Skin diseases : their description, pathology, diagnosis, and treatment / by Tilbury Fox.

Contributors

Fox, Tilbury, 1836-1879.

Publication/Creation

London : Henry Renshaw, 1869.

Persistent URL

https://wellcomecollection.org/works/cenfgyhd

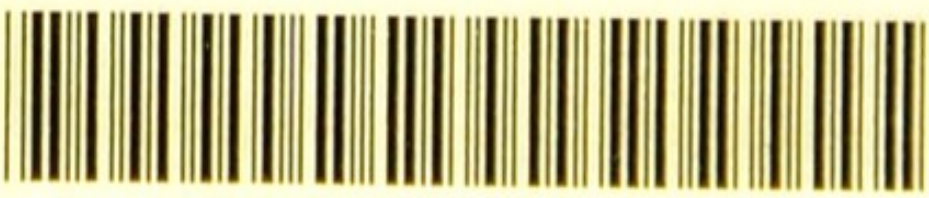
License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.

wellcome collection

Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
https://wellcomecollection.org


22900147214

Digitized by the Internet Archive
in 2015

https://archive.org/details/b20410074

ed. 9.B.J.

SKIN DISEASES:

THEIR

DESCRIPTION, PATHOLOGY, DIAGNOSIS, AND TREATMENT.

Second Edition,

32. vo

BY

TILBURY FOX, M.D. Lond.

MEMBER OF THE ROYAL COLLEGE OF PHYSICIANS; FELLOW OF UNIVERSITY COLLEGE;

PHYSICIAN TO THE SKIN DEPARTMENT, CHARING CROSS HOSPITAL;

AUTHOR OF "SKIN DISEASES OF PARASITIC ORIGIN," ETC.

HENRY RENSHAW,

356, STRAND, LONDON.

1869.

2123

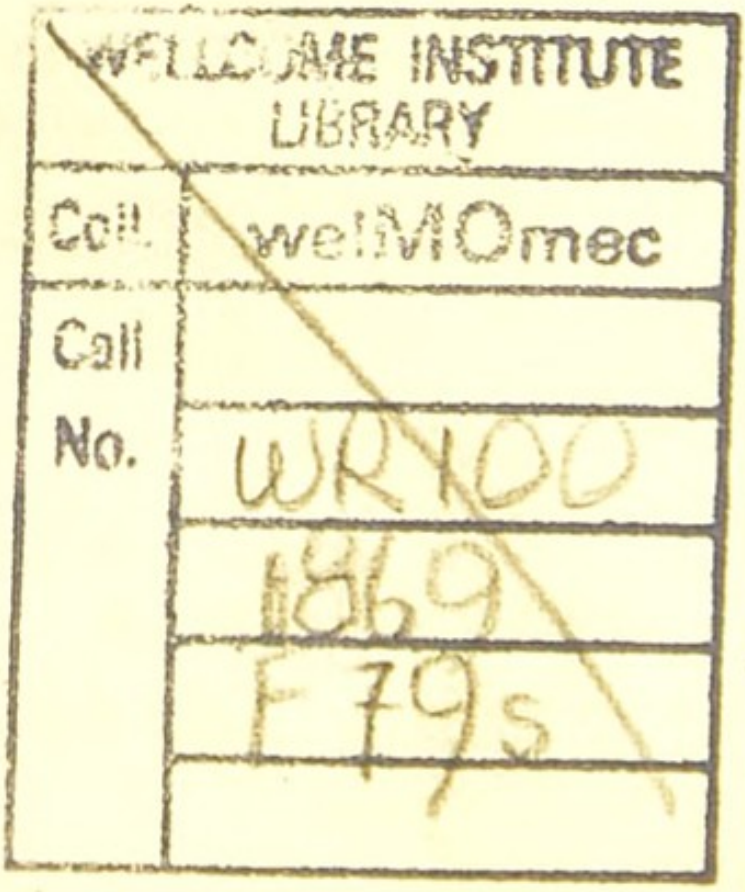
83942269

LONDON:

SAVILL, EDWARDS AND CO., PRINTERS, CHANDOS STREET,

COVENT GARDEN.

11997



PREFACE.

STIMULATED by the very favourable reception which the profession has accorded to my two previous works,—the one on the special subject of "Vegetable Parasitic Diseases," and the other "Skin Diseases in General," and guided by the kindly suggestions of my critics, and by the experience gained in my special department for Skin Diseases at Charing Cross Hospital, I have attempted, I hope not unsuccessfully, to produce a book which I believe to have been really wanted—a book containing a concise and practical account of Diseases of the Skin *for general use.*

The present work may be regarded as a second and condensed edition of my two former works combined, re-written and re-cast, so as to suit both practitioners and students. In addition there is given the substance of a course of lectures recently delivered at Charing Cross Hospital.

The various licensing bodies are wisely showing an increasing disposition to demand from the student a definite knowledge of diseases of the skin. This is the case particularly with the University of London, and also, of late, with the College of Physicians, the College of Surgeons, &c. Keeping prominently in view the

wants of the student in this respect, I have given a pretty full account of the elementary lesions, the description, the pathology, the diagnosis, and the principles of treatment of skin diseases. Moreover, I have incorporated with the Index a Glossary containing the derivation and meaning of terms, in the belief that it will be of much service to the reader.

A large number of students enter the public services, and have to undergo special instruction preparatory to foreign service—at Netley for instance. I have therefore sought to aid them by including in the work an account of diseases affecting the skin which they will be called upon to treat in India, China, and other parts,—ex. gr., Delhi boil, Biskra bouton, Frambœsia, Leprosy, Bucnemia tropica, Guinea-worm disease, the Madura foot (India), Ngerengere (New Zealand), Cochin-China ulcer. Some very interesting matter will be found in the Appendix relative to the so-called "Army Itch."

It has seemed to me possible likewise to meet the requirements of the practitioner, by amplifying the sections on diagnosis, and providing a special Formulary, containing 200 selected prescriptions. At the end of the sections on treatment reference is made by number to various formulæ, of use in particular diseases. The formulæ are classified, and to each is appended the name of the disease in which it is useful. Whilst the student, therefore, may use the book as a whole, including the Glossary, the practitioner may, if he desire, merely refer to the sections on diagnosis, and treatment, and to the Formulary, where I believe he will find what he requires.

The classification of diseases is simplified, I hope: it is new, and in accordance with the plan proposed by the College of Physicians in its new nomenclature report, and with my own strong convictions.

The whole of the subject of Parasitic Diseases is fully illustrated by woodcuts; and amongst others is a representation of the Madura foot, not figured as yet in any English work. In another part of the work is a representation of Delhi boil.

My thanks are due to Mr. Erasmus Wilson, F.R.S., Dr. Lionel Beale, F.R.S., Dr. McCall Anderson, and Dr. Purser, for the use of illustrations; and to Dr. Lawson, C.B., Dr. Gordon, C.B., Mr. Perry, R.A., Dr. Marston, R.A., and others, for valuable information.

~~43, Sackville Street, Piccadilly,~~ W.
October 1, 1868.

16 Harley St.
Cavendish Sq.

CONTENTS.

CHAP.		PAGE
I.	INTRODUCTION—IMPORTANCE OF STUDY OF SKIN DISEASES—A KNOWLEDGE OF GENERAL DISEASES REQUIRED—WILLAN'S RESEARCHES	1
II.	GENERAL PATHOLOGY—ELEMENTARY LESIONS	8
III.	ETIOLOGY — BLOOD TISSUE AND NERVE CHANGES—INFLUENCE OF SEX, AGE, OCCUPATION, FLANNEL, SCRATCHING — CONDITIONS THAT DETERMINE THE LOCAL DEVELOPMENT OF DISEASE — COMPARATIVE FREQUENCY IN KIND OF SKIN DISEASE	21
IV.	CLASSIFICATION	32
V.	GENERAL DIAGNOSIS — PROGNOSIS — TREATMENT	37
VI.	ERUPTIONS OF ACUTE SPECIFIC DISEASES	48
VII.	ERYTHEMATOUS DISEASES	65
VIII.	CATARRHAL INFLAMMATION, OR ECZEMA	97
IX.	PLASTIC INFLAMMATION, OR LICHEN	121

CHAP. PAGE

X. SUPPURATIVE INFLAMMATION OR PUSTULAR DISEASES 140

XI. BULLOUS DISEASES 175

XII. ALPHOUS DISEASE 193

XIII. STRUMOUS DISEASES 204

XIV. CANCEROUS DISEASES 213

XV. SYPHILITIC ERUPTIONS 222

XVI. LEPROUS DISEASES 246

XVII. HYPERTROPHIC AND ATROPHIC AFFECTIONS . 260

XVIII. PARASITIC DISEASES 292

XIX. NEUROSES OF THE SKIN 360

XX. HÆMORRHAGES 374

XXI. CHROMATOGENOUS DISEASES—PIGMENTARY . 377

XXII. DISORDERS OF THE GLANDS 383

SUMMARY 408

APPENDIX 417

FORMULARY 424

GLOSSARIAL INDEX 441

ERRATUM.

The reader will be kind enough to substitute for the word "eczema," line 20, p. 107, the words "pruriginous, the designation for a sub-group of chronic exudative diseases."

CHAPTER I.

INTRODUCTION—IMPORTANCE OF THE STUDY OF SKIN DISEASES—A KNOWLEDGE OF GENERAL DISEASES REQUIRED—WILLAN'S RESEARCHES.

Diseases of the skin deserve to be more carefully studied than they are for many reasons. They are excessively common, and amongst the first to test a man's self-dependence both in public and private practice amongst the poor, in workhouses and hospitals as well as private patients. They are specially calculated to educate the faculty of minute observation. Their occurrence affords ample opportunity for gaining the confidence of patients, because these ailments are seen as well as felt; their inveteracy and disfiguring character often affect in a peculiar manner the personal comfort and vanity of men and women, so that relief is estimated at a comparatively high standard, whilst the good or bad effect of treatment, in the majority of cases, can be readily appreciated by the attacked. Many cutaneous mischiefs are contagious and transmissible from one subject to another. It is highly important to be able to speak positively on this point in regard to individual cases. One of the commonest opinions demanded from a medical man, concerns the necessity for isolating one or more members of a family, with the view of preventing the spread of skin diseases. An error of diagnosis may allow the dissemination of ringworm throughout a school, bring discredit to the practitioner, and serious loss to the proprietors. This is but one of many examples that might be adduced to show that he who

has a fair knowledge of diseases of the skin has an immense advantage in the practice of medicine.

And there are other considerations. Foremost is this, that accurate observation of the morbid changes that go on in the skin, is destined to throw much light upon the pathology of internal organs. But the truth of the statement I started with must be self-evident. The successful study of skin disease, necessitates a knowledge on the part of the student, whoever he may be, of diseases in general—and the only efficient treater of cutaneous ailments is he who is master of the details of general therapeutics. The same disease, as it occurs in persons of different diathetic tendencies, requires to be handled in a somewhat varying manner: eczema, for instance, in an old and gouty, a young and pallid, or a scrofulous subject, requires not the same, but a modified treatment. The rank specialist, or mere empiric would diagnose the eczema, pay no heed to the diathesis, and employ a therapeute, which he has stereotyped, as suited to all cases, under all conditions. The philosophic practitioner, bringing into use his knowledge of medicine in general, would be careful to take advantage of known specifics, but he would treat any constitutional condition which tended to prevent reparative action, and rectify errors of function, or departures from healthy action in organs and parts which bear relation by interdependence of function and so influence the diseased skin. There is also, it must be remembered, a certain unity of character about diseased actions in various parts of the body, which justifies us in instituting a comparison between the morbid processes in different organs. A recognition of the changes in one, will not unfrequently throw light upon the nature of those occurring in another organ, about which, however, some doubt exists. There is also a more definite relation than this between the skin and internal organs. The ability to detect mischief of different kinds in the body in which a skin disease

exists, oftentimes enables one not only to unravel more completely the nature of the latter, but to remove a cause of general debility, or one that checks elimination, or that in other ways interferes with the due play of the *vis medicatrix naturæ* in the cure of skin disease. The removal of a stomach, a kidney, a uterine, a liver derangement, gives a patient a much better chance of getting well under treatment intended to cure a co-existing skin disease, and to effect this—*i. e.*, to be a successful dermatologist—one must be a well-informed physician. One of the most important relationships which should be considered, is that of the skin and kidney functions.

In no book, in no teaching, in no practice, is any prominence given *quoad* the treatment of skin diseases, to the importance of our being guided by a consideration of that which the physiologist impresses upon us with peculiar emphasis—the relation which subsists between the functions of skin and kidney. The dermatologist practically ignores the fact in the pathology to which he pins his faith and the therapeutics he adopts. On the face of it, this total abnegation of a great physiological fact can but be, as my experience teaches me, an egregious blunder: but cutaneous medicine is the slave of empiricism. The skin is often made to relieve kidney disease with the fullest success, why then is the converse not more frequently and confidently effected?

Remembering that the kidneys form the safety-valve by which a proper balance of fluid (and waste) is kept in the system (the amount secreted depending in some degree upon the state of the fluids, the cutaneous exhalation, &c.), and that there is not necessarily any relation between the quantity of urine and that of its solid contents—it may be affirmed that deficient action of the kidneys (as to solid and fluid) may (in old people especially), very materially affect the occurrence of skin disease. Eczema may be taken as an example.

Speaking generally, deficient kidney elimination may—(1) *Determine the occurrence of disease.* The skin will have more work to do where there is a sluggish action of the kidneys, and the blood circulating in and through it may consequently be charged with more nitrogenized matter than usual, especially in gouty and rheumatic subjects, and if disease have a tendency to show itself, its manifestation will be at once encouraged or excited. Therapeutics proves this indirectly in the familiar instance of the influence of colchicum and diuretics in eczema, in such cases accelerating the cure in many instances; whilst the presence of an excessive amount of urea in the urine in eczema, supports the proposition laid down. (2) *It intensifies the obstinacy of existing diseases.* This follows from what has been said, and will be found to be *clinically* true. There are two classes of cases: in one, the total urea formed in the body is above the average, and in the other it may be normal; in either case the deficient excretion (comparatively speaking) produces to a certain extent a like result—the presence in the blood of an excess of effete products. But deficient excretion may further be explained by the non-transformation into urea of the waste products of the body by an arrest in the change of complex into simpler compounds. Dr. Frank Smith's observations relative to indican in the urine in eczema, are conclusive on this point as to a deficiency of urinary excretion. It is our duty then, when we know excretion is not active, to go further and find the cause of default. It may be an arrest in the normal metamorphoses, or a mere non-excretion of normal waste-products. The treatment is by diuretics in the one, by tonics chiefly in the other. It would seem sometimes as if the waste-products which should be excreted were derived from the changes going on in the skin itself, when that is extensively implicated in disease. (3) The deficient elimination of water by the kidney,

leads, where gravitation comes into play, to the transudation of fluid in the superficial tissues and occasionally to the production of blebs.

The connexion between chronic redness of the face and dyspepsia (particularly pyrosis), and between menstrual derangement and some forms of acne, is often marked, and may be cited as showing that our dermatology must be something more than "skin deep." It must comprehend the normal inter-relationship of the cutaneous envelope with internal organs, the deviations therefrom and their results, and the action of diathesis in modifying disease. It must also be in a position to determine when a given disease is only part of a general one, what the nature and history of that general disease is; and it must include a knowledge of the pathology and therapeutics of chronic visceral disease. The mode in which the latter acts, will be noticed again. Enough has perhaps been said to indicate how varied and large an amount of knowledge the dermatologist should possess.

