THE INAUGURAL ADDRESS ON THE ADVANTAGES TO BE DERIVED FROM THE STUDY OF DERMATOLOGY.

Delivered to the Reading Pathological Society.

By STEPHEN MACKENZIE, M.D., F.R.C.P.,

Physician to and Lecturer on Medicine at the London Hospital, and
Physician in Charge of the Department for Diseases of the Skin.

MR. PRESIDENT AND GENTLEMEN,—There is no need, I hope, in the present day of pleading that diseases of the skin should be studied by every member of the profession, for to whatever branch of medicine or surgery anyone may confine his practice, he must encounter from time to time skin affections, which it is of the greatest importance for himself no less than his patient he should be able to recognise, and concerning the nature of which he should have an accurate understanding. It is in the past more than the present that diseases of the skin have been neglected as a branch of general medical education. It is my intention rather to prove on this occasion the great opportunities dermatology affords as a subject for study, the lessons we learn from it, and the application of these to our common stock of general medical knowledge. In connection with the first point, I should like to point out the strong claims the study of diseases of the skin has on our consideration. It affords one of the best training grounds for educating our observant faculties, and speaking as a clinical teacher and lecturer on the principles and practice of medicine, I know of no branch of medicine which offers the same opportunities of training the mind to observe the phenomena of diseases, of inculcating the principles of treatment and the carrying out of them in practice—the art of medicine.

Nowhere else, except in the case of the visible mucous membranes, can be observed the whole of the classical symptoms of inflammation—the *rubor et tumor, cum calore et dolore*. In factitious urticaria we can watch the whole of a pathological process. We can at will excite a train of events, watch their development and subsidence, and realise that pathological processes are but modifications or excesses of physiological actions. We have opportunities of studying disturbances in the circulation of the blood and the lymph scarcely equalled in any other part of the body, and we gain an insight into the complex problem of the influence of the nervous system in the causation and localisation of disease. The zoologist and botanist will find in the fauna and flora of the skin admirable studies in parasitic fungi and schizomycetes, for the skin presents a large surface which serves the purpose of a plate culture, whilst at the same time it is endowed with the vital reactions of a living tissue. Lastly, almost every variety of neoplasm can be studied, from the simple and benign wart to the granulomata and malignant sarcomata and cancers. The skin, considered physiologically, is a tissue or organ of the highest interest. Apart from the importance of excretory and secretory functions, it is that which separates the individual from his environment, acting as it were as a “buffer state.” We thus find it liable to attack from both sides. On the one hand the large surface exposed to danger from without is liable to a great variety of mechanical irritations, and to foreign invasion by a number of pathogenic micro-organisms; whilst, on the other hand, it may become diseased by an extension of morbid processes from subjacent structures, by noxious matters brought to it by the blood destined for its nutrition, by stagnation in it of the blood and lymph which should circulate through its minute channels, and by disturbances and diseases in the nervous system, which governs its vascularity, regulates its secretory functions, and controls its tissue activities, besides sharing in the vicissitudes of the somatic life which unites all the organs into one body corporate. It thus is influenced by climate and season, by age and sex, and those tendencies to disease the outcome of tissue idiosyncrasies from inborn or acquired peculiarities.

The *etiology* of diseases of the skin thus supplies us with many instructive lessons. We first learn that the pro-

clivities to particular diseases vary with the age. The seven stages of man could be well illustrated by diseases of the skin, though we lack a Shakespeare to do justice to the theme. In the “mewling and puking” infant we meet with sclerema and œdema neonatorum, the “red gum” or strophulus of the older writers, intertrigo, eczema, urticaria papillosa (lichen urticatus), urticaria pigmentosa, xeroderma pigmentosum, and impetigo; the “schoolboy,” with his chilblains and ringworm, alopecia areata, pityriasis rosea, ecthyma, and “football disease;” and then the “lover,” with his acne and syphilis, and, as a result of irregular sexual excursions, his syphilides; “and then the justice, in fair round belly” and acne rosacea, diabetic boils, and pruritus ani; the sixth stage shifts into the “lean and slipped pantaloon,” with rodent ulcer and “gouty” eczema; “last scene of all, sans teeth, sans eyes, sans taste, sans everything”—except an incessant and intolerable itching of the skin which we call senile prurigo.

