone to the diagnosis but to the treatment of these affections, by reducing the classes, orders, and genera, to as few a number as possible, has, in most instances, proposed either to alter completely existing classifications, and to substitute an altogether new nomenclature based on some theoretical notions of his own, or to make numerous additions to, and minute subdivisions of the arrangements of others. The student of these diseases is thus much perplexed, and too frequently abandons the subject in despair. In truth, the diagnosis of eruptions of the skin, so far as regards the distinction of one class, or of one order, from another, is simple enough, and it is only when we come to the definition of the genera, that much difficulty arises. What practical advantage, moreover, is to be gained by these minute subdivisions? The general principles of treatment adapted for the class are equally applicable to the genera; and I cannot admit the propriety of artificially classifying any set of diseases, solely with regard to their *appearances*.

Psoriasis, and its variety lepra, are so well described in all works on diseases of the skin, and their characteristic features are so defined, as not to require any further observations on their diagnosis.

The causation of these affections is, like that of all cutaneous eruptions, enveloped in much obscurity. That they are sometimes produced by the action of certain irritating matters on the skin cannot be doubted; yet we see the same local forms of psoriasis arise in persons who, from their occupation or position in life, are not exposed to the causes which produce it in bakers, washerwomen, shoemakers, and individuals of other trades. That they are sometimes hereditary is also true, but their hereditary nature is of a singular character; thus, so far as my own experience would lead me to infer, the disease does not descend directly from parent to child with the same regularity as other hereditary diseases, but the predisposition frequently appears to be derived from an uncle or aunt, whose own children may be free from the disease; and it also seems not uncommonly to lie dormant in a family for a generation, and again re-appear. In a case which I not long since attended, one son of a family was affected, from his childhood, with psoriasis of an inveterate form; none of his brothers or sisters had any cutaneous eruptions, nor had his parents or grand-parents, but a paternal uncle was affected with a similar disease, and also a first cousin, not the child of this uncle: it was also stated to me that a grand-uncle was a sufferer for years from a cutaneous eruption. A somewhat similar hereditary transmission of the disease has fallen under my notice in several instances, namely, that while the immediate descendants have escaped, one or more members of collateral branches have been affected. The true hereditary nature of psoriasis and lepra might, therefore, be doubted, and the cases which occur, and may be adduced as proofs of it, might be accounted for in the same manner as those in which no such origin can be traced, and which are usually stated to depend on some constitutional peculiarity, not better understood now than in the days of Willan, who described it as characterized by “ a slow pulse, or a languid circulation of the blood, and, what must be generally connected with it, a harsh, dry, impermeable state of the skin and cuticle.” The

latter part of this observation has been adopted by Mr. Erasmus Wilson, who says that "the disease appears for the most part in those who are remarkable for a dryness of the skin." Yet I cannot help thinking that this is a confounding of the effect with the cause, and that it would be rather hazardous to predicate the likelihood of psoriasis occurring in an individual because his skin was unusually dry or harsh.

Before I proceed to speak of the treatment of psoriasis and lepra, I wish especially to impress upon the profession the chronic character of all squamous eruptions; not that I consider the fact as already unknown or insufficiently known to all, even the youngest practitioner, but that I think it is too often overlooked in the prognosis given to patients or their friends as regards the curability of the disease, and especially as to the time required to effect a cure. Developed under the influence of a peculiar constitutional state of the skin, essentially of an obstinate character, and most apt to re-appear even in months or years after they seem to have been completely cured, length of time is as essential to their perfect removal as the most judiciously planned course of treatment. The physician should, therefore, in every case, be most careful not to promise a speedy cure, and always, before prescribing, explain to his patient the chronic character of the disease, and that it requires a steady perseverance in the use of remedial measures for at least two or three months before even an apparent amendment will be perceptible. The anxiety of mind which an individual labouring under a cutaneous eruption suffers is very great, and this too adds to the difficulty of treatment. The promise of an eventual cure, though after a lengthened period, tends to alleviate this anxiety, and prevents the repeated disappointment, changes of medical advisers, and trials of new plans of treatment, which the hope deferred, when a speedy cure has been promised, causes.