I think it important to call attention to the fact that considerable differences exist in the same diseases, according to the country and people amongst which they occur, and this is only what might be expected from the influence of varying conditions of climate, diet, custom, &c. Nothing shows this more conclusively than an examination of the writings and plates of foreign authors. Many of Hebra's descriptions (always good) of ordinary instances of disease really represent exaggerated forms of English skin disease—ex. gr., lichen ruber and scrofulosus, and even lupus. In the East—Syria and Egypt—syphilis is by no means so severe as in other parts of the world. Pityriasis rubra and general psoriasis are not common with us, at least to such an extent as on the Continent. Again, fibroma molluscum and rupia are probably much milder in England than in Germany. I was very much struck with the difference as regards

scabies in passing through Hebra's wards; it was altogether more ecthymatous; and, indeed, the ulcerative aspect of most diseases in which ulceration is wont to occur, has seemed to me less marked in our own than many in other countries; I speak not from theory but actual observation. There is surely a sufficient reason too for the more sthenic character of diseases in England. A great truth underlies the contrast. I suppose that the meat-eating and porter-loving Englishman, with his hardy pursuits, acquires a greater amount of *stamina*, and that degenerations dependent upon constitutional debility are not so marked in his case as in that of the vegetable-feeding black or the fish-eating northerner.

It would be out of place to pursue this topic further; let me only add, then, that we must be careful not to trust absolutely to foreign description for learning to recognise, and certainly in treating, English skin affections. I find that, on this point, I am in accord with American physicians.

Before passing to the subject of Pathology, I would be allowed to make one reference to Willan. It has become the fashion to depreciate his labours, and even to level a certain amount of ridicule, at the class to which I belong—viz., that of the Willanites. We must remember that we cannot conceal by a platitude of new ideas and high-sounding words, the fact, that the essence of our present stock of knowledge, and the recent advances in cutaneous pathology, have been mainly derived from the hard and solid work of Willan. He undertook the study and re-arrangement of a class of diseases at a time when they were in the utmost confusion; he brought to bear upon the question a large amount of very accurate observation, and was enabled to parcel out certain "batches" of diseases each presenting peculiar characters, to establish a groupage which to this day represents the basis of the best classification for teaching

purposes. And I am surprised at some of my dermatological *confrères* who depreciate the Willanean system as obsolete and useless, and yet quietly incorporate it amongst the details of their own pet system of classification. Science is progressive, and Willan was not omniscient; naturally, therefore, Willan's system of grouping skin diseases requires to be developed; unfortunately there were no workers in the field immediately following Willan to carry on the work which he began; but, modified in accordance with the pathology of the present day, Willan's arrangement constitutes the true plan upon which cutaneous diseases are to be arranged. The principle of the system is perfectly right, the details alone defective, and it is an unfair thing to make one flaw the evidence of the total worthlessness of the whole plan. Willan's labours, gauged by the medical circumstances of the time in which he lived, take the highest clinical rank; they gave an impulse to the study of cutaneous diseases in England, and secured that country an enviable standing in regard to dermatology, which it is to be hoped she will continue to hold.

CHAPTER II.

GENERAL PATHOLOGY—ELEMENTARY LESIONS.

THERE are certain types of morbid changes occurring in the skin, such as "red blushes," "pimples," solid elevations, collections of serosity or pus, which are termed elementary lesions; their description will form the subject of this chapter.

Now it is important at once to notice that a large number of cutaneous diseases are inflammatory in their nature. It is just as well, therefore, that we should start with some definite idea of what is meant by inflammation.

In the first place, the line of demarcation is by no means well drawn between ordinary nutrition and inflammation. The latter may well be regarded in many cases as arising out of an exaggerated action of those processes that are in operation in healthy nutrition. Inflammation does not consist of a special something introduced from without, but is simply an alteration, in one sense, of the relative activity of conditions that make up healthy nutrition, and it would seem to be excited by disorder of the blood, of the nerves, and even the tissues themselves.

The first stage is active congestion; this is followed by the escape of fluid from the vessels, which may be plastic, forming more or less solid elevations, (papulations), or serous, constituting vesiculation; or the effused fluid may become more or less purulent. The local disturbance which is called inflammation may be induced by an infinity of causes; but congestion is the first stage in all cases, consequently, although

according to the nature and intensity of the cause, will the degree of inflammation vary; in some instances redness alone occurring, in others papulation, vesiculation, or pustulation, yet under all circumstances there will be a similarity in the aspect of corresponding stages of inflammation, as it occurs in different diseases.

One of the prime objects of inflammation is the removal of effete and disorganized matters, and the repair of disordered tissue; this will further explain why the process of inflammation under different circumstances should be similar.

Some writers misinterpret this similarity. An attempt has been made to make all skin inflammations stages of the same disease. It is argued, for instance, that lichen a papular, and eczema a vesicular, disease, are stages of one and the same affection, because, amongst other things, papules are seen to become vesicles; but this argument is untenable until it be shown that the cause and character of the papule of an eczema is the same as that of a lichen. There is close resemblance because there is inflammation in both cases. The difference in the two instances must be found in the difference of cause, in the character of the tissue action, and the inflammatory products. The plastic lymph of lichen, the serosity and cell proliferation in eczema, contrast strongly—in both cases little elevations may occur, but in the one case they are due to the presence of fibrillating lymph, in the other to serosity, and often abortive or undeveloped vesicles—though the two diseases to a great extent exhibit a close similarity in their development, there is a dissimilarity in the general nutrition—lichen is plastic, eczema, catarrhal inflammation.

Given inflammation, the result will be modified according (amongst other things) to the blood state—ex., struma, syphilis, &c., the tissue action—ex., tendency to pus formation, &c., or the influence exerted by nerve irritation in accelerating cell metamorphosis.

These modifying conditions the physician should strive to understand.

My object in making these remarks is to point out that there must necessarily be a close similarity between the corresponding stages of inflammatory diseases, though the diseases, as a whole, may be really different; and as I am speaking to the student, critics must not blame me for the absence of an elaborate essay on inflammation.

With these introductory remarks I pass to the consideration of

ELEMENTARY LESIONS.

These are the types of form assumed by morbid changes in the skin. They are generally arranged according to the plan originated by Willan. A correct understanding of their nature is essential to accurate diagnosis. The elementary lesions are as follows: maculæ or stains, erythema, papules, squamæ, vesicles, blebs, pustules, and tubercula. These are followed by certain other or *secondary changes*—viz., excoriation, crusts, scales (secondary), cicatrices, staining, &c.

I shall here give a general summary of these various conditions, leaving the minuter details to be filled in in speaking of individual diseases.

Maculæ, are discolorations, mostly of primary occurrence, and often constitute the sole change in the skin. They are usually unaccompanied by hyperæmia. The term maculæ is often limited to pigment alteration, the seat of which is the rete mucosum; but we may here note that there are five groups of discolorations or stains: (1) pigmentary; (2) parasitic, as in chloasma; (3) syphilitic; (4) hæmorrhagic, as in purpura; and (5) chemical, for instance, that induced by nitrate of silver, or by carbazotic acid. Now the hæmorrhagic and chemical groups are readily distin-

guished. Parasitic and syphilitic stains are often confounded, especially in the case of chloasma: this is fully noticed in the proper place. The pigmentary stains are those of most consequence here. They may be arranged thus, in three subdivisions:—

A. Idiopathic. These are generally excited by external irritants, and are (1) *traumatic*, including stains induced by pressure in handicrafts, and by the clothing, those following as the result of congestion in many local diseases, as eczema of the leg; (2) *toxic*, including the stains which follow the application of heat, the action of the sun, mustard poultices, and the like.

B. Symptomatic stains, or those which follow as a consequence of disease or change at a distance, including the pigment deposits which occur in connexion with some natural physiological change in the body, as in pregnancy; those which occur in connexion with uterine disorder, in cachexias, cancer, anæmia, liver or supra-renal disease, or nerve disorder, as in leprosy.

C. Congenital, including pigmentary moles and nævi.

This table should be referred to in reading the chapter on chromatogenous diseases.

Erythema, or Capillary Congestion, or simply Rash.—Erythema is due to impeded circulation, and in it the capillary layer of the skin is involved. There are two chief forms of erythema or congestion,—A, active, B, passive. The latter group may be dismissed with a few words. The colour of the erythema is dull, bluish, the surface is cold. It is generally of mechanical origin, and produced by venous obstruction. It may be symptomatic of a more general disorder—for instance, a weak heart. The great majority of cases are

active forms of erythema. Here the colour is more or less of a bright hue, and accompanied by heat, swelling, and pain—in fact, the ordinary signs of inflammation. The erythemata of this nature may be ranked under three heads. (1.) Those forms which constitute the sole disease, as in local hyperæmia, produced by local causes—ex., irritants of all kinds, and heat. (2.) Those which form the main feature in general disorders, and are so important as really to constitute the disease that requires treatment—ex., the ordinary febrile erythemata; in this case the rash is more or less partial. (3.) Those which constitute a prominent feature in more serious and fatal affections—ex., measles, scarlatina, the acute specific diseases; here the rash is general over the skin.

We might make only two groups of erythemata, local and general, the latter including groups 2 and 3 in the above arrangement. In these erythemata there is (1) redness which varies according to the part of the capillary plexus involved, being punctate when the follicular plexuses are specially concerned, uniform if it be the horizontal vascular surface of the derma, diffused and general if the blood be disordered as a whole, or circular if the vessels under the governance of one or more nerve twigs are alone the seat of disturbance—the colour varies according to the activity of the circulation and the state of the general health; (2) swelling: this is due to the greater volume of blood present and the escape of fluid from the vessels into the tissues; (3) a rise in temperature; (4) disordered sensation, pain, or tingling, or burning; (5) an acute course usually; (6) secondary effects, such as desquamation, exudation, hypertrophy.

When the deeper tissues—the connective—in addition to the skin are affected, we have what is called phlegmonous inflammation.

The points of importance are the hue of the redness, as indicative of venous or arterial stasis, and the extent of the redness as significant of a general or a local disorder.

Papules, or "pimples," are differently explained by different dermatologists. They are little solid elevations of the skin, and are produced by a variety of causes, as follows—(1) Deposition in the skin of plastic lymph; (2) the turgescence and consequent erection or prominence of the follicles (the perspiratory, the sebaceous, or the hair); (3) by collections of epithelium or other substances in these follicles, and the projection of these masses; (4) by enlargement of the papillæ; (5) and (6) by hypertrophous growths of the derma, as in small warts. The *true* papule, that which occurs in lichen, is due to the effusion into the skin, especially the papillary layer of plastic lymph (plastic inflammation). The papules are palish or white, flesh-coloured, or dull red, with no appreciable surrounding congestion as a rule, lasting a variable time, and disappearing by resorption and slight desquamation. On close inspection the papules are seen to be sometimes transparent at the point, from the presence of lymph, which may as yet not have thoroughly fibrillated (solidified), hence on scratching the point of the papule off a little oozing may take place. The lymph comes from the follicular plexus as well as the vascular loops in the papillæ, and therefore the papule sometimes looks as if it were a turgescent follicle, but the true papule is essentially non-vascular, pale, and solid. An inflamed follicle is "folliculitis," not a papule, which as I stated is really a solid lymph formation.

There are certain varieties of papules. They are small and hard on the outer surfaces of the body, larger and softer on the inner surfaces, about the neck and the face. They are absent from the palms of the hands, and the soles of the feet. They are large in syphilis, large and flat in lichen ruber. They may be scattered, or in groups forming patches, which increase by the development of papules at the circumference. In some cases, the character of the nutrition is such, that scratching is followed by hæmorrhage, instead of lymph effusion, as

in prurigo, and here at the apex of each papule is seen a black speck, produced by dried blood. Papular disease (and I am speaking of papules that are produced by a deposit of lymph in the skin) is chronic; it is accompanied by a tendency to, or actual, thickening of the skin, and more or less itching. It is fibrous or plastic inflammation. Secondary papules are produced as the result of chronic irritation, and they may be either lymph formations or congested follicles.

Large and flat papular elevations occur in prurigo, and are produced by enlargement of the little areas of the skin enclosed by the natural furrows.

Vesicles.—As in the case of the papule, properly so called, we have the upraising of the skin by plastic lymph, so may an elevation result from the effusion of fluid which does not fibrillate, but which raises the skin above it into a minute bladder, and then makes its exit through the cuticle, forming "discharge." The little bladdery elevation so produced is called a vesicle. The fluid comes from the capillary plexus of the skin. Some dermatologists think that a vesicle is a modified papule, but it seems to me that in the two cases there is a marked difference in the general nutrition—the one producing plastic, the other serous material—the one leading to a "dry," the other to a "moist" disease. Vesicles are of small size; they may be isolated (scabies), discrete as it is called, or they may run together, as in eczema, their walls rupturing, and a weeping surface being produced. When the cuticle is thick, the fluid does not escape readily, the vesicle may then enlarge by augmentation of fluid, or by junction with others, and so what are called blebs or bladders are produced; this is common about the fingers. When the fluid does escape, it dries into crusts; the discharge is often excessive; vesiculation may leave behind a dry, red, fissured surface. The essence of vesicular disease, however, is the free outpouring of fluid which is more or less serous, and tends to elevate the skin into

what are called vesicles: it is identical with *catarrhal inflammation* in other parts. The contents of vesicles are hæmatoid, pyoid, granular and mucous corpuscles, plastic lymph, fatty matter, and amœbiform cells. The reaction may be acid, neutral, or alkaline. The fluid is at first transparent, but soon becomes quickly opaque or puriform in those instances where there is a "pyogenic (pus-producing) habit of body" present.

An elevation of the cuticle by fluid may occur in consequence of the non-escape of the sweat when this is over-abundant, and this is the nature of sudamina and miliaria, but in such cases the source of the fluid is obvious.

Blebs, are simply large vesicles; their size is arbitrary, varying from that of a pea to that of a shilling, usually reaching the latter from the former in a few hours: they are seated upon an erythematous base, are generally associated with ill-health, and come on without premonition. In consequence of their rapid formation and the resistance offered by the cuticle, the bleb is tense and full, but absorption soon produces more or less flaccidity, the contents become opaque, sometimes sanious and bloody (rupia), and being discharged dry into crusts of yellowish or blackish hue, but sometimes of a raised conical form (rupia); beneath the crusts the surface is raw, red, and more or less dirty. Sometimes at the bottom of a bleb is found a disc of plastic matter, and the raw surface may take on a morbid action and secrete a thick tenacious fluid and even pus. Bullæ are solitary, or multiple, confluent, or isolated; often periodic in old people. Blebs may be formed by the coalescence of vesicles, as in eczema of the fingers, but these are linear elevations rather than circular cuticular elevations. In erysipelas, blebs are common. About the hands and feet of infants they are sometimes as syphilitic.

The exact manner in which blebs are produced is a matter of doubt. Through the influence of nerves a

sudden dilatation of the vessels may occur, and fluid rapidly escape; and bullæ occur specially in herpes and pemphigus, in the production of which diseases the nervous system is allowed to be greatly concerned.

Pustules are elevations of the upper part of the derma, produced by pus, quickly formed, and coming rapidly to the surface. They are, on the whole, accompanied by more inflammation than are vesicles or papules, and by a deeper affection of the tissues. Now pustules have been divided into primary and secondary. In the former we have hyperæmia, and the direct formation of pus quickly and at once, as in ecthyma; in the latter, the contents of the pustule are rather puriform than purulent. The pustules commence as vesicles, the contents of which are transparent and serous; by-and-by pus is therewith intermingled. This is the case in scabies, and even variola and vaccinia, and in eczema impetiginodes. It is customary to make three kinds of pustules:—(1), psydracious, viz., those which are hard and pointed, which have a slightly red circumference, and are often seated at the hair follicles; (2), phlyzacious, which are large, raised, vivid red, have an indurated base, and are replaced by thick dark scales; and (3), achores, a term applied to the small acuminated pustules that occur in the scalp: these are inflamed sebaceous glands (or boils). Boils, or furunculi, are regarded as pustules; they are accompanied by swelling, heat, tension, and the formation of "a core." This core is thought to be produced by circumscribed sloughing, or by strangulation of the tissues, caused by the swelling, or by a special exudation into the skin. Others affirm by an inflamed and suppurating sebaceous gland, and I refer for further particulars to the description of furunculi, in the body of the work.