The influence of sex is a decided factor in skin diseases, apart from those connected with the sexual system, though some are due to the liabilities to disease to which the different occupations of the sexes expose them. But, apart from these, we find lupus vulgaris and lupus erythematosus, erythema nodosum and purpura rheumatica, Bazin's disease (erythema induratum scrofulosorum), lichen planus, dermatitis herpetiformis, scleroderma, cheiro-pompholyx, and xanthoma palpebrarum much more frequent in the female than in the male sex. On the other hand, males are more liable to syphilis, ainhum, mycosis fungoides, diffuse symmetrical scleroderma, lichen scrofulosus, hydroa aestivale, perforating ulcer of the foot, multiple pigmented sarcoma and epithelioma, and perhaps Darier's disease (psorospermose folliculaire végétante).

Climatic and seasonal influences have a share in occasioning diseases of the skin. When the nipping east winds of spring prevail, our “skin departments” always have a large accession of cases of eczema in children, and in hot sunny weather “eczema solare” occurs. In connection with climatic effects and atmospheric exposure we have a remarkable disease called after the distinguished Viennese dermatologist who first described it “Kaposi's disease” (xeroderma pigmentosum). Beginning in infancy, the uncovered parts of the body—the face, ears, and neck, the backs of the fingers, hands, forearms, and lower two-thirds of the arms—become the seat of pigmented spots like freckles; these are followed by atrophic spots and telangiectases; later occur ulcerations and warts, which finally, in some cases, become the starting points of tumours which may be papillomatous, but which are in some cases cancerous. Here we have a disease dependent on exposure to atmospheric influences, especially, in some cases, the direct action of the sun. In many persons, chiefly the young, lentigines or freckles, alone and of no importance, are the result of such exposure, but in the case of sufferers from this disease, owing to some inborn peculiarity of constitution or tissue proclivity, the process extends to the further changes I have mentioned, and may proceed to a fatal issue. Allied to this disease in its causation and age incidence, we have another curious disease called by Mr. Hutchinson “recurrent summer eruption,” and otherwise known by the names of hydroa vacciniforme (Bazin) or hydroa aestivale. In this affection, exposure to the sun or winds induces red spots on the uncovered parts—face, ears, hands, and wrists—on which a vesicle develops, and which may become umbilicated like the vaccine vesicle. Later it forms crusts, which fall off and leave foveated scars. It is almost confined to boys, occurs repeatedly in the summer and autumn, and usually disappears as manhood is reached. Again, we have a malady called prurigo hiemalis, in which in winter months papules of the colour of the skin, accompanied by intense itching, occur, often confined to the extensor aspects of the limbs, and only occasionally affecting the trunk. The scratching it induces leads to excoriations of the skin, which becomes thickened by the inflammation thus caused. In some persons it entirely subsides during the summer. In many persons this affection exists in so slight a degree as to be scarcely recognised, but the subjects of the complaint in cold weather are conscious of a slight degree of itching and soreness in the outer aspects of the thighs and shoulders. It appears to be an exaggerated sensibility of the

skin to the influence of cold, which outsteps the influence of a stimulus, and becomes an irritant. In its mildest form it is not uncommon, and is only a degree beyond that slight degree of itching which most persons experience when the under clothes are removed.

Many diseases of the skin are due to occupation, habits, and clothing. I need not allude to the well-known grocer's, baker's, and bricklayer's "itch," or the washerwoman's eczema, examples of local irritations producing skin affections classified as "trade eczemas." I should, however, like to draw attention to a peculiar disease of the skin, of which I have seen several examples, occurring on the hands, forearms, face, and neck of those engaged in the manufacture of certain products from gas refuse. It consists in its slighter degrees in a follicular inflammation of the uncovered parts of the body, resembling "tar acne." In two or three cases, however, the inflammation of the hair follicles has gone on to the formation of molluscum-like tumours, which in one case resulted in an epitheliomatous growth which was removed by my colleague, Mr. Rivington. We see in the chain of events here described, though differing in the exciting cause, a remarkable resemblance to xeroderma pigmentosum, and both illustrate the fact that continued irritation may excite in the first instance a simple inflammation, which if continued may lead to formation of a benign neoplasm, or eventually a cancerous growth. I have seen a persistent eczema in a man employed in one of the largest manufactories of quinine, and where, I had reason to believe, the local action of the alkaloid was the exciting cause of the attack. Again, some years ago I had an exceedingly rebellious case of eczema of the hands occurring in a man engaged in the manufacture of tobacco; and it appeared to me to be caused not by the tobacco leaf, but by the essential oils it was his duty to mix with it to give that delightful fragrance and aroma so much appreciated by devotees to the weed, and believed by them to indicate its excellence and purity.