"It is an admitted fact," writes Cazenave, "that the therapeutics of these diseases rests upon purely empirical grounds,

and that, unhappily, there exists no sure guide to direct to a rational mode of cure." This statement, sufficiently true of most eruptions of the skin, is equally so of many other diseases of the body, and it should teach us not to despise the light thrown on pathology by the experience derived from therapeutics. When it is found that a certain class of remedies acts beneficially on deranged conditions of the animal economy, concerning the true nature of which doubt exists, it cannot be termed a *petitio principis* to infer that such derangements have a similarity in a greater or less degree to affections the nature of which is known, and which are benefited by the same class of remedies. In the treatment of scaly diseases of the skin I have found iodine, in some of its various combinations, especially useful; and I would, even from this therapeutic fact alone, be inclined to look upon the peculiarity of constitution in which they occur as nearly allied to the scrofulous; in fact, that their appearance is but one of the protean forms in which scrofula may be developed. And, independently of the beneficial effects of iodine, if we look to the remedies ordinarily proposed as specifics for their cure,—of course I speak only of those administered internally, or so to say, constitutionally,—what are they but tonics, alteratives, or diaphoretics, generally employed in the treatment of scrofulous affections? Again, if we lay aside the analogy derived from therapeutics, in how many points do not scrofula and scaly eruptions of the skin agree?—their hereditary nature, their slow development, the period of life at which they appear, their production by innutrition or mal-innervation of the system, their obstinacy, their liability to recur or be again reproduced, the diathesis of the individuals in whom they appear, &c.

In the treatment of psoriasis in any of its forms, amongst which I include the various genera of lepra, the internal remedies chiefly employed formerly were those which were known to act as diaphoretics; and which were given with the view of producing an alteration in the secreting apparatus of the skin.

This may be called a *rational* plan of treatment, it being applied to remove the condition on which the disease was supposed to depend, namely, defective cuticular secretion. But this class of medicines, although in most cases affording relief to symptoms, was not found to cure the disease; and, consequently, various remedies were used *empirically*, and the so-called specifics began to be employed. Of all these none appeared to effect a cure so frequently as arsenic, whether given alone, or its administration conjoined with the application of various local agents; and this medicine still holds its sway as the best specific for scaly eruptions, but it is now generally given in some combination with iodine.

The remedial efficacy of arsenic in these diseases I do not mean to dispute; indeed my experience would not permit me to do so: but I wish to show that in every case its beneficial action is more decided and more speedily manifested when the administration of iodine, or of the iodide of potassium, is employed at the same time, or alternated with it; and also that in those cases—and they are not a few—in which arsenic, no matter how prescribed, disagrees, the latter medicine alone is generally productive of the best effects. The same may be also stated of those cases in which, from any cause, the patient objects to take preparations of arsenic.

With the view of exhibiting the good effects of iodide of potassium combined with diaphoretics, I annex the particulars of one of the most inveterate cases of psoriasis that I have ever seen. I give the report of the case as described in a letter I recently received from the gentleman himself, a talented member of one of our learned professions. It presents a most graphic account of the disease.

“ You wish for a detail of the disease for which you have so successfully treated me.

“ Since my boyhood I have had patches of psoriasis on various parts of my body. They first appeared on the right leg, and soon after on the left. The treatment then employed

was some preparation of tar, in an ointment, applied to the parts affected, sarsaparilla, and some pills containing a small quantity of mercury. I did not persevere in the use of these remedies. The eruption was not painful or troublesome, and for several years I did nothing whatever in the way of cure.

“ In the spring and autumn, it used to extend itself to the arms, the inside of the thighs, and about the hips, seeming to select the vicinity of joints. But at the other seasons of the year, it retreated to its old lodgment, the calves of the legs.

“ About six years since it became extremely troublesome and painful. From having been indolent, it was inflamed and irritated, so much so as to produce sympathetic swellings in the groin. I then, under medical advice, applied poultices to lower the inflammation, and remove the scales; dressed the sores with a mild mercurial ointment, and as an internal remedy took some pills, of which Plummer’s Pill was the chief ingredient. I persevered in this plan for about three months. It effaced the disease, but did not extirpate it, for the moment I discontinued the remedies, the ailment returned. After a while I tried liquor arsenicalis, but, thinking it a dangerous remedy, from its accumulative properties, I did not persevere long enough to judge fairly of its effects.

“ In the autumn of 1848 the sores on the legs became very painful, so much so as to render walking inconvenient. I was advised to swathe the lower limbs in wet lint, kept moist by an oiled silk covering, and secured by a stocking bandage.

“ From this mechanical treatment I derived great local relief. As a constitutional remedy I took liquor potassæ three times a day in a little milk, and paid some attention to diet.