Squamæ, or, simply, scales (I don't mean crusts which are the result of the drying of secretions) are of two kinds, epithelial and fatty; the latter occur in affections of the skin, which are described under the

head of "sebaceous diseases;" the former, epithelial, are found under many different conditions. In acute specific diseases, measles, and scarlatina, for instance, the cuticle may, so to speak, die, and then its scales are shed in what is termed "desquamation," or "peeling" of the surface; a scaliness results from the disordered nutrition which follows the application of local irritants, or the growth of vegetable parasites; and in most inflammatory affections, such as eczema, erythema, lichen, the epithelial formation is seriously interfered with, and scales are freely produced. In all these instances the scaliness is *secondary* to and occurs after the real disease has fully shown itself. It is often mixed with more or less exudation. In another class, however, the excessive formation of epithelial scales is the essential and prominent change in the skin; here the scales are primary products.

We may therefore divide scales into *primary* and *secondary*, and into *epithelial* or *fatty*. 1. In the epithelial variety, we have simply altered epithelial cells, produced by augmented formation or hypertrophic growth. They are thin, fine, branny, opalescent; or thick, hard, dry, whitish, more or less opaque, rarely of a dark aspect, collected together in an imbricated manner (lepra vulgaris), with a more or less hypertrophied state of the papillary layer of the derma; or thrown off as soon as produced (pityriasis), or with only slight aggregation, perhaps forming a thin layer. The scales are produced in great abundance and with rapidity, but, histologically speaking, are not so perfectly formed as in the normal condition. In some cases they become granular, even fatty, or invaded by fungi, as in chloasma and ringworms. The over-formation of scales is generally accompanied by itching, slight redness beneath the scales, and in old-standing cases by cracking and fissuring of the diseased part, as in lepra vulgaris, producing a dull white, and compact cracked dry surface. When the scales are fine and branny, and constantly shed,

what is termed *furfuraceous* desquamation is present. Sometimes this scaliness may be associated with general inaction, and more or less atrophy of the skin; and in that case the disease is xeroderma, or dry skin; in an exaggerated degree, where the scales form plates, ichthyosis. 2. In the fatty variety there are epithelial scales, but they are loaded and surrounded by fatty matter from the sebaceous glands. These fatty scales are rather plates that are "stuck" on to the part, and can be more or less dissolved up with ether; they are common in ichthyosis and seborrhœa.

Sometimes large plates form, as in pemphigus foliaceus, for instance; at other times the whole epidermis of the hand or foot may peel off in large masses, like parchment.

Tubercula.—This word, which sounds so like tubercle, is a very bad one. It is, however, so commonly in use that I am bound to define it, and to describe what it includes according to general agreement. Willan meant it to signify any tumour of smallish size, not defined by the word papule. Here is his description: "A hard, small, circumscribed, and permanent tumour, suppurating partially." Hardy defines tubercula somewhat as follows: Little globular tumours, firm or soft, containing no fluid, formed deeply in the substance of the skin, at times disappearing by an insensible absorption, at others ulcerating, with prior softening, accompanied by loss of substance more or less deep and extensive. Tubercula, which might be replaced by the term degenerations, includes elephantiasis, keloid, framboesia, cancer, lupus, epithelioma, rodent ulcer, the four latter commencing as hard nodules on the derma proper, and having as their especial features, the tendency to enlarge, spread, and ulcerate, with decline of the general health. The tubercules formed by degenerations are solitary (cancer) or multiple (framboesia), at first often subcutaneous, the skin being apparently natural but soon becoming irri-

tated, interfered with as to nutrition, hence, swollen, congested, softened, and at length ulcerated, when, in the majority of cases, out sprouts the diseased mass beneath. This occurs in elephantiasis, framboesia, cancer, epithelioma, in lupus, rarely in keloid. The surface then presents a variable aspect; it may be clean, or foul and exuding a dirty fluid (cancer), or scabbed in various degree (lupus). The loss of substance increases either superficially or deeply; one part may heal whilst the other ulcerates, as in the varieties of lupus. The edge may be undermined and everted (cancer), or inverted, thickened, rounded off as in lupus; and there may be more or less infiltration of the textures beyond the boundary-line of the sore (as in cancer), or congestion and œdema (lupus).

Degenerations are chronic in character, often hereditary; but I had better reserve further particulars.

Such, then, are elementary lesions. I have incidentally noticed "secondary changes," but must add one or two additional particulars. (*a*) As regards *desquamation*, this may result from hyperæmia whenever marked. It should be mentioned that in pityriasis rubra and pemphigus foliaceus the squamation is *general*. (*b*) As to crusting, this occurs in all discharging diseases. Crusts vary in appearance with the nature of the secretion, according as this is serous, purulent, or bloody. If serous discharge exists, the crusts are thinnish and brownish; if pus exists, they are thickish, light yellow, and more or less greenish, as in impetigo and eczema. Crusts are dark and adherent in syphilis, and cockle-shaped in rupia. They may be formed solely of fungus as in favus; then they are dry, powdery, friable. Where discharge is slight and purulent, the crusts are adherent, hard, and dark, as in lupus. Where there is hair, crusting is of course favoured, and the hairs help to prevent the falling of scales. (*d*) Cicatrices follow especially ecthyma, variola, herpes zoster, furuncle, anthrax, pustula

maligna, syphilitic acne. (*e*) Distinct ulceration is seen mainly in strumous inflammation, lupus, cancer, syphilis, elephantiasis. Loss of substance without ulceration by interstitial absorption in tubercular syphilis, erythematous lupus, morphœa, atrophia cutis, leprosy, the distension of skin in pregnancy. (*f*) Cysts are formed mostly by the blockage of the follicles and distension of the gland apparatus of the skin, the sebaceous and sweat glands. (*g*) Condensation of tissue which may be newly formed is seen in pityriasis rubra, keloid, morphœa, and scleroderma. Other details will be found (in regard, for instance, to the characters of different ulcers) under the head of Diagnosis and in the descriptions of individual diseases.

CHAPTER III.

ETIOLOGY—CAUSES OF BLOOD, TISSUE, AND NERVE CHANGE—INFLUENCE OF AGE, SEX, FLANNEL, SCRATCHING, ETC.—CONDITIONS WHICH DETERMINE THE LOCAL DEVELOPMENT OF DISEASE—COMPARATIVE FREQUENCY IN KIND OF SKIN DISEASE.

Now in the last chapter the general appearances of diseased changes in the skin were discussed. It is now necessary to indicate more distinctly the causes of these changes.

To comprehend rightly the nature of morbid process in the skin, it is necessary, of course, that the student possess a correct knowledge of the healthy structure and healthy action of the skin. This I suppose him to possess. He must make it the standard of comparison, of course, in all cases. Now in order that nutrition may be healthily carried on in any part, there must be—(1) a proper state of the blood; (2) a proper condition and behaviour of the tissues to be nourished; and (3) a right exercise of the controlling influence exerted by the nerves. And these three must work harmoniously together. Deviations from health may originate consequently from a flaw in any one of the three conditions above named. The theoretical origin, therefore, of diseased changes in the skin may be specially in the blood, as we see in zymotic affections; in the tissues themselves, as seen in the case of warts, cancer, keloid, lepra, &c.; or in the nerves, as in prurigo and pruritus, and, it is thought and now generally taught, herpes. If the exact origin of disease be not as stated, the parts of the system chiefly concerned in the produc-

tion of diseased conditions may be emphatically in one case the blood, in a second the tissues, and in a third the nerves. But of course, inasmuch as the ordinary action of these three agencies is bound up and related in the closest manner in health, in disease the misbehaviour of one affects secondarily the proper action of the other of the three agencies concerned in healthy nutrition. So that all are more or less involved in disease when fully developed.

Now, we are ready enough to ascribe disease to changes in the blood, but we do not sufficiently recognise the influence of perversions in the inherent cell life of the skin structures, nor the controlling supervision of the nerves in the generation of cutaneous disease. If we want an example of disordered tissue-life, we shall find it in cancer; the local tissue changes are not sufficiently explained by any alteration in the blood current, there is no appreciable disorder of it, *that* is secondary to the cell proliferation, which is the essential disease in the early stage. Take keloid again — hypertrophous growth of the fibro-cellular tissue of the skin, is the only thing to be detected; it is apparently primary. These are examples of deviations from the normal cell-life of the skin, at present explained by no blood cause; by nothing save a change *originating* in the tissues.

Dr. A. Biesiadecki* has lately published some interesting observations bearing upon this point. He finds that there exist in the normal lamina mucosa, cells which differ entirely from the proper epithelial cells, and resemble connective-tissue corpuscles.

In pathological conditions these increase in numbers and play an important part. This has been studied by Biesiadecki in condyloma, in eczema, and in pustular diseases.

The commencement of vesiculation, for instance, in

* "Beiträge zur Physiol. und Pathol. Anat. der Haut," Sitzungsberichte der Wiener Akad., vol. lvi. p. 225.

eczema, consists, according to our author, in the migration from the papillary layer towards the surface of numerous spindle-shaped cells, which at first are seen to lie partly in the papillary layer, partly among the deepest layers of the mucous layer (that is, in the Malpighian layer). This migration gives rise to the softening and disintegration of the Malpighian layer and epidermis.

Dr. Biesiadecki gives very excellent drawings of sections of diseased skin in which these changes are shown. I have seen the same amœboid cells in molluscum, and Dr. Sanderson informs me that he has met with them in pemphigus. It may be argued that in all these cases the changes in the tissues are due really to a primary alteration and the existence of certain pabula in the blood; but making due allowance for this, it would still seem as if the tissues themselves originated some morbid processes, or at any rate directed the course of the final result.

So is it in some degree with the nerves. It is probable that the origin of some diseases of the skin may really be in the central nervous system, or in the nerves themselves that run to the affected part, at any rate the nerves are mainly concerned, or they constitute the agency by which the morbid changes in the skin are produced. No one doubts that herpes results from irritation of the nerves related to the seat of eruption. It is true that the nerve disorder which seems to be primary, may result from a blood change, but we know that it may also arise from a local impression, and each day pathology is more fully proving the neurotic origin of certain cutaneous diseases.

Hitherto it has been supposed that the influence locally of the nervous system was mainly concerned in altering the calibre of vessels, (contraction being under the guidance of the sympathetic and active dilatation, the cerebro-spinal nerves,) but recent observations by Eckhard, Pflüger, and Heidenhaim, have

conclusively shown that it does more, especially in the case of glands. Pflüger states that nerve twigs run directly into the cells of the salivary gland, and connect themselves with nuclei; and Heidenhaim, as the result of his researches, believes that nerve irritation, under certain conditions, may induce lively cell formation and metamorphosis. There are then three main ways in which the nervous system may act upon the skin (in addition to altering its sensibility, and through reflex action), first, by inducing changes in the calibre of the vessels, and so influencing the transudation of fluid; secondly, it would seem by encouraging an hyperactivity in the cell-life; and thirdly, where there is general debility there is lessened nervous control over tissue, the reparative process is not so active, and the skin cannot resist so well as it should external influences that tend to injure it, or induce disease.

I have thus far generalized so as to enable the student to comprehend in some degree the general sources and nature of the changes that occur in skin diseases, and to show that in different morbid process, disorder of the blood in one, of the tissue-life in another, and of the nerves in another, are *principally* concerned as causes of mischief.

But it would seem that not only are blood-tissue and nerve collectively and individually involved in the production of pathological results as regards the skin, but also the lymphatic system, which, however, one would imagine, from the little notice taken of it by the physician, is a thing out of place and of no service. My reasons for thinking that changes in the fibro-cellular tissue and disorder of the lymphatics are related, will be stated under the head of hyperrtophies and atrophies, in speaking of keloid, scleroderma, and their allies.

Having thus stated the three main channels through which "causes" work, I may now give a summary of the more generally recognised influences that induce blood, nerve, and tissue change, and I especially enumerate the causes that produce

A. Altered States of the Blood-current. They are—

1. Acute specific diseases (virus action), small-pox, scarlatina, rubeola, &c.
2. The circulation of special poisons, be they animal, ex., syphilitic: medicinal substances, *e.g.*, arsenic, belladonna, copaiba, nitrate of silver (see Erythemata): or dietetic, such as shell-fish, giving rise to urticaria, roseola, erythema.
3. Hereditary diathesis, as in ichthyosis, psoriasis, syphilis, eczema, and lichen, &c.
4. Dietetic errors, as in wine-drinkers, high livers, non-vegetarians, &c., leading to the increase of urea and uric acid in the blood.
5. The tuberculous, scrofulous, and lymphatic habits, giving rise to non-specific eruption—ex., impetigo, acne.
6. The gouty and rheumatic diathesis, as in lichen agrius.
7. Altered and lowered nutrition from such causes as bad living, poverty, misery.
8. The accumulation of excreta in the blood from non-excretion, suppression of natural discharges, &c.
9. Convalescence from severe and lowering diseases, by which the body is less able to resist disease.
10. Climacteric, or endemic influences, often malarial in nature, which act by deteriorating the system generally, and give rise to the framboesia of the West Indies, the sibbens of Scotland, elephantiasis and its allies, the plica of Poland, the pellagra of Lombardy, the bucnemia, or Barbadoes leg, the Aleppo evil, and Delhi boil, the carate of New Granada, and the podelkoma, or Madura foot of India, and the guinea-worm disease of the Gold Coast and other parts.

The above are the main influences that tend to disorder the blood-current, and to induce the diseases whose elementary lesions have been described.

B. There are certain states of mal-nutrition in which disordered tissue life seems to be the most prominent, as lupus, cancer, warts, corns. Local irritants that cause destruction of tissue rank here also, such as burns, scalds, parasites, the occupation of bricklayers, masons, and washerwomen.

C. Influences that play upon the nerves. Sometimes they are morbidly excitable, as in urticaria. All causes of debility tend to perverted innervation, but as a rule local irritants are those agencies that induce nerve disorder, and lead to diseases in the skin. Ex.: Want of cleanliness; alteration of temperature; undue exposure to the sun; the action of ordinary local irritants; occupation, giving rise to special causes of local irritation, as cooks, firemen, &c., who have their faces exposed to great heat. Then chronic visceral disease may be reflected through nervous agency to the skin, and so uterine, gastric, intestinal affections often give rise by "sympathy" to chronic congestion of the face and other cutaneous disorders.

It is remarkable that the two leading dermatologists of the day—Wilson and Hebra—should totally disagree in regard to the comparative influence of the two great groups of causes, general and local. Hebra is the advocate of the local origin of skin diseases, Mr. Wilson of the general as well as the local. I am entirely with Mr. Wilson.

Hebra says, "Much more potent in the generation of diseases of the skin than the internal causes that have their seat in the organism itself, are those agencies which are external to the body, and which affect the skin directly; thus are produced the so-called *idiopathic dermatoses.*" Among the external causes which he enumerates are climate, clothing, occupation, mode of life, atmospheric conditions, unwholesome

handicraft, pressure, friction, contusion, scratching, neglect of cleanliness, too frequent or too energetic washing and bathing, irritants used for medical purposes, such as rubefacients, epispastics, the moxa, &c., and epiphyta, dermatozoa, and epizoa.

Now, in the instances of handicraft, pressure, friction, and cleanliness, Hebra can best establish his point; but who will say that parasitic disease is entirely local? There is a general condition of nutrition which must be present before fungi will flourish. The local cause often produces disease because it acts upon the surface of a debilitated subject. A middle course is the one we must adopt. In the majority of cases there is a predisposed state of system, and the actual disease is evoked by local agencies, and these, as I have said, act frequently through the nerves of the affected parts.

Some of the causes have been called *ephemeral*, such as in the acute specific diseases; some *persistent*, as in lichen, psoriasis, ichthyosis, cancer, lupus, and the like. Some come into action only once in a lifetime. Some are in constant operation, others only at stated periods; so that certain diseases are wont to appear at particular periods of life.