As regards habits as a cause of diseases of the skin, these are mainly want of attention to the personal hygiene of the skin and excessive indulgence in alcohol. The first is a frequent cause of parasitic diseases to which all are liable, and which are only to be kept at bay by scrupulous care and cleanliness. As pointed out by Greenhow,¹ in vagabonds and elderly persons of indigent circumstances and uncleanly habits, especially when infested by vermin, a bronzing of the skin simulating the discoloration of Addison's disease may occur.

Clothing is an etiological factor accountable for a few diseases. In many persons flannel worn next to the skin is productive of pruritus, and when changed too infrequently from being repeatedly soaked with the secretions of the skin it causes or favours an eruption on the trunk, called at Blackfriars "flannel eczema," which is the lichen circinatus of many writers, and is now generally regarded as a seborrhœic inflammation of parasitic nature. Tinea versicolor, another parasitic disease occurring in the same parts, is also favoured by the same cause. I believe the greater frequency of premature baldness in the male (in the female it is certainly much less frequent, though, when present, more easily concealed) is due to the rigid head covering inexorable fashion compels men to wear out of doors, which constricts the blood vessels supplying the hair follicles of the scalp, besides confining the air and raising the temperature at the top of the head.

Anatomical peculiarities of the skin exert considerable influence on the characters of a skin disease in different parts of the body. Thus how different is eczema palmaris and plantaris from the weeping eczema of the leg. In lichen planus I cannot recall to have ever seen the smooth, shining, angular, flat-topped papules on the skin of the face. In severe generalised cases where the characteristic eruption was to be seen in nearly all other parts of the body, the skin of the face has not escaped, but the disease has assumed an erythematous and scaly appearance, resembling eczema squamosum. Again, in pityriasis rubra pilaris, what a contrast is seen between the horny papules and spicules on the backs of the hands, wrists, forearms, elbows, and knees, and the dry scaly condition of the palms and soles. Lupus erythematosus, when attacking the scalp, owing to the anatomical characters of the part, presents an appearance so different

from lupus erythematosus of the face, that it would puzzle anyone not very familiar with the disease, unless the face was at the same time affected. I may pass by the familiar localisation of psoriasis, eczema, and acne. Xanthomata palpebrarum develop in those in whom the rete cells are probably originally rich in pigment, or in whom this is induced by the recurring vascular disturbance, inducing the "dark rings round the eyes" so often observed in those the subject of recurring headaches. There must be some local peculiarity of structure which almost invariably limits rodent ulcer to the immediate vicinity of the inner canthus of the eye. We have three forms of disease affecting the flush area of the face: a peculiar form of recurring erythematous eczema, gutta rosea, and lupus erythematosus. Each is induced by repeatedly recurring flushing of the part, and the precise character of the affection appears to depend upon some innate peculiarity of the individual.

We have a group of cases in which peculiar lesions dependent on venous stagnation, and which are naturally most often seen on the lower extremities. I do not mean the varicose ulcer with which all are too familiar, but peculiar foci of indurating erythema, which become necrotic in their centres, and which, crumbling away, leave pigmented or white scars. This condition, to which the name of "Bazin's disease," or erythema induratum scrofulosorum, has been applied, occurs especially in young women with debilitated constitutions and feeble circulations. Some of them may be scrofulous, but there is no evidence of this in others. Though usually confined to the lower extremities, I have seen it also on the arms and forearms in a middle-aged stout woman, whose case is published with a chromolithograph in the Clinical Society's *Transactions*, under the title of *A Rare Form of Skin Disease*.²

DIATHESIS AND DISEASE.

The question of constitutional liability to disease is one of great difficulty. It is, of course, well demonstrated in diseases in which heredity can be traced, as in ichthyosis, a disease which descends sometimes, like a biblical curse, to the third and the fourth generation, and which conforms to the general laws of hereditary transmission. Psoriasis, again, sometimes occurs in successive generations, though usually it is more a family disease than an hereditary one. This family tendency is well illustrated in xeroderma pigmentosum. Ruder has recorded a series of cases where, in a family of eight boys and five girls, seven boys were affected and the rest of the family escaped. Beyond the facts of heredity and family prevalence we know little, though much has been written concerning constitutional proclivity to disease; and so many diseases that were at one time believed to be hereditary, or, at least, constitutional, have been traced to purely local causes, and sometimes to bacterial agency from without, that dermatologists at the present day speak very guardedly on this doctrine.