“ Unquestionably the system did me good, but I cannot say that the character of the sores changed much, and I soon abandoned it. It was, I think, in January last, that I consulted you.

“ The limbs were inflamed, and the skin tense. In the neighbourhood of the affected parts there were small sinuses

in which matter was formed. The sores when touched bled freely, and they were very angry and ill-conditioned in their appearance. I persevered in your treatment for three months, and derived the greatest benefit from it. Under the influence of the tepid bath, and the alterative remedy prescribed by you, the disease has vanished from my body, save from the calves of the legs; but there the character of the affection has materially altered. Sound portions of skin have insulated themselves in the midst of what was a mass of leprous irritation, troublesome to myself, and unsightly in the extreme.

"I bandage the parts with old linen, take a warm bath at about 92° every week, and continue the use of your medicine. Mine is a very inveterate case, of more than twenty years' standing. I have tried several remedies, but the only two that were fairly persevered in are the mercurial and your's.

"I will not, therefore, comment on the others, as I cannot say what they might have done; but of the two above alluded to I prefer your's, because I think the effect more permanent, and purchased at a less risk.

"If mercury had driven the disease out of the constitution, I would have been cured, but it did not. Your plan of treatment, mild and simple, will always keep the disease down without the unpleasant necessity of having recourse to mercurials."

The plan of treatment which I prescribed for this gentleman consisted in the administration of five grains of iodide of potassium, dissolved in two ounces of a decoction of the *fresh* inner bark of the elm, taken every night at bed-time, and the employment of a fresh-water bath at the temperature of 92° F., at first three times, and afterwards twice weekly. In his case it is probable that the arsenical preparations might have acted equally beneficially, but he had an insuperable objection to take arsenic in any form; and from my previous experience of the good effects of the iodide of potassium in many cases where arsenic failed to cure the disease, I

confidently adopted its use, and the result has proved that I did not overrate it as a remedy for inveterate psoriasis.

Donovan's solution of the hydriodate of arsenic and mercury has been extensively employed in the treatment of this class of cutaneous eruptions, and the pages of the former series of this Journal bear ample testimony to its good effects. I must, however, confess that I am not partial to the employment of any mercurial preparation in their treatment, when they affect the body generally; and the only local form of scaly diseases, in which I have found a mercurial of use is in pityriasis of the scalp, as I mentioned in a former essay, and in it I still find the yellow iodide of mercury productive of the best results.

The iodide of arsenic has also been found a remedy of decided efficacy in the treatment of these affections; it was first generally employed for them by the late Dr. Anthony Todd Thomson, of London, and the testimony of those who have used it is confirmatory of his observations. My own experience leads me to place more reliance on it than on any other preparation of arsenic; but, although I have found it, when administered alone, capable of curing many case of psoriasis and lepra, I consider that its beneficial action is much augmented by combining it with the iodide of potassium, and with iodine in the form I shall hereafter describe. The following case is selected from many, as a proof of the effects of this remedy in producing a permanent cure. It was reported by Dr. T. W. Christie, now of Sidmouth.

Daniel Callaghan, nineteen years of age, a baker by trade, of middle stature and sanguine temperament, was admitted into Jervis-street Hospital, February 7, 1843, affected with psoriasis inveterata. The greater part of his body, and particularly his legs and arms, is covered with an eruption consisting, in some places, of small circular scales, and in others, of large irregular patches coated with white scales, and having an elevated border. There is an abundant desquamation of the cuticle, especially from the lower extremities. The scalp is also affected,

but the spots there seem to be more circumscribed. The tongue is rather clean; the bowels constipated; the appetite good, but he states that his strength is latterly much diminished.

From his own account, he was always healthy previously to his becoming a baker (about five years since); eighteen months subsequently to which period, having lived intemperately while exposed to the great alternations of temperature inseparable from his trade, his present disease made its appearance. It came on in the form of minute, red, elevated spots, about the size of a small pea, extremely itchy, and rendered more so by heat; they did not exude any moisture except when severely scratched; scales soon formed on them, which continually fell off, but to be renewed by others; and, rapidly spreading, they soon covered the whole of his body, except the face and hands, which have but partially suffered. He has been treated by various medical men during the last three years, but he has never received more than partial benefit from the many remedies tried with him. On admission he was ordered a warm bath and purgative medicine, and the next day a twelfth of a grain of the iodide of arsenic, made into a pill with liquorice powder, was prescribed for him, to be taken three times daily. This treatment was continued, the dose of the iodide of arsenic having been gradually increased to a sixth of a grain three times daily, until the 3rd of May, when he was discharged from hospital without a trace of the disease remaining. The medicine had occasionally to be omitted for a few days, when the system gave evidence of being saturated with it, and the symptoms then produced were readily removed by an active saline purgative, and the omission of the iodide, generally for two or three days.