Upon the nature of the cause depends the *contagious* or *non-contagious* quality of any disease. It is generally held that parasitic diseases and the acute specific are contagious. I shall describe a form of impetigo which is contagious. The special influence of age, hereditary transmission, occupation, and heat, will be found in the opening of the chapter on general diagnosis.

Sex has some influence on the cause of disease, for instance, males suffer from sycosis, pemphigus, psoriasis, bucnemia, eczema, and epithelioma; and females from acne, kelis, and lupus especially.

The Influence of Flannel and Scratching.—Oftentimes the simplest and most commonplace agencies, harmless in health, become active in the intensification of diseased conditions. This is the case with

the *wearing of flannel* next the skin. We scarcely need more than a reminder of the fact that some skins are so irritable in health as to be excited to an unbearable degree by the use of flannel, to understand that whenever there is a tendency to exaltation of the sensibility of the skin, it may not only be heightened by the irritation of flannel, but that this may also give rise to decided physical alteration. In a very large number of cases of skin disease pruritus is in this way intensified and the disease even protracted, and in proportion to the degree of uncleanliness. Flannel acts as a mechanical irritant, by augmenting the local heat, and intensifying reflex action. When, therefore, a congestive state of the skin, or any disposition to pruritus exists, the flannel should be taken off from next the skin, and placed, if necessary, outside the linen ;—this will prevent any "catching cold." The diseases in which this is advisable are, chiefly—erythemata, roseola, urticaria, certainly syphilodermata in their early stages, scabies, and prurigo. A remembrance of this little practical point will sometimes give us the greatest cause to be thankful that we attended to it, trifling though it be.

Scratching plays an important part in the modification of skin diseases, most of which are accompanied by itching ; to relieve which, scratching is the natural topical application. What does it do ?

1. When there is no eruption, it may produce one. For example, in pruritus, it gives rise to excoriations, an artificial eczema, general enlargement and turgescence of the follicles of the skin, with, perhaps, abrasion of the cuticle over and above them ; wheals in a nettle-rash subject ; ecthymatous pustules in the ill-conditioned. Of course in all these cases there is a basis to go upon—a tendency to the several diseases produced. Scratch a healthy person, and the local injury is soon remedied.

2. It augments and modifies existing eruptions. See

in eczema how it inflames it, and increases the discharge and subsequent crusting; in lichen, the thickening of the derma. In scabies it gives rise to the peculiar "scratched lines" so characteristic of the disease, and many of the ecthymatous pustules; in prurigo, the peculiar ecchymosed apices of the papules, and helps out the coarse urtication.

3. When the disease is *non-contagious*, secretion, if present, may be transferred from place to place; and if acrid, set up local inflammation; and when *contagious*, scratching is the surest method of inoculation, as in the case of contagious impetigo. Children in this way transplant the disease from the head to various parts of the body. Mothers, beyond a doubt, get the disease about their hands from contact with children.

There are conditions liable to be overlooked, but which determine the local and immediate development of diseases in different parts of the skin. These are not causes in the true sense of the word. I place them here more for reference than anything else. If there be some repetition, it will be excused for the sake of the completeness which will be given to the general survey of the pathology of disease intended to be contained in this section of the work.

DISEASES ARE DETERMINED TO DIFFERENT PARTS, amongst other things, by—

1. The general or local nature of the cause. The whole skin is affected, of course, in acute specific diseases.
2. By physiological changes, in which the opportunity for the occurrence of disease is presented in the non-performance of some proper process. For instance, at puberty the hair formation and gland functions of the skin are called into activity, and any failure in the due formation of hair or the proper performance of the gland function may be a cause of disease, and this is the case in acne.

3. The predilection of parasites for certain structures or parts—for instance, the hair in the case of fungi; the interdigits and wrists on the part of acari, the pubis and the head, in reference to certain varieties of pediculi; the parts kept warm and moist by flannel in the case of the fungus of chloasma.
4. The special exposure of certain parts of the surface to external irritants—for instance, the face to the fire in cooks, or the face and the bared arms to the sun in out-door workers; the bared legs in the case of the attacks of dracunculus disease; the lower lip to pipe-irritation, evoking epithelioma; the neck to the friction of the collar, inducing boils; and various parts to scratching by the fingers.
5. Anatomical peculiarities; such, for instance, as the free circulation in the tissues of the face liable to be influenced by all changes of temperature.
6. A failure in the proper correlation of function between the skin and other organs, as when the kidney fails to act properly and throws greater work on the skin, which fails to perform the extra labour demanded of it, and so becomes disordered. The transmission of mischief by reflexion—for instance, from stomach to face, or uterus to the face, should be mentioned here.
7. The contiguity to mucous surfaces, from whence inflammatory mischief may travel to the skin.
8. Auto-inoculation, as in contagious impetigo.
9. Gravitation, as in the legs.
10. The special affection of individual nerve trunks in connexion with the seat of eruption, as in herpes zoster.

RELATIVE FREQUENCY OF THE DIFFERENT DISEASES.

Mr. Wilson has recently published "An Inquiry into the relative Frequency, the Duration, and Cause of

Diseases of the Skin, as deduced from the Observation of 5000 Consecutive Cases."* This gives a complete view of the matter as affecting the middle and upper but not the lower classes. The diseases occurred as follow:—Of 5000 cases 1677 (33½ per cent.) were eczema, 435 (8·70 per cent.) rosacea (or red rash of the face, especially in women), alphos (psoriasis and lepra) 314 (6·28 per cent.), acne 245 (4·90 per cent.), alopecia 310 (6·20 per cent.), pityriasis 176 (3·52 per cent.), trichosis (ringworm) and scabies 107 and 184 respectively (2·14 and 3·68 per cent.), lichen 177, area 130, and syphilodermata, 162 (3·62, 2·60, 3·42 per cent.). Then follow erythema 110 cases, chloasma 57, furuncle 50 and sycosis 64 each, prurigo 36, lupus (in all its forms taken together) 77, herpes and scrofuloderma 56 and 21, melasma 27, impetigo 58, xeroderma 29, and nævus 9. Then come cancer 25, kelis 14, urticaria 36, ecthyma 16, purpura 2, pemphigus 8, roseola 5, hordeolum 2, morphœa 5, bucnemia 1. Mr. Wilson further groups them together, and forms a clinical classification. Of the whole number 2711 were eczematous (eczema, rosacea, lichen, scabies, and impetigo), 597 affections of the hair and hair follicles, 204 phytodermic (vegetable parasitic), psoriatic 314; then come sebiparous affections (acne, &c.) 284, strumous 98, syphilitic 162, alterations of colour-function 52, erythematous 163, furuncular 72, nervous 71, pemphygoid 64, carcinomatous, 25, &c. We may gain a very fair idea from the above figures of the general occurrence of skin diseases.

* "Journal of Cut. Med.," Jan. 1868.

CHAPTER IV.

CLASSIFICATION.

The object of classification is so to group skin diseases together that the student may be able to obtain at once a general view of cutaneous maladies in their rough outline, and also to compare one disease with others with a view of tracing affinities between them. Much that has been said in the preceding chapter, will help towards a clear conception of what is the best classification; inasmuch as it gave a general idea of the causes and the agencies operating disastrously on the skin.

Skin diseases have been grouped in three chief ways: anatomically, pathologically, and clinically. In regard to the two first, no complete system has been devised, and it is self-evident that the best mode must certainly be that which collects diseases together, and arranges them side by side, in their mutual relationship, as exhibited in practice—in fact, clinically. Plenck and Willan's classifications formed the first step towards a clinical groupage, Alibert made an advance, and Mr. Wilson has still further developed the matter. The system of Willan and Bateman was as follows:—

Order 1. *Papulæ*, including strophulus, lichen, prurigo.
Order 2. *Squamæ*, including lepra, pityriasis, psoriasis, ichthyosis.
Order 3. *Exanthemata*, including rubeola, roseola, scarlatina, purpura, urticaria, erythema.
Order 4. *Bullæ*, including erysipelas, pompholix, pemphigus.
Order 5. *Pustulæ*, including impetigo, variola, porrigo, scabies, ecthyma.

Order 6. *Vesiculæ*, including varicella, rupia, vaccinia, miliaria, herpes.

Order 7. *Tubercula*, including phyma, sycosis, verruca, lupus, elephantiasis, vitiligo, molluscum, acne, framboesia.

Order 8. *Maculæ*, including ephelis, spilus, nævus.

It is now quite conceded that some of the details in this arrangement are erroneous, and that the system requires development in accordance with recent advances in pathology.

I have turned with no little anxiety to the new nomenclature of diseases prepared by the College of Physicians, to see whether any aid could be obtained towards the establishment of a new classification, but find that the *detailed* arrangement of diseases of the skin is altogether old and unsatisfactory. We are told in the preface that, after much consideration, the committee have resolved "That the proposed classification of disease should be based upon anatomical grounds," and in subservience to that conclusion, the diseases of the body are found to be classified according as they are general or local. Now changes in the skin are found in diseases that rank in both these classes, and the diseases in which they occur may be grouped according to the arrangement recommended by the College of Physicians, as follows:—

1. General diseases, such as affect the whole frame rather than any special part of it, divisible into two sections, A and B.

Section A, comprising diseases that "involve a morbid condition of the blood, and which present for the most part, but not all of them, the following characters:—

"They run a definite course, are attended with fever, and frequently with eruptions of the skin, are more or less readily communicable from person to person, and possess the singular and important property of generally

protecting those who suffer them from a second attack. They are apt to occur epidemically."

Under this head are included the acute specific or zymotic diseases,—cholera, plague, dengue, typhus, typhoid, rubeola, scarlatina, yellow fever, small-pox and its allies, cerebro-spinal fever, glanders, farcy, equinia, erysipelas, malignant pustule. In the majority of these diseases, of course, the skin-mischief is of secondary importance.

Section B "comprises, for the most part, disorders which are apt to invade different parts of the same body simultaneously or in succession. These are sometimes spoken of as constitutional diseases, and they often manifest a tendency to transmission by inheritance."

Here we have both rheumatism and gout, syphilis, cancer, lupus, rodent ulcer, true leprosy, scrofula, purpura, scurvy. The definition of the rodent ulcer, as given in the new nomenclature, is this—"a destructive ulcer, characterized by the extent and depth to which it spreads in the adjoining structures, and by the absence of preceding hardness, and of constitutional affection;" but absence of constitutional affection is one of its prominent features: why place it then with constitutional diseases? It may be a question whether Delhi boil, the Aleppo evil, and framboesia, which are probably of kindred nature, and endemic in certain districts, should not be ranked under this head: for it is believed they are due to general causes.

2. The second main division, as contrasting with that of general, is local diseases, and here there is a real step made in regard to the plan suggested for the arrangement of all local diseases. The local diseases, in the College of Physicians' scheme, are regarded as severally falling under one of the following heads:—Inflammatory, *i.e.* catarrhal, ulcerative, suppurative, plastic, *pyæmic*, rheumatic, gouty, (43[1]) *syphilitic*, (49[1]) *scrofulous*, and gonorrhœal inflammation. Gangrene;

passive congestion; hæmorrhage. Dropsy. Fibrinous deposit. Alteration of dimensions, including dilatation, contraction, hypertrophy, atrophy, degeneration, fatty and calcareous. Ossification. Fibroid, lardaceous disease. Waxy disease. (43[1]) *Syphilitic disease.* (44[1]) *Cancer.* (45[1]) *Colloid.* Non-malignant tumour. Cyst. (49[1]) *Scrofula,* (49[a]) a. *with tubercle,* (49[b]) b. *without tubercle.* Parasitic disease. Calculus and concretion. Malformation. (992) *Injury.* (1014) *Foreign body.* Functional diseases. The diseases printed in italics are directed to be returned, in any classification of disease that may be made for statistical purposes, not among the *local diseases,* but under the headings referred to by number; which are, in the case of 31, Section A of general diseases, and the others Section B of general diseases before referred to.

Now this plan is directed to be applied to the grouping and description of the various local diseases of the ear, mouth, nose, circulatory, digestive, respiratory systems, &c., but this has not been done in the case of diseases of the skin: they are indeed the only exception, and that is why I stated at the outset that the *detailed* arrangement of diseases of the skin in the new nomenclature report was old and unsatisfactory. I shall supply the omission as far as possible, making catarrhal: plastic: suppurative: gangrenous inflammations of the skin, &c., in agreement with the College plan, as that is entirely in accord with my views of cutaneous pathology. Now, with the aid of these particulars, and in conformity therewith, let us see what are the diseases in which the skin is specially affected. We have the following diseases to deal with:—

1. Eruptions in acute specific diseases.
2. Skin changes in constitutional diseases: syphilis, struma, cancer, lupus (? local), rodent ulcer (? local), leprous (elephantiasis).
3. Local inflammations, which, according to the views I entertain, would be arranged thus: ery-

thematous or congestive: catarrhal (eczema): plastic (lichen): suppurative or pustular: ulcerative: gangrenous, &c.

4. Hæmorrhages.
5. Degenerations, lardaceous disease.
6. Parasitic.
7. Hypertrophies and atrophies.

But these do not include all. We have besides, bullous and squamous diseases, disorders of the special structures of the skin, (*a*) of pigment formation, (*b*) of the nerve supply, (*c*) of the vessels, (*d*) of the glands of the skin.

Going a step farther, we may construct the following classification which is the clinical scheme of Mr. Wilson, somewhat condensed:—

1. Zymotic diseases (eruptions of acute specific diseases).
2. Local dermal inflammations,—erythematous: catarrhal or eczematous: plastic or lichenous: suppurative or pustular: bullous.
3. Diathetic, including strumous, cancerous, syphilitic, leprous (or true leprosy), and alphous (or lepra vulgaris) diseases.
4. Hypertrophic and atrophic diseases.
5. Hæmorrhagic (purpura).
6. Neurotic or nerve disorder, pruritus, prurigo, &c.
7. Chromatogenous or pigmentary alteration.
8. Parasitic, animal and vegetable.
9. Diseases of the glands and appendages of the skin.

This is the classification which I recommend the student to adopt.

There are those who will miss the group squamous; it has usually included pityriasis, which ranks with epithelial hypertrophy: ichthyosis, which is only a part of general atrophy of the skin: and lepra vulgaris, which is a very special disease, that I have grouped under the term alphous. It is impossible that three such dissimilar diseases can be classed together under the term squamous. (See *Summary*.)

CHAPTER V.

GENERAL DIAGNOSIS, PROGNOSIS AND TREATMENT.

I. GENERAL DIAGNOSIS.

In making a diagnosis we should remember that modifications of disease are brought about by diathesis, by chronicity, by remedies, by scratching, by abortive development, and by the intermingling or coexistence of two or more different diseases. The following are the "points" in diagnosis which we should carefully note in the first instance.

THE MODE OF ONSET.

The majority of cases of diseases of the skin are not preceded or even accompanied by severe constitutional disturbance; if there happen to be much fever and malaise, especially when the patient takes to bed from a sheer feeling of illness, and an eruption begins to show, we suspect something grave, one of the acute specific diseases probably. However, amongst the occasional exceptions, acute lichen, erythema nodosum, secondary syphilis, acute eczema, pityriasis rubra, acute pemphigus, urticaria, herpes zoster, and erysipelas may be named. Secondary syphilis has been mistaken for the mottling of typhus and measles, acute lichen for measles, and herpes zoster for pleurisy, on account of the pain. It is merely necessary to be aware of these mistakes to avoid them. Occasionally in eczema there may be marked pyrexia. When symmetrical, the disease is usually due to a blood-poison; when unsymmetrical, to local causes or perhaps affections of the nervous trunks.

TEMPERAMENT.