The views regarding diatheses and temperaments have gradually melted away under critical assault, especially by the masterly treatment of the subjects by Mr. Jonathan Hutchinson in his lectures at the Royal College of Surgeons, and published in his little book, *The Pedigree of Disease*, with which everyone is, or should be, familiar. Hence we hear little or nothing nowadays of the "dartrous diathesis" and "herpetism." That there must be some constitutional tendency for the tissues to react in a particular manner to a given irritant cannot be denied, and the fact is expressed as clearly and concisely as possible by Crocker in the following passage: "The same cause will in one person excite one kind of eruption, while in another a totally different form will be produced, though the same disease will generally be seen in the same individual, under similar circumstances."³ The familiar circumstance of a washerwoman coming to us for eczema of the hands raises the question of how it is, after following her occupation for a number of years, and exposing her hands to the same frequent and protracted irritation of soap and water, she has become affected in this way? Seeing that the same source of irritation has been in operation innumerable times before, does it not imply some change or alteration in her constitution that she has now become

¹ On Addison's Disease, Longmans, Green, and Co., 1875, p. 43.

² Vol. xxii, p. 15.

³ Diseases of the Skin, 2nd edit., p. 24.

affected? To a certain extent it does; at least it demonstrates a lessened power of resistance or increased vulnerability, but this is probably local rather than general. But the fact that the same cause may excite a different form of disease in different persons certainly implies some peculiarity of organisation or constitution, or tendency to tissue reaction, which may be temporary or permanent. To discover in what this tissue tendency or idiosyncrasy consists, and how it may be recognised, has been the aim of observers from all times. The sum of personal peculiarities, the type and colouring of the individual have been noted in the greatest detail and with most minute care in many diseases, and in this way led to descriptions of temperaments and diatheses indicating the tendency to certain forms of disease. These have, however, completely broken down under critical assaill, and for the most part it remains an unsolved problem for future workers. I shall have to return to this point again when dealing with the influence of the nervous system. Meanwhile I will conclude my remarks on the constitutional element in the causation of diseases of the skin by reiterating that all we can say in the present state of our knowledge is that it consists in vulnerability and special and individual tissue proclivity.

INFLUENCE OF THE NERVOUS SYSTEM.

The influence of the nervous system in the causation of disease is a subject of immense difficulty and complexity. The general law of the nervous system that every part of the body is represented in increasing complexity from lower to higher centres, and so on to the highest, is no doubt as true of the skin as of other parts of the body. We are, however, still very ignorant of the exact paths and centres between the nerve roots and the highest parts of the nervous system, the convolutions of the brain. We know, of course, the ganglionic swellings on the posterior roots of the spinal nerves are trophic centres to the parts of the skin to which these nerves are distributed, and that the nerve trunks contain the trophic fibres passing from the ganglia. It is nearly certain that centripetal fibres pass from these ganglia by the posterior roots into the posterior columns of the cord, but higher than this their exact course has not been accurately traced. Valuable work has recently been done in this domain by Dr. Head⁴, and it is interesting to recall that many of his facts have been gathered from the study of a skin disease—herpes zoster. It is in connection with the same disease that most of the present knowledge of the influence of the nervous system in the causation of diseases of the skin has been derived. With regard to the brain, cases of affections of the skin associated with localised lesions of the brain have been recorded, but they are not sufficiently numerous or exact to allow of any safe inductions. In lesions of the spinal cord, especially of its posterior columns, we tread on surer ground. Thus in tabes dorsalis numerous microscopic examinations have established the connection between tissue changes in the postero-external columns and various affections of the skin in parts corresponding to the portion of the cord implicated. We owe to Dr. Radcliffe Crocker an exceedingly valuable critical digest of the facts on this subject in an article in *Brain on Lesions of the Nervous System Etiologically Related to Cutaneous Disease*.⁵ From it I extract the following as to the skin affections which have been found associated with locomotor ataxy: 1. "Transitory Erythema, (a) simple, (b) nodosum. 2. Urticaria. 3. Papular or 'lichenoid' eruptions, probably eczematous. 4. Ordinary eczema. 5. Herpes zoster. 6. Pemphigus. 7. Pustules 'like ecthyma.' 8. Ulcers, superficial and deep. 9. Superficial gangrene. 10. Perforating ulcer of foot. 11. Falling off of the big toe-nail. 12. Leucoderma. 13. Petechiæ and ecchymoses. 14. Unilateral sweating. 15. Edema. The first nine of these lesions occur in the early stage. They are generally associated with an exacerbation of the lightning pains, and are usually limited to the course of the nerves in whose course the pains are felt." I have published in the *Illustrated Medical News* a number of cases of ichthyosis hystrix; under the name of "neuropathic papillomata," with a hemiplegic distribution, or occurring in the course of cutaneous nerves or sensory

areas. In the same article I recorded two cases of lichen planus of nervous distribution. In one case the eruption first appeared in a zonular form on one side of the trunk, with a distribution exactly similar to herpes zoster. In this case the eruption subsequently became generalised. In the second case an outbreak of lichen planus was entirely limited to a linear band extending down one forearm, along the ulnar side of the wrist and hand to the little and fourth fingers. I have seen several cases of morphœa (localised scleroderma) taking a similar linear course down the arm or leg. I have also shown, at the Dermatological Society of London, a patient suffering from secondary syphilis in whom a papulo-squamous eruption was densely arranged in a zone-like band, with an arrangement like herpes zoster in the lower part of the trunk and ilio-inguinal region of one side.