This patient, during the entire time that he was in hospital, was kept *strictly on milk diet*.

This case is a good example of those in which the iodide of arsenic alone effects a rapid and permanent cure; but unfortunately, in most instances, it does not produce such decided

beneficial results; and when, after a fair trial of it, I find that the disease is not disappearing, I generally combine it with iodine and the iodide of potassium, or, omitting it altogether, give the latter medicine in the decoction of elm bark; and in very obstinate cases I administer them alternately, usually every second fortnight.

The importance of a milk diet I have insisted on in my "Essay on Eruptive Diseases of the Scalp," and experience leads me to the conclusion, that an adherence to it is of the utmost consequence in cutaneous eruptions, except when they occur in cachectic or broken down-constitutions, or are attended with deep ulceration, or very profuse and weakening discharges. It is, of course, much easier to carry out dietetic rules with hospital patients than with those in private or in dispensary practice, and consequently more satisfactory results are generally obtained in treating the former; but if the necessity for their observance be strictly inculcated, and if they are laid down in writing as constituting an essential part of the treatment, I have, in most cases, found them to be pretty closely observed. When, however, any serious objections are raised to the adoption of a strictly milk diet, farinaceous articles and milk should be made, as much as possible, a portion of the general food, and, in addition, fresh meat, plainly dressed, or poultry, should be alone allowed. The patient, or his friends, should, at the same time, be informed, that the cure will be more tedious, and relapse more likely to occur.

Tepid baths of *fresh* water, twice or three times weekly, will be found an adjunct of much importance in the treatment of scaly eruptions; they tend to restore the natural secretions of the skin, and prevent the accumulation of scales. They are especially useful when much local irritation exists, particularly in those cases where deep bleeding fissures are present. I have tried various other local applications, such as ointments or lotions of iodide of sulphur, of iodide of potassium, of sulphur, of sulphuret of potash, &c., but my experience leads me

to prefer the plain tepid bath. Alkaline baths of soda are not, I think, so applicable to psoriasis or lepra as to pityriasis.

Chronic cases of psoriasis are very frequently complicated with derangement of the digestive organs, evidenced by various dyspeptic symptoms; the most prominent of these are nausea and vomiting immediately after meals. This condition must be remedied by appropriate alterative and tonic treatment, previously to the employment of medicines with the view of acting directly on the eruption, for if arsenic or iodine, in any form, be given while this condition is present, they will tend to increase the existing irritation, and their expected beneficial action be thereby prevented.

I have already stated that I have derived excellent effects in the treatment of squamous eruptions from a combination of the iodide of potassium with arsenic and with iodine. Commencing the treatment, as I usually do, with the iodide of arsenic, where nothing forbids its use, after it has been continued for a month or six weeks, I order a mixture containing two drachms of the liquor arsenicalis, two drachms of simple syrup, five ounces and a half of distilled water, and half a drachm of iodide of potassium. Of this mixture, I prescribe, at first, a dessert-spoonful three times daily, in a glass of *eau sucrée*, directing it to be taken after meals. This quantity contains five drops of the arsenical solution, and a grain and a quarter of iodide of potassium. To it I sometimes, in very inveterate cases, or after it has been continued, in gradually increased doses, for some weeks, without decided effect being produced, add six grains of iodine,—a fourth of a grain to each dose. The mixture then, chemically speaking, is a solution of the ioduretted iodide of potassium and arsenic. When iodine is added in this proportion to the mixture, I use syrup undiluted as the menstruum, and then direct the dose to be taken in plain water. If a flavoured syrup be employed, the mixture is far from being disagreeable. After numerous trials made for me by Mr. Oldham, of Grafton-street, I find that

syrup of capillaire(*a*) most completely conceals the odour and taste of the iodine.