We are generally enabled to say at a glance whether our patient is of full habit and likely to have a loaded system: especially the case in women; whether there be organic disease, or if there be a dyspeptic habit, or an ill-fed system, that signifies debility. If *lymphatic*, the patient may have eczema, impetigo, intertrigo, the pustular aspect of scabies and ringworm; if *gouty*, the scaly diseases, chronic eczema, and lichen agrius; if *rheumatic*, erythema nodosum; if *strumous*, eczema, lupus; if *florid*, alphos especially. There is also the *cancerous* cachexia, and in *nervous* subjects various hyperæsthesiæ engrafted upon ordinary eruptions. Red-haired subjects get pityriasis of the scalp.

THE DURATION OF THE DISEASE.

Hereditary diseases are chiefly—lepra, psoriasis, ichthyosis, lichen, eczema, and syphiloderma.

Congenital diseases—syphilodermata, pemphigus, pigmentary, nævus, and ichthyosis (scales).

Chronicity.—The more chronic a disease is the more does it tend to become a local disease; and this is the case with hereditary affections, (hence in these cases *local* treatment is the most important.)

THE RECURRENCE OF THE DISEASE.

Lepra and syphilitic diseases are essentially those which recur.

OCCUPATION OF THE ATTACKED.

Cooks get eczema and erythema, and with bakers, grocers, and bricklayers lichen agrius about the backs of the hands; chimney-sweepers are liable to epithelioma of the scrotum; cotton-workers to urticaria; butchers and graziers to whitlow, boils, and malignant pustule; dragoons and shoemakers to eczema marginatum in the fork of the thighs; young women who come from

the country and have the full diet fare of the London servants, get an overloaded system that shows itself in erythema papulatum, erythema nodosum, or impetigo; butchers frequently get ecthyma.

AGE OF THE PATIENT.

This is very important. During the first six weeks of life congenital syphilis developes itself; intertrigo, eczema of the scalp, and seborrhœa capillitii also occur about the same time. Syphilitic pemphigus occurs, it is said, before the child is six months old, not afterwards; during the first few months and up to and through the period of dentition, strophulus and eczema are met with. I need only mention important facts. Cancer (epithelioma) is a disease of late life—not before thirty; about sixty: and rodent ulcer about the age of sixty and beyond. Lupus is a disease which commences in early and young life, and the same may be said of syphilis. The parasitic diseases occur in the young, rarely after twenty-one years of age. Herpes circinatus (or, as I call it, tinea circinata) is the form seen in adult life. In old people, prurigo, ecthyma cachecticum, pemphigus, and pruritus, with cancer and rodent ulcer, occur.

THE SEAT OF DISEASE.

On the *scalp* we frequently have parasitic diseases, kerion, eczema, impetigo, sebaceous cysts, alopecia, and lepra; *ears*, eczema; *forehead*, lepra and herpes zoster; *near the eye*, chromidrosis, rodent ulcer, xanthelasma or vitiligoidea, molluscum; *face generally*, acne, impetigo contagiosa, erysipelas, lichen, syphilitic eruptions, erythema; *nose*, lupus, acne rosacea; *cheeks*, lupus, malignant pustule, acne rosacea; *upper lip*, impetigo sycosiforme, herpes labialis; *lower lip*, epithelioma; *chin*, sycosis; *whiskers*, acne sycosiforme; *angle of mouth*, congenital syphilis; *chest*, chloasma and keloid; *under clavicle*, sudamina; *about the nipples, in*

women, scabies; *in the side*, shingles; *outer* and *posterior* aspects of *trunk*, prurigo and lichen, as distinguished from eczema on the *inner* and *front* aspects; *elbows* and *knees*, lepra, psoriasis; *interdigits* and *about wrists*, scabies; *back of hands*, lichen and grocers' and bakers' itch; *palm of hands* alone, syphilitic lepra and erythema; *buttocks and feet of children*, scabies; *upper line of penis*, scabies; *scrotum*, eczema, psoriasis, and epithelioma in chimney-sweepers; *front of leg*, erythema nodosum, and in old people, eczema rubrum; *about the anus in children*, congenital syphilis; travelling or developing, and affecting *generally over the body*, pemphigus foliaceus and pityriasis rubra; *in the bend of joints and armpits*, eczema rubrum; and limited to the *hair follicles*, lichen and pityriasis pilaris; and to these and the *sebaceous glands*, lichen scrofulosus and lichen ruber.

It is important to ascertain if the eruption be *persistent* or *evanescent* (urticaria), developed pretty much at once (acute specific diseases, herpes zoster, herpes), or *consecutive*, and particularly if *uniform* or *multiform:* the latter being the character especially of scabies and syphilodermata. It is (rarely) seen in the complication of scabies by impetigo contagiosa; urticaria, and scabies, or purpura; scabies and prurigo, eczema and scabies, eczema and lichen (eczema lichenodes), eczema and psoriasis, oftentimes in the fork of the thighs and about the bend and front of the elbow. This fact of the intermingling of diseases is one of the most important to remember; to forget it is to lay one's self open to one of the commonest sources of error.

We scrutinize closely the character of the eruption to ascertain the *primitive elementary lesion.* This is the clue to the nature of the eruption.

I will now give the

DIAGNOSTIC FEATURES OF ERUPTIONS.

Maculæ (see pp. 10—19).

Erythemata.—There is no need to particularize that

of the acute specific diseases. Mistakes generally occur with roseola, which is confounded with erythema papulatum and rubeola; but it is never accompanied by distinct catarrh; it is rose-coloured at first, gradually getting duller, non-crescentic, occurring in circular patches from half an inch to an inch in diameter; not on the face; it is often very partial. In acute diseases erythema oftentimes occurs about the arms and limbs, as in cholera or rheumatism. Ordinary erythema is of a darker hue than roseola: it has a bluish tinge at its edge, and is not so well defined—*i.e.*, is more diffuse. Erythema may also arise from friction; from tension, as in œdema; from medicinal substances, as henbane, arsenic, belladonna, copaiba; and after operations, when it is often pyæmic. The erythema of erysipelas is accompanied by tension, shining, smarting, and swelling. E. scarlatiniforme presents all the characters, as regards the rash, of scarlatina, but lacks its general throat symptoms and the peculiar appearance of the tongue. The rash is seen about the neck, the flexures of the joints, and the trunk; it lasts five or six days, and is often more or less evanescent. The rosalia of authors—rubeola notha, or rubella—holds the same relation to rubeola that E. scarlatiniforme does to scarlet fever—that is to say, there is an absence of the general symptoms, whilst the eruption is similar. In all these cases of acute febrile erythemata desquamation is observed. In every instance the redness disappears or is removable by pressure, unlike that of purpura or pellagra. In lupus erythematodes an erythema like chilblains is common; it occurs in summer as well as in winter, and is connected with loss of hair, &c. The erythema of urticaria is very easily diagnosed: a slight scratching with the nail will produce a wheal.

Papulæ on the outer aspect of the limbs, with a thickened dull state of skin, constitute lichen; those with slightly dark apices (coagulated blood), occur on the arms and anterior aspect of the trunk, as a

complication of scabies and of strophulus (pruriginosus) in children; to a marked extent seen in prurigo, accompanied mostly by an inelastic state of skin and the "broad" papules formed by an exaggeration of the little areas enclosed by the natural furrows of the skin: intermingled with vesicles and pustules in scabies; soft and red, and with erythema in children, in strophulus; flat and reddish, collected together in little parcels, though discrete, lichen ruber; aggregated and confluent, lichen circumscriptus; formed about the hair follicles, lichen pilaris, pityriasis pilaris, lichen scrofulosus, and the lichen of phthisis. The most common mistake, that of confounding lichen and scabies, is at once avoided by observing the multiform aspect of the latter and the uniform character of the former.

Those eruptions in which vesicles and pustules occur are eminently characterized by the occurrence of discharge; and this at once divides diseases into two great classes: in the one class, where secretion or discharge occurs, *crusts* form; in the other, crusts are entirely absent. Ulcerative diseases are easily recognised. *The character of the secretion* affords most reliable information. If there be serosity, without crusts, it is intertrigo; if thin, few, flimsy, light-coloured crusts form, and the discharge stiffen linen, it is eczema: if the crusts be a little thicker and in little circular patches, herpes or vesicular scabies. *Sero-purulent*, with slight yellow crusts, eczema impetiginodes; or if stuck on and flattened, impetigo contagiosa; *purulent*, forming thick crusts of a yellow colour, becoming more or less dark, ecthyma, furunculus, purulent scabies, impetigo sycosiforme, impetigo scabida, sycosis; and if cockle-shaped, rupia, of course. *Sanious*, rupia and ecthyma cachecticum. *Fatty*, acne sebacea, seborrhœa, sebaceous ichthyosis (legs). *Hæmorrhagic*, hæmidrosis, &c.

We must distinguish scales from crusts: scales are altered epithelial cells. Redness with scales, lasting

on to chronicity, is seen in tinea circinata, erythema circinatum, and herpes iris. Scales, as a primary formation, if partial, in lepra; if general, ichthyosis.

Tubercula.—There are four diseases somewhat alike, in which "tubercula" occur: their characters are as follows:—

Cancer (*epithelioma*) *tubercules.*—Solitary, flat, *hard*, and tender. Scabs slight. When ulceration sets in the glands enlarge. There is much infiltration around the ulcer, which is papillated, dirty-greyish, ichorous, or semi-scabbed, with hard, everted, and undermined edges. Epithelial elements may be seen by the microscope.

Rodent ulcer begins as a small, pale, pretty soft tubercle, of very slow growth, almost painless, giving rise to an ulcer, without glandular enlargement, presenting a clear surface, not papillary, without ichor, but with *hard*, sinuous, non-everted, and non-undermined edges.

Lupus has at its base an erythema that looks like searing; then upon this arise dullish-red, softish, round, gelatinous-looking tubercles, forming patches of various extent. Thin adherent crusts form. There is no pain. The course is indolent. The edges of the patches are inflammatory, rounded, and raised, but not everted. There is always a tendency to repair, and cicatrices form, accompanied by distinct loss of substance.

Syphilis.—Tubercles commence as papules; they become hard, large, and flattish, but not so flat as those of lupus; they are dull-red at first, then coppery, and disposed in circles, or serpiginous, covered by thick dark scales. There is an ulcerating and a non-ulcerating form, the ulceration being often serpiginous and misnamed "lupus." Syphilitic tubercles often occur about the face. The ulceration is dirty, ashy grey, sloughy, and ichorous, the edges sharply cut and everted, surrounded by tubercles of a copper tint.

With regard to parasitic diseases, no serious difficulty ought to arise if a microscope is at hand. Nevertheless, favus and impetigo are confounded with lepra, eczema, and tinea tonsurans, notwithstanding the cupped-crust favi of the former and the dry nibbled patches of the latter, in which the epithelial cells and hairs are freely invaded by the fungus, when this is easily detected. Chloasma, with its itching and desquamation, is very frequently indeed mistaken for syphilitic maculæ. Sycosis is often non-parasitic; in this case, the damaged split-up hairs will be absent, whilst the disease travels up into the whiskers.

I hope that this section is so arranged as to constitute a general diagnostic chart.

II. THE PROGNOSIS.

Skin diseases are rarely fatal. When they occur as secondary manifestations implanted upon already existing disease, especially those of long-standing and in debilitated subjects, they are to be regarded according to their extent and nature as indications for grave anxiety. However, pemphigus neonatorum, ecthyma cachecticum, rupia, pemphigus foliaceus, are most likely to be followed by fatal results. Malignant diseases, of course, have a fatal issue. The sudden retrocession of cutaneous eruption is generally considered a most prolific cause of serious consequences; there can be no question that the latter frequently follow the former, but the *modus operandi* of the supposed cause is uncertain.

Hereditary tendencies, especially when exhibited in a congenital manner, render the cure exceedingly difficult; in some cases, for example ichthyosis, impossible. The older the patient is before hereditary predisposition shows itself, the more likely is he to get well. The presence of the scrofulous or syphilitic habit, malhygiene of all kinds, frequent recurrence, co-existent

disorder of the mucous surfaces, such as ophthalmia, otitis, muco-enteritis, local degenerations of tissue (as in acne rosacea), the fact of a disease having become very chronic, symmetrical arrangement of the eruption, intemperate habits, dyspepsia, uterine disorders (such as leucorrhœa), dentition, old age, or very young age, all conduce to protract and render the cure difficult.

As a general rule, a prognosis is required, not as regards fatality or danger, but the difficulty of cure, and particularly the likelihood of recurrence. Lepra, psoriasis, ichthyosis, erysipelas, eczema, urticaria, and lichen, are the most likely to recur.

All parasitic diseases are curable, and this depends upon the facility with which the parasite can be attacked and destroyed. In cases of loss of hair, a cure is said to be impossible if the hair has been lost pretty suddenly; and generally, if there happens no subsequent attempt at reformation, the scalp at the same time being white, shining, tense, lowered in sensibility, and apparently with atrophied and indistinct follicles. In all cases of skin disease the earlier the patient comes under treatment the more likely is he to get rid of the cutaneous eruption; in other words, the most important point as regards speedy cure is early treatment, before the disease has had time to become localized.

III. THERAPEUTICS.

Bearing in mind what has been said, and especially having regard to the classification I have adopted, it is easy to see that the same *principles* of treatment which are applicable to diseases of the body generally, must be adopted in reference to affections of the skin. The basis of most cutaneous eruptions is *inflammation*—that must be treated upon ordinary principles—we must not forget that, in the early states of eruptive disease, local irritation plays a very prominent part.

One of our chief aims should be to check and prevent

this, adopting as much as possible a soothing plan of treatment. This does not appear to be the generally received opinion; nay, the empiricism of modern time has an exactly opposite tendency, and it is decidedly true that many treat skin diseases by attempting to overwhelm by medicinal action the natural progress of the disease. In a *therapeutical* point of view, skin diseases divide themselves into two classes—those which are purely local, and those which are general. Among the local, practically speaking, are parasitical, papillary, nævoid, hypertrophies of normal structures, such as molluscum, keloid, horns; certain pigmentary changes; chilblains, burns, scalds, &c. Among the general are blood diseases of acute and specific character, which require mere conduction through their natural stages; others are due to various degrees of debility, demanding general tonic or alterative action, or the employment of specific remedies. In all cases special attention must be directed to the influence of diathesis; the gouty, the scrofulous, the rheumatic, the sanguineous, the syphilitic, the dartrous, &c., call for their appropriate remedies irrespective of the kind of local eruption; or, to put it in another way, the general treatment varies in the same disease according to the general aspect of the patient; all deviations from the standard of health must be rectified before or in conjunction with the employment of *special* medicines. In a large number of cases, disorders of the general health which appear to have little connexion with the mischief, are the exciting or determining causes. In reference to local treatment in the *general* diseases, the idea is to soothe the part at the outset, in the secretory stage, to use alkaline washes and slight astringents; in the quiescent or early chronic stage, mild stimulants, absorbents, and finally revulsives; taking care in all cases to remove crusts, scales, and such-like by poulticing, warm foments, or greasy applications. In the very young the health of the nurse

requires attention, and it is often advisable to make the milk of the nurse the medium of medicinal action. The use of irritants is to be specially avoided in the young, whose skin is delicate. In all wet diseases (the secretory) the local remedies should be used in a liquid form; in the dry, in the form of ointment; the formation of thick crusts does not seem to be favourable to the use of ointments.