We have thus seen that a great variety of cutaneous lesions may result from a single pathological change, as sclerosis of the posterior columns, and that cutaneous diseases, generally widely distributed, may occur in a circumscribed nervous area. On the other hand, in herpes zoster, one of the most distinct and uniform of skin eruptions, the pathological condition associated with it may be of diverse nature. Injuries, inflammation, hæmorrhage, new growths, etc., have been found in the ganglia, trunk, and branches of the nerves corresponding to the cutaneous manifestations. So we have a variety of cutaneous lesions arising from a single pathological change, and the same kind of cutaneous lesion arising from a variety of pathological changes. I think from these facts we are compelled to draw the following conclusion: The seat of the pathological change in the nervous system localises the situation or distribution of the cutaneous lesion. Something else determines its nature, and this must be special tissue proclivity. Whether a person with some disease of nerve centres or nerves corresponding to the affected area of the skin has herpes zoster, hæmorrhage, lichen planus, morphœa, etc., depends upon individual peculiarities or tissue tendencies.⁶ There are a number of diseases of the skin dependent upon functional derangements and instability of the general nervous system; but into these, and the group of skin diseases self-induced in hysterical subjects, time does not permit of my entering.

INFLUENCE OF DIET.

There is probably no subject in which more deeply rooted convictions have been held, not only in the profession but by the laity, than the connection between diet and disease, both as regards the causation and treatment of the latter; and the subject possesses a peculiar fascination for the lay mind. No subject, perhaps, more accurately reflects contemporary knowledge and teaching, varying with the phases through which this passes. At the same time probably no subject better illustrates the fallacies of reasoning, the binding influence of authority, and the bias of education. In the study of diseases of the skin we have admirable examples of the faulty conclusions that have been drawn, and unrivalled opportunities of correcting them by careful observation and unfettered judgment. Attention has been drawn to this matter by papers by Mr. Malcolm Morris on eczema, and by myself on acne, and by Dr. Jamieson and Dr. Walter Smith at the recent meeting of the British Medical Association in London. It is to be hoped that the attention directed to the matter will clear away misconceptions that exist.

Dr. Walter Smith accurately, in my opinion, summarises our knowledge on the influence of diet in the following conclusions:

1. Very few diseases are directly traceable to dietetic causes, but improper diet may aggravate existing eruptions. Idiosyncrasy must be largely allowed for.

2. The diseases that may so arise are of a transitory character, and mostly belong to the class of erythemata.

3. Diet has very little influence in promoting the cure of cutaneous eruptions. The results are far behind popular expectations, even in such cases as acne rosacea, where we are led to hope for much.

4. Avoidance of alcohol, regulation of the bowels, and the cure of anæmia are of infinitely greater importance than special dieting in the management of diseases of the skin.

⁴ On Disturbance of Sensation, with Special Reference to the Pain of Visceral Disease, *Brain*, 1893.

⁵ Vol. vii, p. 343

⁶ *The Pedigree of Disease* by Jonathan Hutchinson; Churchill, 1884. F. 24

⁷ BRITISH MEDICAL JOURNAL, vol. ii, 1895, p. 7353.

Let us take some illustrations of these assertions. In no disease of the skin has diet been more blamed for the production of the malady or more assiduously attended to in its attempted cure than in eczema. Infantile eczema we constantly find ascribed to faults in diet—too early or excessive use of starchy foods, the premature use of meat or gravy, insufficient or deteriorated quality of the mother's milk, or the use of preserved milk.* All these no doubt bring evils of their own, but there is no evidence to connect them with eczema as cause and effect. Infantile eczema occurs in the well-nourished, healthy child almost equally as in the cachectic and ill-nourished, the child of the prince as well as the child of the pauper, in the judiciously-nurtured and the child brought up, as regards food, haphazard. The disease is of external origin, and the only constitutional element in the case is the vulnerability of the skin, which varies in individuals, and is naturally pronounced in the tender skin of little children. Whilst for other reasons we should always endeavour to correct what is wrong in the dietary, the disease is to be cured by local means alone, and in hospital practice we do this constantly in spite of the dietetic malpractices which continue in existence. In the adult the evidence is equally strong, and whilst many patients are, and expect to be, dieted according to the theories of the medical attendant, yet this is without avail unless suitable local treatment is adopted. We find various articles of food blamed by different physicians, and patients who, as often happens in chronic and refractory diseases, consult several advisers, have dietetic article after article proscribed until their food is reduced to a monotonous and very restricted *menu*.