The only other preparations of arsenic that I have been in the habit of employing in the treatment of these eruptions, are the arseniate of ammonia and the arseniate of soda. Both are apt to disorder the stomach, the latter especially so; yet they are sometimes productive of good effects, particularly in the local forms of psoriasis, as in psoriasis palmaris. The arseniate of ammonia I always use first, and generally alternate with it the arseniate of soda. They are best given in solution. The formula I prescribe is somewhat similar to that proposed by Biett, consisting of one grain and a half of the arseniate of ammonia dissolved in three ounces of water, to which are added six drachms of spirit of cinnamon, or of compound spirit of aniseed. The dose of this mixture is one drachm, which contains a twentieth of a grain of the arseniate, and it is gradually increased to two or three drachms three times daily, beyond which dose I do not find it safe or useful to venture. It is best taken in a little plain water, and either during or after meals.

In addition to the use of internal remedies, I always employ external applications in the treatment of psoriasis palmaris, and of the other local forms of the eruption. Iodide of sulphur, in the form of ointment, I have found productive of the best effects, but it must be used very much diluted in the first instance, and the strength of the ointment gradually increased. Not more than eight grains to the ounce of wax

(*a*) This syrup is much too little used in medicine as a flavouring ingredient; its odour and taste are peculiarly agreeable, very much more so than those of most of the syrups contained in our national Pharmacopœias. It is official in the French Codex; and, singularly enough, the variety of capillaire, the *Adiantum pedatum*, from which it is chiefly prepared, is a native of Canada, from whence it is imported into France: there can, therefore, be no commercial reason why it should not be in general use with us. I hope that the framers of the new edition of the Dublin Pharmacopœia now in preparation will introduce it amongst the official syrups.

cerate should be prescribed in the commencement of the treatment, and the proportion should never be greater than twenty grains to the ounce. The parts affected should be washed, at least three times daily, with a weak solution of the carbonate of soda, half a drachm to the pint of distilled water, and well dried afterwards, previous to the renewed application of the ointment.

As regards *pityriasis*, when it affects the body generally I treat it, if of short standing, as a mildly inflammatory affection, prescribing gentle saline purgatives twice or three times a week; an alkaline bath,—four ounces of carbonate of soda in sufficient fresh water for an ordinary bath, at the temperature of 80° to 92° F. according to the season of the year,—every second day, and in strong constitutions an occasional bleeding, either general or by the application of half a dozen leeches to the verge of the anus. But when the disease becomes chronic, I use the same treatment as I have above described for *psoriasis*: it must be remembered that the alkaline bath is not so useful in the chronic as in the acute stage of the affection. The local forms of the disease are, I think, best treated on the plan I have proposed for the eruption when it affects the scalp. The chief additional observation my subsequent experience enables me to offer on the local disease is, that it is of a much more inflammatory character in persons from the age of 12 to 35 than in the very young or the old, and consequently that the use of the mildest local stimulant in them will often cause a marked aggravation of the symptoms, and is therefore scarcely, if at all, admissible in its treatment.

I have found *pityriasis* a more obstinate eruption to treat than *psoriasis*, not that the effects of remedies are less marked in causing its disappearance, but it is much more apt to return even in months after an apparent cure has been effected. Whatever plan of treatment, therefore, I find successful in removing the disease in any individual case, I direct to be continued for at least a month or six weeks after the scaly secretion has

ceased, and in every case the use of fresh water tepid baths should be directed twice or three times weekly for several months afterwards.

In the commencement of this paper, I have given my reasons for not agreeing with Mr. Wilson in removing pityriasis versicolor and pityriasis nigra from amongst the squamous eruptions of the skin, and classifying them with those affections characterized by lesion of colouring matter. They are, so far as my experience enables me to judge, amenable to the same remedial measures as the other forms of pityriasis, and the plan of treatment adopted by Mr. Wilson, in the case reported in his beautiful folio work, does not differ in principle from that which he uses in squamous eruptions. I believe pityriasis versicolor to be but a variety of pityriasis rubra; the latter occurring usually on those parts exposed to the action of the air, as on the face, neck, and hands, being especially well marked on the fingers; while the former, to quote the words of Willan, "chiefly affects the arms, breast, and abdomen."

In concluding, for the present, I have to add but one or two words with respect to the clothing which ought to be worn by persons suffering from, or who have been affected with any scaly disease of the skin. Every observer of these affections has remarked their liability to re-appear, or be aggravated, in autumn and in spring. This teaches the necessity of avoiding sudden changes of temperature, and of keeping the surface of the body of as uniform a warmth as possible. Linen or woollen garments should not be worn next the skin, as they are apt to irritate. The under-clothing should be either of silk or cotton, the former I prefer; as, however, its price places it out of the reach of the poorer classes, the latter must be used by them; but the necessity of wearing a silk or cotton inside vest, with sleeves, must be impressed on all.