The free action of the kidneys must be carefully enforced. It is one of the most important points in treatment. In chronic diseases, dyspepsia is often present. In the secretory aspects, purgatives do good. Antiphlogistic remedies are bloodletting, emollients—*e. g.*, the tepid bath, mucilaginous and acidulated drinks, but especially the acetates of ammonia and potash. When we wish to preserve the eruption from being injured for fear of ulceration, as in zona, pemphigus, and rupia, we employ mucilaginous fluids—*e. g.*, oatmeal gruel; or even absorbent powders—*e. g.*, lycopodium. Local maceration, by glycerine especially, is useful in hard, dry, cracked states—*e. g.*, psoriasis palmaris. Irritation, if general, is allayed by tepid sponging, gelatinous and alkaline baths. Baths are useful for purposes of cleanliness, also as antiphlogistics, as soothing agencies, and as a means of employing various medicines. The anti-scrofulous remedies are cod-liver oil, iodides of iron and potassium internally, and iodide ointments, iodine baths, and the like externally. The anti-herpetic, as they are called, are typified by sulphur. The nervine tonics are quinine, alkalies, aconite and strychnine, alkaline baths. The anti-syphilitic are bichloride of mercury and iodide of potassium internally, and mercurial ointments externally. The gouty remedies are colchicum and alkalies, &c. The sanguineous, antimonials, &c. The anti-squamous remedies are arsenic internally and tar externally. I fear to add further detail on account of repetition.

CHAPTER VI.

THE ERUPTIONS OF ACUTE SPECIFIC DISEASES (ZYMOTIC)—WHICH ARE OF CONTAGIOUS NATURE, OF DEFINITE COURSE AND DURATION, ACCOMPANIED BY FEVER, THE RESULT OF POISONING OF THE BLOOD BY SPECIAL VIRUSES—ONE OF THE EFFECTS BEING THE DEVELOPMENT OF CERTAIN ERUPTIONS ON THE SKIN.

These need not be dwelt upon at any length, at the same time it is necessary to give a short summary of the eruptions themselves, for diagnostic purposes.

VARIOLA, OR SMALL-POX.

The skin affection is characterized by the appearance of bright red hard acuminated points, distinct from each other at first, the size of hemp seeds, which, passing through the stages of vesicular and pustular inflammation, arrive at their maturity on the eighth day of eruption, when they scab into a dry brown mass, which becomes detached in from twelve to twenty days, leaving behind permanent cicatrices or "pits." Small-pox is often preceded, as regards its local state, by more or less erythema, which subsides on the appearance of the vari. Small-pox is said to be *discrete*, when the pustules are scattered; *coherent*, when the eruption is plentiful, and the *vari* are "closely packed side by side but still distinct;" *confluent*, when they run together; *modified*, if succeeding to a prior attack or inoculation. The disease is also primary or secondary, as regards the number of attacks. Variola sine variolis is the name given to the febrile attacks which are unattended by

eruption. The mucous surfaces are affected in like manner to the skin. Small-pox is, by universal consent, divided into five stages,—incubation, the length of time which elapses between exposure to the poison of the disease, and the development of the first effects, (5—20 days—Dr. Marson, of the Small-pox Hospital, says 12): invasion (2 days): eruption: suppuration: and desiccation.

The "Period of Eruption."—Eruption makes its appearance on the third day after the first appearance of constitutional disturbance, and travels over the entire body within a day, when the febrile condition is greatly relieved. The spots show first on the face about the forehead, and thence extend to trunk and limbs. These spots are, in the very outset, small papules, red, hard, pointed, more or less closely packed or scattered, affording a good guide as to whether the disease will be confluent or not; if the skin be very red and erythematous, probably the case will assume the confluent form. On the second day of eruption—fourth of disease—the papules get transformed into vesicles; but if these be punctured, nothing escapes; on the third day of eruption—fifth of disease—umbilication commences as a central depression, which becomes more marked every day, *pari passu* with suppuration; the pustules are "whitish and surrounded by an inflamed areola" (fourth day of eruption—sixth of disease): if the contents of the pustule are now turned out, a little "disc" of dirty plastic matter, presenting an umbilicated shape, and attached to the cutis beneath, will be noticed. In the confluent form these changes are not distinctly seen. It is not at all unusual to observe the confluent in one, the discrete form in another part of the same subject. The onset of *Maturation* is observed about the end of the fifth or beginning of the sixth day of eruption, eighth of disease. The contents of the umbilicated vesicle soften down into pus, the umbilication diminishes with en-

largement of the base of the pustule, and a yellow colour replaces the white; the contents are the same plastic disc and pus. Maturation, as it is called, is "complete on the eighth day of eruption," tenth of disease; between the eighth and eleventh day, tenth or thirteenth of disease, *secondary fever* sets in, when the stage of *Desiccation* is reached. This is the period of recovery or resolution, when the local and general symptoms subside, the scabbing dries, and the discharge ceases, the crusts fall off in the next three or four days (fifteenth day of disease), exposing raw red surfaces, which desquamate, and by-and-by leave behind red looking marks, which gradually fade and assume the well-known aspect of small-pox marks. When small-pox is produced by inoculation there are some differences. On the third day the puncture is inflamed, it is itchy, and surrounded by a little blush of redness, the spot too is slightly indurated; on the fourth or fifth day the central point acuminates, and a little coming vesicle is seen; on the sixth day there is an early state of pustule, and it is umbilicated; seventh day, a pustule (inflamed) is formed with an inflamed areola; ninth to tenth day, maturation takes place, umbilication goes; twelve to fifteen days, desiccation takes place; twenty to twenty-five days, the scab falls off. The disease is rarely confluent.

MODIFIED VARIOLA.

The effect of vaccination is to lessen the severity of variola, and the disease occurring in vaccinated subjects is called modified small-pox.

There are differences of opinion as to whether there is any relation between it and varicella. The distinction of varicella (vesicular), modified small-pox (varioloid, as it has been termed), and variola is well marked in the extreme degrees of either disease, but they shade the one into the other by insensible stages.

At times one meets with cases which may be called either variola or varioloid,—indeed it is not uncommon to observe the vesicular in conjunction with the umbilicated form; at other times the eruption is simply papular and scarcely reaches the vesicular stage, yet is traceable to the action of the small-pox poison. Varicella has been regarded as small-pox modified by vaccination, but there is good reason to look upon it as a distinct disease.

In modified variola, as compared with true variola, the secondary fever is absent: the only stages present are those of primary fever and eruption. As a rule the pyrexial symptoms partake of the character of those of variola, but are of less severity. The eruption may be papular; it observes the same behaviour as that of variola in the outset, only it is abortive at the papular stage, and in a few days the papulæ subside; there are a few vesicular and pustular spots generally about the face. At other times the vesicular stage is reached, and lasts five or six days, and, as in the papular variety, there are a few pustular spots on the face. In more marked instances, the modified variola is pustular, and the pustules may be globular (the varicella globularis of Willan, and swine pox of old authors) or umbilicated, or the characters of these two varieties may be intermingled with conical vesicles. In other words, modified small-pox may abort in any of the stages which are passed through by ordinary variola.

VARICELLA.

This is a disease of children. After pyrexia of a few hours, or not more than twenty-four, the eruption of varicella appears, often on the back first of all, as distinct red papulæ, which become vesicular in a few hours: the eruption is successive during three or four days. The same kind of changes in the eruption occur as in variola, but the disease is more superficial

and the vesicle is unilocular, it is not umbilicated; the contents are serous. On the first day the vesicles are transparent, opalescent on the second and third day, on the fourth they shrink and desiccate, and on the sixth the scabs fall off. Sometimes the contents of the vesicles become puriform. The general symptoms are slight.

It is diagnosed from the vesicular variety of modified variola, by less severity in the antecedent pyrexia, the absence of the "shotty" feel of the eruption in its papular stage, the rapid formation of the vesicles, the absence of much inflammatory local hardness, the successive crops of eruption, its commencement on parts other than the face, the absence of pitting, the superficial character and the shortness of the course of the disease, and the absence of secondary fever. The disease is over in a week or so.

INOCULATED VACCINA, OR VACCINATION.

On the third day after vaccination there is seen a slight red point if a puncture, or a red edge if a scratch, has been made; the part is also elevated. On the fourth day these signs have augmented; the *papular stage* is attained; there is local irritation; the edges of the wound are everted, thickened, inflamed, hot, with a commencing blush of redness around. The disease may subside at this stage; usually on the fifth day the epidermis is raised into a vesicle, which is decided on the sixth day, when it is of a whitish colour, round or roundish, and with commencing umbilication. It attains its full size on the eighth day (fifth of eruption), it is distended, flattened, whitish, and surrounded by a red areola, and more or less induration; the parts around now become irritated, tense, brawny; the glands enlarge; the blush of inflammation extends oftentimes to the shoulder, or down the arm itself. On the ninth day the umbilication is lost,

and the pox is getting pustular. If the vesicle is punctured, around the edge especially, a transparent fluid exudes. On the eleventh day, the blush of inflammation begins to subside; the contents are pustular, and the stage of desiccation commences. Up to this period, the vaccine vesicle is chambered, so to speak, into separate cells; these now open the one into the other, and form one large pustule; the desiccation advances from the centre in the next few days (12th, 13th, 14th) towards the circumference; the crust dries also, so that a dark, hard, dry, shrivelled scab remains; the redness has in great measure gone, but there is a lividity about the vesicle; the crust separates from the seventeenth to the twenty-fifth day, leaving behind cicatrices, at first of dark colour, which are permanent. Mr. Wilson, who is so excessively clear and definite in all his descriptions touching variola, recapitulates thus in regard to the stages of the disease.

First two or three days, *incubation;* 4th, *papular;* 5th to 8th, *vesicular* (umbilication); 8th day, *areola;* 9th to 11th, *pustular*, umbilication lost, areola enlarged; 15th to 17th, period of *separation.*

TYPHUS RASH.

This consists of two component parts:—

1. A subcutaneous mottling, of a more or less livid hue, and diffused generally over the body.

2. Petechiæ, small, about the size of pins' heads, scattered all over the body, and showing out from the mottling; at first these are slightly raised, and their colour increases gradually in intensity; they do not fade by pressure, except slightly, in the very early stages. The eruption of typhus is not prolonged by successive crops. It makes its appearance between the fifth and eighth day of disease, and disappears a few days before convalescence.

TYPHOID RASH

Is characterized by the appearance between the eighth and twelfth day of disease of rose-coloured, elevated, circular, softish spots, about a line or so in diameter, on the abdomen, back of hand, arms, chest, and back (if kept warm). They disappear by pressure, appear in successive crops, each spot lasting three or four days, and then gradually fading. There may be from half a dozen to a score at one and the same time present. Sudamina often co-exist.

RUBEOLA (MEASLES), OR MORBILLI.

About the fourth day after taking ill with catarrhal symptoms the eruption appears, first on the face, especially the forehead, then on the chest and limbs; it reaches its height in the former situation in about two days, when it begins to fade. These changes are a little later on the other parts of the body. The eruption lasts altogether about four or five days, and leaves behind sometimes little, at other times a marked amount of desquamation, perhaps a good deal of mottling or red staining, especially if the circulation has been inactive. The rash has peculiar features; it is of a dullish red colour, and forms *little crescentic* or *semilunar* patches of variable size, affected by the pressure of the finger, and separated by natural skin. The colour also may be livid if the blood state is bad. The crescentic form is supposed to be due to the peculiarity in the distribution of the cutaneous filaments of the nerves. The whole mucous surfaces are also affected, as may be seen in the palate, &c.

Diagnosis.—The characteristic points are the crescentic form, with intervals of normal skin; dull red colour of eruption, which appears on the third or fourth day; the presence of catarrh of the mucous surfaces, especially in the form of *coryza*.

In *Scarlatina* the colour is bright red, and the rash is uniform, not crescentic; it appears also on the second day; the skin is very pungent and dry; there is sore throat, the tongue is raw at the tip, or slightly furred, with red points peeping through to the surface: there is no coryza.

In *Roseola* the patches are scattered, circular in form, not made up of crescentic portions, with intermediate healthy skin; the colour is bright, and there is an entire absence of general symptoms, and coryza, &c.

SCARLATINA.

On the second day of illness the rash appears on the neck and face, and is made up of small red dots, which crowd together, forming patches of various sizes and extent; after a while the whole surface becomes of an uniform hue; on the third day, the eruption is seen on the body generally, the upper extremities, and the mucous surfaces visible to the eye; on the fourth day, the lower limbs are scarlet, the surface is hot, dry, and harsh; the eruption, which may be called a general efflorescence of boiled lobster colour, is most marked on the third to the fourth day, and it is generally more intense in colour towards evening, especially in the loins and flexures of joints. On the trunk it is often "patchy." It fades on the fifth day—first on the face, desquamation setting in about the eighth or ninth day.

The diagnosis between scarlatina and rubeola is the only one that requires notice.

In scarlatina the rash appears on the second day, in measles on the fourth, after the first onset of symptoms. In scarlatina, the rash is bright red (boiled-lobster colour); it is not crescentic, and it is uniform or not patchy, with intervals of normal integument. In rubeola, the rash is dull red, in little crescentic patches, with intermediate lines of healthy skin. The skin in scarlatina is very dry, harsh, and pungent. In measles this is not so marked, nor is the subsequent desquama-

tion so distinct and characteristic. In measles the changes in the mucous membranes are accompanied by secretion; we have coryza, suffusion of conjunctivæ—in scarlatina, the mucous surfaces are red, dry, ulcerated; there is also sore throat of marked kind,—this is absent in rubeola. The aspect of the tongue is characteristic in scarlatina, and the pulse is very rapid and irritable.

ERYSIPELAS.

Erysipelas belongs to the domain of the general physician, and to skin pathology only to a slight extent, in so far as the evidences of the blood and tissue alteration produced by its special poison are shown to the naked eye. It is an acute diffused inflammation, ushered in by constitutional symptoms, and exhibiting itself locally by the presence of heat, tension, smarting or burning, over a surface disposed to vesicate; with a tendency to spread rapidly in extent, with more or less implication of the subcutaneous cellular tissue and the formation of abscess or gangrene of the latter. The constitutional symptoms are, a general feeling of illness, depression, rigors especially, with alternate heats, thirst, quick pulse, loss of appetite, sometimes wandering or delirium, nausea, with pain at the pit of the stomach, and a white furred tongue, febrile urine, &c. It is usual to make two types of erysipelas. One in which the inflammatory action is sthenic, in which the general symptoms are not grave, and in which the structures, though perhaps extensively, are not very deeply implicated; this is E. simplex. The other, in which the general state is grave, the structures are deeply (and extensively) affected; abscess, sloughing and gangrene, are frequent; the virus is of active quality and the blood state bad. This is E. phlegmonodes. The two divisional forms are merely degrees of one and the same state, chiefly influenced by two things—the quality of the virus and the state of the patient's health.

A.—E. Simplex.—In this form of disease, the inflammatory action has its seat in the derma, and, perhaps, more or less of the cellular tissue beneath. The general symptoms are those before described. The local symptoms follow quickly or in two or three days, and commence as a burning or smarting sensation, followed by a feeling of tension; the surface then looks puffy, dry, and slightly glazed, shining, the edges of the patch look raised, the part is tender and hot. In two or three days, during which time the redness and swelling have increased, blebs may form, of various sizes and shapes; these burst and dry into scabs; in five, six, or seven days convalescence sets in, the local changes abate in severity, and a yellow stain is left behind, with more or less peeling off of the cuticle. Several sub-varieties have been described, according to seat, aspect, and character of course. Thus we have,—(*a*) E. erraticum, E. metastaticum; (*b*) E. miliare, E. phlyctenodes, E. œdematodes; (*c*) E. faciei, E. capitis, &c. &c.

Local Varieties.—The most usual situation is the *face* (of course I am speaking of idiopathic erysipelas); it generally shows itself at the side of the nose, often at its root, quickly spreading, with great swelling of the parts, favoured by the large amount of lax cellular tissue—*e. g.*, about the eyes, lips, cheeks, and ears. The disease may extend to the mucous surfaces. The constitutional symptoms are often marked by depression, delirium, restlessness, headache, &c. Erysipelas of the *scalp* is usually traumatic; it may be slight or very extensive, the whole scalp may be undermined, puffy, and infiltrated by pus generally, or in the form of local abscess, the cellular tissue of the scalp sloughs, and the bone gets denuded and exposed; and serious brain symptoms are often developed.