Sugar, malt liquors, salted foods, fruits, and many other useful foods have all been prohibited to the eczematous. Yet we find a writer of such extensive experience as Mr. Malcolm Morris saying: "I may frankly state that my own view is that diet has no influence at all except indirectly. Thus if a constitutional condition, such as gout or diabetes, underlie the eczematous process, the dietetic restrictions indicated in the circumstances are called for. Again, if the lesions are of an acutely inflammatory type, the diet should be limited in quantity and bland and unstimulating in quality. Apart from these indications, I have seen no reason to think that restriction of diet had any good effect; on the contrary, I have seen a lowering regimen do positive harm by weakening the patient."⁹

Dr. Pye-Smith, in his address to the Dermatological Society of Great Britain and Ireland, expressed himself equally sceptical as to the effects of diet in the treatment of diseases of the skin.¹⁰

The belief is steadily gaining ground amongst dermatologists that eczema is a disease of local origin, though the majority hesitate to go so far as to admit that it is necessarily due to micro-organisms. The very fact, however, that eczema is regarded as due to local causes cuts the ground from beneath the feet of those who still believe in the importance of diet in the inception and control of the disease. All that I should be disposed to admit is that causes, including unwholesome and unsuitable food, that lower the health in a general way may lessen the power of resistance to those external causes without which it is not produced.

Psoriasis, again, is a disease concerning which some believe that diet can control, if it does not cause, the skin affection. I knew an eminent physician who expressed a pious horror that a patient suffering from this complaint who came under his care had not been dieted by his previous advisers. Yet psoriasis can be most successfully treated without the slightest attention being given to the food. It so often occurs in those who in all other respects are in good health, that an eminent dermatologist regards it as "a hallmark of health." With regard to acne, it is believed by many that it is dependent on indigestion, constipation, anæmia, disorders of the sexual organs, etc.; whereas it can be shown that it is a disease of the pilo-sebaceous apparatus occurring at an age when this is in a state of special activity, and therefore liable to aberrations in those with some pecu-

liarities in the conformation of the skin. It occurs in the plethoric as well as in the anæmic, and in those otherwise in good health; in those whose digestions are sound equally as in those who are dyspeptic; and equally in those whose sexual functions and habits are whole as in those in whom they are deranged. As to its connection with diet, there is only the most slender evidence. Dr. Pye-Smith has stated that "in some patients a fresh outbreak of follicular inflammation can be produced at will by eating crystallised fruits, strawberry jam, or orange marmalade," and Bulkley has written that "in some persons crops of acne follow the free use of buck-wheat." Of course I accept the testimony of such trustworthy observers, but should be inclined to attribute the occurrence to idiosyncrasy. I should only admit that alcohol (as urged by Dr. Payne) and anything that causes flushing of the face will aggravate a tendency or augment a disease that already exists.

Take, again, the subject of boils. They occur in the well-fed and in the cachectic, and they have been ascribed accordingly to over-feeding and under-feeding. They have been ascribed by one of the ablest living dermatologists to "sudden changes of diet, either as to quality or arrangement of meals." The fact of their occurrence in diabetes—a disease in which, as Claude Bernard happily expressed it, there is "a misappropriation of food" due to misdirection of the liver by the brain—seems at first sight to lend some support to their connection with diet. It has, however, been conclusively proved that boils are caused by the entrance of pus cocci by the mouths of the hair follicles, and without these organisms we never get boils. That they occur in diabetes is probably explained by the lessened resistance produced by the general malnutrition which the skin shares with nearly all other tissues in this disease. In urticaria and in certain cases of erythema we have undoubted evidence of food causing eruptions, but in the former for certain, and in the latter in all probability, the affection is due to personal idiosyncrasy, as what will cause the disease in the few is quite inoperative in the many. I think it is clear from the instances I have chosen that diet plays an exceedingly unimportant part in the production and cure of diseases of the skin. Dr. Walter Smith writes: "In my judgment the main precept we need enjoin as a golden rule upon our patients suffering from diseases of the skin is moderation and temperance in all matters of eating and drinking, and especially as regards alcohol." In this precept I cordially concur, and would add it is not only an equally "golden rule" for persons suffering from any other kind of disease, but also for those who being healthy would wish to keep so. This lesson we learn from the study of dermatology may be usefully applied to many other diseases in no way connected with the skin.