Erysipelas of the *breast* is common in lying-in hospitals, especially in women who are out of health, from, it is said, over-distension of the milk-ducts: this is probably only a predisponent. The breast looks red;

it is tender, hot, and swollen; then feels brawny, pits on pressure, gives a good deal of pain, is accompanied by depression of the vital powers, and terminates mostly in abscess and sloughing of the cellular tissue; the glands in the axillæ often participate in the disease. Erysipelas of the vulva often attacks the vulvæ of lying-in women, especially primiparæ. In children, erysipelas, commencing at the *umbilicus*, is often seen; in hospitals particularly it leads to abscess and sloughing, and often death. When the *scrotum* is attacked, the swelling is sometimes enormous; this is produced by the rapid pouring out of serum into the interstices of the cellular tissue. Some call it "acute inflammatory œdema," or, when it runs on quickly to the formation of pus, "acute purulent œdema." Erysipelas of the lower limbs is a form which betokens a bad state of general health, and demands active stimulant and tonic treatment.

Erysipelas has been observed to disappear from one, and make its appearance suddenly in two or more places in succession, or to "wander" over a large extent of surface; in such instances it has been styled *erraticum*. The disease is not very deep, but very obstinate of cure; and often seasonal, or periodic. The face is its selective seat.

E. metastaticum speaks for itself. The mischief falls upon some internal organ, coincident with the disappearance of the external blush. It is probable, however, that the gravity of the symptoms in such a case is due to the extension of the erysipelas by direct continuity.

E. miliare and *E. phlyctenodes* are degrees of one and the same aspect; in the former, the blebs are small, in the latter large. Generally speaking, erysipelas presents bullæ at the early period of its course; they mostly give exit to a transparent fluid, and scabs form. In other instances, the disease is peculiar in its great amount of swelling, due rather to a difference in the

seat of the mischief; for while the evidences of the implication of the skin are marked but slightly, the cellular tissue is noticed to be much more affected than in ordinary cases. The skin at the seat of disease pits easily on pressure (is œdematous), and preserves the impress made for a considerable time. This is the *E. œdematodes* of authors, and is met with especially on the lower limbs of debilitated persons; it is also seen on the penis and scrotum.

B.—E. Phlegmonodes is, so to speak, the inflammatory form. The general symptoms of invasion are severe, fever runs high, rigors are severe, delirium is not rare, typhoid symptoms often set in, and the patient is in considerable danger, or death may ensue. The characteristic of the local disease is the great rarity of the occurrence of resolution. The part attacked is painful, hot, tender, swollen, very red; in a day or two it becomes softish, rigors and throbbing pain announce the occurrence of suppuration, which may be very extensive; the cellular tissue, the fasciæ, the intermuscular septa all partake in the diseased action; the blush has gone, or nearly so, but the swelling has increased. The contained pus is mostly mixed with blood and portions of cellular tissue. In this variety, a change takes place for better or for worse about the fifth or sixth day. In some cases, where the virus is of bad quality, or the patient's health is markedly bad, the sloughing and destruction of the cellular tissue may be extensive and marked: this is the *E. gangrænosum*. The constitutional symptoms are markedly severe, the inflamed part becomes dark coloured, blebs appear, filled with bloody fluid, the general aspect of the limb is ecchymotic, and it feels tense at first, then boggy, puffy, and at length gives way; dirty matter exudes, the structures slough, the fasciæ and cellular tissue mortify, and the patient sinks, or recovers with great difficulty, the local mischief taxing all the powers to their utmost for the process of repair.

Causes.—Various causes have been assigned to erysipelas; all we know is this, that it is due to a special poison, which attacks those whose resistant power is weakened either by mental or bodily ailment. It attacks women more than men in the proportion of about 7 to 4; though it is less fatal in the former, in women, too, the disease is mostly idiopathic. The death-rate of 260 cases, given by Mr. Bird, was 7·5 per cent. The average duration of cases is from ten to twelve days. It occurs mostly in spring and autumn; it is especially liable to occur in spirit-drinkers; those resident in hospitals; all cases of wound. There does not appear to be any connexion between the occurrence of erysipelas and derangement of menstruation. It has its maximum degree of frequency about the age of twenty, gradually decreasing till that of thirty-five (Aubree). Cold and moisture together are regarded as favouring its occurrence; and, on the whole, traumatic is more fatal than idiopathic erysipelas. It appears that Bright's disease especially favours the occurrence of erysipelas if any traumatic injury be received.

Diagnosis.—Erysipelas can scarcely be confounded with any disease, with the exception of erythema; but the general symptoms, the tense, shining, smarting blush, and the implication of the cellular tissue, are not observed in erythema.

The Prognosis.—The case is grave if the general symptoms indicate high fever, with subsequent prostration; if the patient be old; if it occur on the lower limbs; if it be seated at the scalp; if there be diffuse abscess with depression; if the surface assume a livid aspect, and present phlyctenæ; if there be much vomiting and delirium; if it be phlegmonous variety, and phlebitis ensue, and if it be metastatic or erratic.

Treatment.—In treating erysipelas, we must always look ahead, and calculate, to the best of our ability, the probable amount of depression that will be produced by the virus action and the formation of abscess, and the

amount of demand that will be made by the reparative process. And we can often do this. If rigors are severe, if there be high fever, and if the local symptoms are equally marked, then not only will the present excitation produce a marked subsequent diminution of vital power, but abscess and destruction of tissue will probably be more or less extensive. Then if the patient be out of health, if he be surrounded by bad hygiene, and especially if he be of good or advanced age, we must husband all the power he possesses. The pyrexia is treated upon ordinary principles; only ammonia should enter into the composition of our saline mixtures. A brisk purge is required at the outset.

Now should the disease be severe, we should be on the *qui vive* for the first symptom of failing power, and treat the disease as tending to produce acutely a typhoid condition. Common sense is our guide in regard to diet, wine, and medicine. Where the disease is less severe, sulphate of magnesia and quinine, or, what is better, tincture of steel, in large and frequently repeated doses, is the remedy I employ: ℥xx—℥xxx—℥j, every hour. Locally, we exclude cold, apply heat, and keep the part covered up. In the early stage, practise inunction of lard subsequently to painting the part with a solution of nitrate of silver in spirit of nitric ether; or if there be much pain, apply warm lead, belladonna, or poppy fomentations. In all cases early excision in suppuration, and for the relief of tension, is essential.

DENGUE, OR DANDY FEVER.

In East Indies, Calcutta, and West Indies, a disease called Dengue exists. About the third day the skin gets turgid, and an efflorescence, beginning at the palms of the hands, gradually spreads over the entire body; it is not unlike in some cases measles or scarlatina, of a blotchy aspect. The rash may be raised, and feel rough. There is often tingling, that may increase to

most intolerable itching; in some cases distinct local swellings may be present. The rash begins to fade on the second and disappears on the third day, being followed by some desquamation. One case is recorded in which an old man "peeled off" in scales, like pieces of parchment, leaving the skin behind quite red: in some cases subcutaneous abscesses form. Hence there is erythematous redness invading the whole body, beginning at the hands, accompanied by swelling, and followed by desquamation like scarlet fever.

Dr. Furlonge described the disease as like measles, with papules and wheals, as a cross between rubeola and urticaria.* Dr. Mellis described it as a roseola or lichen simplex. Dr. Mouat as erythema papulatum, or purpura simplex, but disappearing on pressure, and in other cases as like roseola or lichen tropicus.

RUBELLA, RUBEOLA NOTHA, BASTARD MEASLES, ANOMALOUS EXANTHEM.

There is a form of eruption which resembles measles, but differs in several particulars, and about which much dispute exists. It was described by Dr. Babington under the term Rubeola notha, it is thought by others to be a Roseola. In some instances it seems to have a bright red punctated aspect, or is not unlike scarlatina. This is probably Hardy's erythema scarlatiniforme; Dr. Richardson has called it rosalia. It is common in Egypt, I know; it is reported as having occurred at Malta, India, &c. After more or less pyrexia, a dusky red papular rash appears. It is never crescentic, but is uniformly distributed. The redness, the hue of which may vary, is most intense during the first day, when the rash is seen on the face, arms, legs, body, in succession; there may be slight desquamation. There are no catarrhal symptoms, though the fauces are reddened. The patient very quickly

* "Ed. Med. and Surg. Journ.," p. 52, 1830.

recovers, there is no dropsy or renal disease following in its wake. It is not contagious, and it often occurs in those who have already had measles. In one sense it is a satisfactory disease—it requires no treatment. It is difficult sometimes to say to which the eruption is most allied in aspect, rubeola or scarlatina, but in either and all cases there is an entire absence of the general features of these diseases. It is scarcely bright enough in colour for a roseola, though it might very well be regarded as a roseola of dark colour.

I append a note on

FRAMBŒSIA.

Frambœsia, called also mycosis, pian, or yaws, occurs in America, Guinea, the West Indies. Opinions differ as to its nature, and I do not know where exactly to place it. It is said to be an exanthem. The disease commences with general debility, languor, and pains simulating rheumatism; then about various parts of the body, especially the face, axillæ and genitals, arms, and rarely the scalp: little red spots appear—generally more or less grouped—they have been described as resembling flea-bites, which quickly become papular: or rather at certain spots little reddish elevations appear, which in the course of a few days become quasi-pustular, give exit to a little ichor, and then become covered over by dry and adherent scales. The skin around is dry and harsh. The disease now makes progress towards the formation of distinct tubercular elevations, and in two or three months the exact resemblance to a mulberry is produced: there is no pain, and successive crops of tubercles occur from time to time; so that the disease covers over a surface of variable extent. The little tubercular projections are united together at their base, and are free at the apex, and one of them becomes considerably more developed than the rest, so as to form a distinct projection like a nipple: this is called mama, or mother-yaw; it pre-

sently ulcerates, and then appears as a foul ulcer, giving exit to an offensive ichor. Various attempts at repair take place, as evidenced by the many cicatrices present. The disease may last for years: it is said to be inoculable by means of the ichorous discharge; it often gets well, but may exhaust the patient. It occurs but once in a lifetime, attacks young people by preference, and seems to be produced by social and hygienic mal-conditions identical with those of leprosy. It attacks black more than white people: it has no relation to syphilis.

EQUINIA, OR GLANDERS.

Whilst the sheets were passing through the press, I discovered that no account had been given of glanders. I have therefore made a separate note of this disease at the end of the work.

CHAPTER VII.

ERYTHEMATOUS DISEASES.

The diseases which rank under this head are exceedingly simple and well defined. They are three: erythema, roseola, and urticaria. Willan placed these with the acute specific diseases, under the term exanthemata, but though pyrexial, and the result, as regards the eruption, of a disturbance of the normal state of blood, yet they do not run so definite a course; they do not depend upon so specific a cause in each case, and they are not contagious, hence they form a separate group. They are characterized mainly by the occurrence of active hyperæmia of the longitudinal plexus of the skin (erythema), and its immediate consequences—nothing more. In other diseases hyperæmia is present, but then it is the insignificant element in the morbid processes; the squamation, the exudation of serosity, the formation of crusts, the hypertrophy of the papillæ, the morbid cell-growth, all indicate peculiar alterations in the behaviour of the tissues, which cannot be explained by the presence or as consequences of hyperæmia. In erythematous diseases the redness is rosy (roseola), or bright red (erythema and urticaria): in the latter "wheals" are present. The erythema is removable by pressure. Unlike the more common eruptive diseases of the skin, the erythemata exhibit the closest connexion between local and constitutional phenomena. Febrile symptoms antecede and are relieved by the development of the erythema, showing that the local skin-changes are secondary, and only parts of a general disturbance, which is primary. These remarks apply generally to

the three erythematous diseases, but there are one or two rednesses produced by local irritation which it is customary to include under the term erythema. In many of these cases there is a predisposition to hyperæmia in consequence of digestive disorder. Erythema of course occurs as part of many diseases. I refer now to those forms which constitute independent diseases.

I. ERYTHEMA.

This disease is a superficial inflammation of the skin, occurring in slightly raised patches, diffused or circumscribed, of varying size, rarely exceeding, however, three or four inches, and generally much less. The redness disappears at once by the pressure of the finger, but returns instantly on its removal; it is accompanied by slight swelling, simulating papulation or slight tuberculation from exudation: heat: and itching: and ends in furfuraceous desquamation with slight staining. The general symptoms are slight: *i.e.* mild fever, headache, quick pulse; they may be nil.

The varieties of this erythema eruption may be divided into two groups: A, local or idiopathic; and B, symptomatic. In the former the disease is merely hyperæmia, without much, if any, appreciable effusion into the cutis and cellular tissue; in the other there is more or less escape of serosity from the vessels, and hence prominence of eruption. Hence the two groups have been designated respectively after Hebra, *erythema hyperæmicum* and *erythema exsudativum*.

Group I.—Idiopathic, local, or hyperæmic: includes *erythema simplex*, *E. intertrigo*, *E. læve*. Erythema simplex is produced by the irritation of external agencies, friction, stings, heat, the contact of acrid fluids, plasters, medicinal inunctions, and stimulating applications of all kinds. There is redness, diminished or dissipated by pressure, returning on the removal of the finger, with no sensible swelling, but a sense of heat, and variation

in colour according to the activity of the general circulation. When produced by external injury, it is said to be *traumatic*. The slightest forms of burns would rank under this term. Chilblains, or pernio, is another form of erythema caused by cold. Erythema *intertrigo*, or simply intertrigo, is the name given to the redness which is produced by the friction of two folds of delicate skin, especially in fat persons and children: this is seen in the groin, axilla, neck; sometimes the irritation set up causes the exudation of a fluid, partly perspiration, whose acridity increases the local mischief, and presently an offensive raw surface is produced, giving out a muciform or puriform fluid (the erythema purifluens of Devergie). The same disease is seen about the prepuce and the vulva. Intertrigo is particularly seen in lymphatic subjects. It simulates eczema; but the origin is evidently from the friction of two surfaces; the secretion is not that of eczema—it is thin, muciform, stains but does not stiffen linen. Hardy correctly describes the disease produced by the inunction of mercurial ointment, as a vesiculo-pustular erythema; in which, upon red patches, little vesicles (or puriform vesicles) appear, quickly rupture, desiccate, leaving behind an erythema, whose surface desquamates: the disease subsides in a week or ten days. It differs from eczema, in its acute course, and the character of its secretion, which is clear, not viscid, and does not stiffen linen, as in eczema.

E. læve, is the name given to a blush of erythema, of greater or less extent, which is seen over œdematous parts, especially on the front of the legs in dropsy. The skin may slough and become gangrenous at the seat of the blush. The redness which precedes the formation of bed sores, receives the name of *erythema paratrimma*. It is caused by the pressure of constant lying when the system has lost much of its tone, as in fevers and other lowering diseases. Hoblyn, in his dictionary, says paratrimma is a "species of erythema

or cutaneous inflammation, produced by friction in riding or walking."

There are certain local forms of passive erythema produced by mechanical obstruction to the passage of the blood through the veins, by tumours, ligatures, gravitation, inaction of the heart, varicose veins, and the like. In these cases the colour of the redness is bluish, or dark; the erythema is removed by pressure, but tardily returns, and the part is often sensibly cold and swollen.