[The lessons learnt regarding rheumatism by the study of diseases of the skin were next discussed, the main points being that they enlarged our views of the disease, sometimes enabled us to recognise that patients were rheumatic when there was little or no affection of the joints or serous membranes, and that the character of the eruptions favoured the view that rheumatism was a poison circulating in the blood.]

SPECIFICITY.

A lesson as to specificity may be learnt from the study of diseases of the skin. One of the most important doctrines of pathology is that we must not be misled by mere resemblances or differences in the appearances of diseases in judging of their relationship or true nature. The ultimate criteria that must decide the nature and place of a disease are its etiology and pathology. Thus dropwrist, colic, optic neuritis, and epileptiform convulsions resemble one another but little, but when it has been determined that each of these may arise from the introduction of lead into the system, it is demonstrated that lead is the cause of each of these varying manifestations, and that the true pathology is the action of this metal on nervous tissues. Or to take the case of a specific virus, iritis, hepatitis, enlargement of the testicle, aneurysm, hemiplegia, and a multitude of affections of the skin may all arise from the action of the virus of syphilis. In the latter case we know the poison is particulate and organised, but the specific microbe has not been satisfactorily and conclusively demonstrated. On the other hand, we have in a series of affections of the skin all the conditions postulated by Koch as

Mr. Hutchinson believes that in some cases good milk may induce eczema in infants.—*Pedigree of Disease*.

BRITISH MEDICAL JOURNAL, 1894, vol. ii, p. 645.

¹⁰ *British Journal of Dermatology*, July, 1895, p. 224.

necessary to prove a microbe to be the actual cause of disease, and at the same time an exemplification that identity of cause may occasion a variety of effects. We have in this series impetigo contagiosa and ecthyma, furuncles and carbuncles, and various forms of pustular folliculitis, and besides these in which the evidence is complete, others in which it is extremely strong—namely, whitlow, styes, non-trichophytic sycosis, dermatitis papillaris capillitii, and a disease which a distinguished member of this Society has been investigating for some time, the "football eruption" of public schools.¹¹ As regards impetigo, boils, and carbuncles, and certain forms of suppurative folliculitis, it has been conclusively demonstrated (1) that the *staphylococcus aureus* or *albus* is invariably present in the cutaneous lesions at all stages; (2) that cultures from the skin affections extending over many generations and by dissociation rendered quite pure can be obtained having characteristic modes of growths; (3) that these cultures when inoculated produce one of the class of skin affections from which it was obtained; (4) that in these experimentally induced lesions organisms identical with those from which the original virus was obtained are to be found. Though we have now several other diseases in which such evidence is equally complete, there is no better instance in which all these conditions can be verified, and, what is of marked interest, the morbid process watched throughout its course. Dr. Wickham and Dr. Darier, of Paris, have proposed for the series of skin diseases produced by the pus cocci the name "*staphylococcia purulenta cutanea*."¹²

I have endeavoured to point out some lessons which may be learnt from the study of diseases of the skin. Numerous other illustrations might have been given had time permitted, and I had not been afraid of overtaxing your patience. I have covered a rather wide ground in attempting a general survey, and have been obliged on this account to avoid introducing much detail. I trust, however, I have said sufficient to point out the advantages to be gained by the study of dermatology.

CASES OF DIPHTHERIA TREATED WITH ANTITOXIN IN UNIVERSITY COLLEGE HOSPITAL,

DECEMBER, 1894, TO DECEMBER, 1895.

BY

SIDNEY MARTIN,
M.D., F.R.S., F.R.C.P.,
Assistant Physician to the
Hospital.

and

H. R. SMITH,
M.D.,
Resident Medical Officer.

DURING the period mentioned 75 cases were admitted to the diphtheria wards, and this number includes all the cases which have been treated with the antitoxic serum supplied by the British Institute of Preventive Medicine up to the end of 1895. At the end of 1894, before the British Institute serum was used, 6 cases were treated with Aronsohn's antitoxin, receiving 15 minims each; 4 died, and 2 recovered. As these cases did not appear to have a bearing on the question of the treatment by antitoxin, they are included in the 1894 cases, quoted below, which were not treated by antitoxin.

ADMINISTRATION OF THE ANTITOXIN.

In 74 of the cases the antitoxic serum was injected subcutaneously in the flanks, with antiseptic precautions, in doses of 10 c.cm. (5 cases), of 15 c.cm. (4 cases), of 20 c.cm. (32 cases), of 25 c.cm. (5 cases), of 30 to 35 c.cm. (12 cases), of 40 c.cm. (8 cases), of 60 c.cm. (4 cases), and of 80 c.cm. (4 cases). In one case the injection (10 c.cm.) was made intravenously, and in one of the cases mentioned above an intravenous injection was made after 20 c.cm. had been given subcutaneously. The intravenous injection is readily made after tracheotomy has been performed, and while the child is still under the influence of the anæsthetic. A ligature is tied round the upper arm as in venesection, and a small incision (1 inch in length) is made over the median basilic vein at the elbow. When the vein is exposed the fine needle of the syringe is thrust into its lumen, and the injection slowly performed, the ligature round the arm being previously removed. On withdrawing the needle no bleeding occurs,

and if the wound is stitched up it heals by first intention. The intravenous injection of the antitoxin produced no effect on the pulse or respiration, which were taken every four hours for forty-eight hours or longer after the injection. A slight rise of temperature occurred in 1 case from 100.8° to 101.2°, but the temperature fell immediately again. The patients who received the intravenous injection of antitoxin (both laryngeal cases) made uninterrupted recoveries. In all cases local treatment was also adopted, namely, a spray of bicarbonate of sodium solution (20 gr. to the oz.), alternately with one of corrosive sublimate (1 in 1,000) every four hours.

RASH PRODUCED.

In 32 cases a rash followed the injection of the antitoxic serum. In 1 case a slight rash appeared on the third day after infection; in 22 cases it appeared on the seventh to the tenth day, and in 9 cases on the tenth to the seventeenth day. In 5 of these cases there was a second rash, appearing a few days after the first had faded. Eleven out of the 75 cases were in the hospital under five days, being fatal within that time; so that in 64 cases only was there a probability of a rash occurring. This, therefore, occurred in about half the cases. The rash was most commonly in the form of an erythema or of raised papules; less commonly it was of an urticarial nature. In 4 cases only was it associated with a definite rise of temperature lasting from three to four days; in 1 case the temperature rose from normal to 100.4°, in 2 to 102°, in the fourth to 103°. This last was associated with joint pains and with some effusion into the left knee-joint, which soon disappeared. One other case suffered from joint pains. There were no other symptoms to be ascribed to the injection of the antitoxic serum. At the site of injection no inflammation was excited.

BACTERIOLOGICAL EXAMINATION.

In 70 out of the 75 cases a bacteriological examination was made by means of a surface culture on solidified blood serum. In 65 cases the bacillus diphtheriæ was found. In 62 of these the culture was in the great majority of cases, whether taken from the larynx or the fauces, a mixed one containing a few colonies of diplococci, staphylococci, or streptococci. In 2 cases the bacillus diphtheriæ was associated with a large excess of streptococcus. One of these was laryngeal the other pharyngeal diphtheria, and they both recovered. In 5 cases no bacilli were found; diplococci and staphylococci being obtained in 4 cases, and streptococci alone in 1 case. One of the former cases was probably not diphtheria, as the infant (under 2 years of age) was in the hospital only seven days; but the other 3 cases were diphtheria, as they showed slight paralysis subsequently. In 1 of these cases four cultivations were made from the throat, and in none of them was the bacillus present, yet the knee-jerks disappeared during the illness and were absent five months afterwards. Other cases showed that in the first cultivation made from the throat there were no bacilli, which were subsequently obtained. The absence of the bacillus diphtheriæ in cultivations from the throat cannot, therefore, be taken as excluding the presence of diphtheria. And when it is considered what a small proportion of the membrane is taken on to the platinum needle with which to inoculate the tube, it is not surprising that in a certain small number of cases of diphtheria the cultivation showed the absence of the bacillus.

PERSISTENCE OF THE BACILLUS IN THE THROAT.

Although in the cases under consideration the length of time in which the bacillus persisted in the throat was not tested as systematically as it is now being done in the hospital, in the latter part of last year all cases were tested as regards freedom from the bacillus before being discharged. In some of the cases the bacillus was absent on the tenth to the twentieth day; in others it persisted, being found on the twenty-eighth day or later. In 1 case the bacillus persisted thirteen days after the membrane had disappeared, and in another case forty-two days after the membrane, and in this case a pure culture of the bacillus was obtained from the throat while the child was walking about the ward, apparently quite well and on full diet. Reference will be made later to these and similar cases of the persistence of the bacilli after the disease was apparently terminated. They are of

¹¹ On Football Impetigo, by H. G. Armstrong, Med. Off. of Schools. Assoc., Trans., 1895.

¹² British Journal of Dermatology, vol. iv, 1892, p. 203.