Group II., or Symptomatic.—Under this head rank those hyperæmias which are the consequence of a more or less general pyrexial state. In all of them there is malaise, headache, and quick pulse, pains about the joints, and disordered bowels, a day or two before the eruption appears, which assumes different forms, and Hebra has included all these under the one term erythema multiforme. In England we specify *E. papulatum*, *tuberculatum*, *nodosum*, *fugax*, *marginatum*, and *circinatum*. The first three of these are stages, the one of the other, and during their course the redness assumes a bluish tint, and fades away insensibly into the surrounding skin. In *E. papulatum*, small red spots varying in size from a pin's head to a split pea, appear; at first they are not raised, but presently become papular, of more vivid colour, pale on pressure, and die away in a few days with slight desquamation. These spots may be aggregated or separated, and are seen especially on the back of the hand, the arm, neck, and breast. The disease lasts about three weeks, and seems to be associated with rheumatic symptoms. It occurs mainly in young people. *E. tuberculatum* is the same disease, in which the erythema becomes somewhat tuberculated. It is seen in servants who make a change of residence from country to town. *E. nodosum* is a more marked stage of the last noticed; the spots are larger—as large as a nut or walnut, even attaining a diameter of two or three inches, the long diameter being in a majority of cases parallel to that of the limb, oval

they are generally seated on the anterior aspect of the leg, rarely on the arm, or above the knee. The swelling is raised, slightly hard, painful, and evidently accompanied by tumefaction of the cellular tissue; the redness, at first vivid, but not so defined or limited as in E. papulatum, presently becomes purplish at the circumference and paler in the central part, dying away like an ecchymosis. The patch also softens and often simulates fluctuation, but it is said *never suppurates*. Chorea and rheumatism are associates. It is uncommon after the age of twenty, and appears to be connected in some way with adolescence. It is generally accompanied by pyrexia and rheumatic pains. Dr. Durkee, under the head of E. tuberculatum et œdematosum, has described a disease consisting of little tubercular elevations, vesicating at their apices, then flattening, the skin meanwhile showing a "shrivelled or collapsed condition of cuticle." The E. excentricum of Biett is lupus erythematodes.

The swellings in these varieties of erythema are due to effusion of simple serosity into the corium and cellular tissue of the skin. *E. fugax* is simply patchy-redness, which quickly disappears, and is capricious in its character. This variety of erythema is noticed in persons of irritable habit, in those who are suffering from any digestive or assimilative derangement (especially in females)—*e.g.*, from dyspepsia, muco-enteritis, uterine, hepatic, or renal disease of sub-acute character. The erythematous patch is red, but tender, fading, and desquamating, and accompanied by more or less pyrexia.

Should the blush be circular with an unaffected centre, it is called E. circinatum; and if it have a well-defined circumference, E. marginatum. I should imagine that these two latter were often the erythematous stages of parasitic disease, tinea circinata, and especially in hot seasons, of chloasma. Hardy describes an erythema scarlatiniforme that has been referred to under the head of rubella or anomalous exanthem.

Acute diseases, especially at the time of convalescence, often exhibit a slight access of febrile disturbance, and after a little itching and local heat, red patches appear about the limbs, thighs, the buttocks, the neck, and face. They vary in size from that of a pea to that of the palm of the hand. They are vivid red, last a few days, and then fade with desquamation. This is frequently an accompaniment of thrush. Hyoscyamus, belladonna, and copaiba give rise to erythemata, noticed under the head of medicinal rashes, and lastly, after surgical operations red rashes occur: these are generally roseolous, they may be erysipelatous or indicative of pyæmia.

Erythema Gangrœnosum.—In persons who are reduced by debilitating disease, patches of dull erythema may occur here and there, and instead of the reparative process being properly carried on, the part may slough and become gangrenous. This one readily understands. In many cases patches of purpura are the starting points of the gangrene. Mr. Wilson records a case in which calcareous solidification of the arteries was found after death. The affection has been named erythema gangrænosum. In Guy's Hospital there are models of it. Dr. Morley Rooke, in 1864, described a case in which he believed it occurred. But I think it is different in aspect from true gangrenous erythema; the case is worth mentioning. The patient was a lady, unmarried, good looking, and hysterical, of general good health, with vivacious manners, and aged thirty-nine. After an attack of feverishness and hysteria, she began to betray very capricious tastes and tempers towards everybody with whom she had to associate. On the fourth day a small red patch appeared below the left mamma, in the sulcus between it and the ribs, 1½ inch by 1 inch in size. The patch was not elevated, but there was some pricking sensation in it. For two or three days things remained *in statu quo*, then suddenly a good deal of redness overspread a large part of the mamma,

and in the course of the following day, a white patch the size of a shilling, flat, smooth, painless, was observed in the centre of the blush, and in the next twenty-six hours this had enlarged to the size of half an orange, the cuticle having become loosened at one part, and the skin beneath as white as, and about the colour and appearance of, a smooth layer of firm wax or tallow, (being insensible and dead.) No bullæ nor vesication occurred. Patches next appeared in symmetrical order over different parts of the body for four months: after a time irritation of the kidneys and bladder set in, &c. Now this form of disease was wholly different from true gangrene of the skin. There was, in the first place, an entire absence of any general enfeebling condition sufficient to account in any degree for the occurrence locally of gangrene—nay, the patient was stout, well nourished, and of good health. The erythema, at its first occurrence, was an active one, it was of good colour, the reparative process was active. The co-existence of gangrene due to a general lowering of vitality, and of activity in the local circulation with rapid repair, involve a manifest contradiction the one of the other. On this ground alone I deny that the affection was produced naturally. Then, on the other hand, suppression, not merely retention, of urine appeared in three weeks, together with cystitis, severe vomiting, &c.—symptoms at once referrible to the absorption of cantharides, and its action upon the urinary organs: hence the bloody urine. In addition, the patches of disease sometimes only reddened, and did not slough. Then the rapid destruction of tissue, the general symptoms bearing no sort of relation to (wholly unaccounting for) such kind of destruction; the evident attempt to conceal the early erythematous stage of disease; the healthy healing of the sore; the non-assumption by the bed-sore of the characters of ulcers elsewhere (supposing the blood to be under the influence of a special poison);

the period of repose assumed by the disease, its long course, the moist aspect of the slough (being quite different from that produced by blood-poisoning, and exactly that produced by local applications) and the marked hysteria of the patient; all point to an artificially-produced disease, and so I feel sure it was. When erythema is followed by gangrene, there must be a sufficient lowering of vitality to account for local death, which is immediately induced by purpuræ, by embolism, or by obstructed arteries (calcareous or otherwise).

ACRODYNIA.

[Under this name is described an epidemic form of erythema which occurred in Paris in 1828–9. The disease was only the manifestation of some general blood state. The general symptoms were pains, malaise, anorexia, febrile movement, vomiting, diarrhœa, swelling of the face, and injection of the eyes, with the development locally, especially about the hands and feet (the palmar and plantar aspects), of vivid red patches of erythema, extending sometimes to the arms and legs; the colour presently changed to a very dark ecchymotic hue, and extended, more or less generally, over the body, neck, and face. The epidermis peeled off in flakes; furuncles, papules, pustules, and bullæ sometimes forming; a discharge took place and dried into thick crusts; a good deal of pain and swelling accompanied these changes, with a certain degree of numbness of the limbs. The symptoms varied somewhat in different cases. Generally the disease became chronic, lasting several weeks or months; and frequently recurred. It appeared to be favoured by a bad state of the general health, and Chomel thought it was caused by eating diseased grain. In pellagra a similar dark erythema is brought out by the action of the sun. I have seen also on several occasions a species of erythema which is not described in books that I am

aware of. It occurs especially about the back and sides of the hands and fingers in those out of health. The skin becomes red, in little circular spots, from which the epidermis peels off by a centrifugal death as it were, leaving behind a red dry surface, marked by circular ridges of what appear to be normal papillæ. The places are many, the disease is chronic and requires no treatment. It looks simply like the death of the epidermis, beneath which is seen the reddened derma marked by circular ridges of prominent papillæ. It is not erythema circinatum; it is more like a superficial acrodynia.]

Prognosis of erythema. Erythema when it becomes chronic is a source of great discomfort; in the more marked forms the disease lasts two or three weeks. In E. læve and E. paratrimma, the prognosis is that of the general malady present.

Diagnosis.—Erythema is known by its *superficial character;* the redness disappearing by pressure; by the peculiar change in the colour of the circumference of the patch from bright red to purple, the absence of marked itching, heat or tension, or burning, its general circumscription, little tendency to spread, patchiness, but slight elevation. *Erysipelas* differs in the shiny, hot, burning, tense, blushy swelling, the rigors at the onset, the tendency to spread, and the implication of the cellular tissue, the deep (non-rosy) hue. *Urticaria* is known from erythema by the peculiar stinging sensation; the presence of wheals, which go and come in a wondrously capricious and sudden manner; by the irritability of the skin, easily detected with the nail or slight friction. *Roseola* is something like E. papulatum, but the general symptoms are especially pyrexial in the former, rheumatic rather in the latter; the eruption of roseola is rosy or pink and of a defined character, often punctate: erythema is generally a partial, not a general affection like roseola; the latter often assumes the aspect of measles (false measles). E. marginatum

and circinatum are said to be distinguished (especially the latter) from herpes circinatus by the presence of vesicles in the latter, in which the erythema is very transient, and furfuraceous desquamation subsequent to actual or abortive formation of vesicles, very distinct, but the diagnosis can only be settled by the microscope. E. læve and E. fugax speak for themselves, the former being associated with dropsy. E. papulatum may resemble *lichen urticatus;* but in the latter the papules entirely put into the background the slight erythema; the papules are large and often pruriginous; the skin is irritable, with a sense of heat and stinging; and a tendency to the formation of wheals is apparent. The skin generally is dry and harsh. E. papulatum assumes a bluish tint after a few days; it is seen on the back of the hands, arms, and neck especially,—not on the body so much as lichen urticatus, and it is not truly papular *ab origine.* E. tuberculatum and E. nodosum can scarcely be mistaken; the oval, tense, red, subsequently softish feel, pale centre, and livid circumference, are absolutely distinctive of the latter. *Erythema* is, of course, a dry disease, and, except in the form of intertrigo, does not resemble eczema; but the latter is essentially a vesicular disease, and its secretion is viscid, stiffens linen, dries into distinct yellow crusts. Intertrigo is observed to be produced by the friction of folds of skin in fat subjects, and possesses no crusts, and only thin muciform discharge.

Treatment.—In the local erythemata we must first remove all irritants, pay especial attention to cleanliness, and merely apply soothing agencies—*e.g.*, to prevent dryness or friction, &c., zinc ointment, or glycerine and rose-water: liniment. aquæ calcis; fine starch, or lycopodium powders; avoid poultices, and give aperients internally. In intertrigo we adopt the same plan of treatment in mild cases. Sometimes it becomes a troublesome disease, with sour acrid discharge inducing even excoriation; this generally de-

pends upon some internal derangement, whose type is muco-enteritis. In these cases, alteratives with chlorate of potash, in the first instance internally, are of service, particular attention being paid to diet; such food as corn-flour, maizena, and the like, must be forbidden, and proper nutritive substitutes (Hard's food) employed in conjunction with a suitable quantity of milk. Then locally, zinc ointment, starch powder, bismuth lotion, weak zinc lotions, the calamine lotion, given in the formulary, and lastly, if chronic, weak solution of nitrate of silver may be used; syrup of iodide of iron and cod-liver oil are also called for.

In the erythemata dependent upon general causes we have to remember the effect of ingesta; that a gouty or rheumatic habit, disordered menstrual function, dentition, delicacy of skin, or lymphatic temperament, are present in greater or less degree. We are careful to give an unstimulating diet, to forbid spirits, wine, and beer, to clear out the bowels, and in the early stage to adopt a saline régime, and tepid sponging with emollient baths. Tonics are generally demanded; if there be any distinct rheumatic symptoms, we must increase the renal secretions, get the liver to act by aperients, and then give colchicum (in acute cases) and iodide or bromide of potassium with bark. In E. nodosum, aloes and iron in combination are very useful in the fat, bloated, full-coloured but flabby and stunted lymphatic subjects, that are often affected. Locally, the use of an alkaline lotion is all that is needed.

In all cases, if there appear to be an overloaded yet anæmiated state of system, we may combine (saline) aperients with preparations of iron; and any neuralgic tendency is met with quinine.

Bed-sores are best treated by attempting to "harden" the skin in the early state by spirit applications, removing pressure as much as possible, in latter stages by pads, cushions, and water-beds; and using charcoal poultices or soap plaster spread on soft leather to the

sores. For chilblains, equal parts of turpentine and tincture of aconite or belladonna, and soap liniment, together with tonic treatment, iron, quinine, and cod-liver oil, is the best treatment.

II. ROSEOLA.

It is important to know this disease, not so much because it gives rise to any anxiety or trouble, as that it is likely to be confounded with measles and scarlet fever. The disease is characterized by its being non-contagious, more or less febrile, and giving rise to the development of a rash, not much raised above the level of the surrounding part, and of *rose* colour. The eruption is patchy, and its colour deepens somewhat as the disease advances. It is accompanied by slight itching and sensation of heat. It is not preceded by any marked signs or symptoms of catarrh, but only slight redness of the mucous surfaces of the palate and fauces.

Roseola is divisible into two groups: *Idiopathic*—R. infantilis, æstiva, autumnalis, annulata, punctata. *Symptomatic*—R. variolosa, vaccinia, miliaris, rheumatica, arthrica, cholerica, febris continuæ. We see, therefore, that roseola is wont to occur as an accidental phenomenon in the course of acute diseases, where it is called symptomatic; in other cases, it is the sole and primary disease.

Idiopathic Group.—Roseola infantilis is seen in infants, and resembles measles; it runs an irregular course as regards precursory symptoms (which vary in degree), and in the extent, degree, and seat of eruption. Now, it is pretty general but patchy, now, limited to the arm, or the neck, or trunk; the rose-blushes often come and go for several days capriciously, and are accompanied by local heat and itching, which are often marked at night. The catarrhal symptoms of measles are absent. The patches are about half an inch or so

in diameter. The redness generally lasts a dozen or more hours. *R. æstiva* appears, as its name signifies, in the summer-time: after slight pyrexia and much local itching, the rose-rash appears on the face, neck, arms, travelling thence over the body; the mucous surfaces are affected, and the disease may put on the aspect of scarlet fever; the rash is unattended by desquamation on disappearance (about the third or fourth day), but leaves a darkish stain. Sometimes the rash is very uncertain and irregular in occurrence, and then the disease is prolonged in duration. It may be partial only, but always has the roseate hue. The very same eruption occurs in the autumn, generally in children, on the arms and legs, in the form of circular blushes, about half an inch in diameter, but of a dark hue. This is the *R. autumnalis*. When the disease assumes the form of rings (and this is generally observed about the buttocks, thighs, and abdomen), developed from little rose spots, and enclosing presently a healthy circl of skin, an inch or so in diameter, the variety R. annulata is present. The concomitant symptoms are the same as those of the R. æstiva. Mr. Wilson describes a variety under the term R. punctata, in consequence of the punctated aspect of the rash. It appears to be pretty general, with slight fever and catarrhal symptoms.

The Symptomatic Group contains species which are merely rosy erythemata developed in the course of acute diseases, generally appearing about the arms, breast, and face, thence spreading over the body. *R. vaccinia* co-exists with the formation of the vaccine vesicle, and is accompanied by slight fever. It commences around and about the seat of the vaccination. In cases of fevers, about the tenth day or so, and indeed whenever the weather is hot or perspiration free, a number of minute scattered vesicles are likely to be developed about the clavicles, chest, and neck; this is miliaria. It is often accompanied by a rosy

blush, to which the name *R. miliaris* has been given. It is the *R. febrilis* of authors. Some further remarks in reference to miliaria will be found under the head of diseases of the perspiratory glands. So in acute rheumatism and gout, the rose rash has been termed *R. rheumatica.*

Roseola cholerica (Rayer). The changes which the cutaneous circulation undergoes in cholera, predispose, as might naturally be expected, to the occurrence of eruption, especially during the stage of reaction, which varies very considerably in different instances. The eruption may be a roseola (Rayer, Babington, and Romberg), and is then seen about the hands, arms, neck, breast, abdomen, and limbs; in other instances, the so-called exanthem of cholera is a "pustular redness," or miliaria, or herpes zoster, or E. tuberosum, or presents the aspect of urticaria. It is more frequent in males than females.

After surgical operations a rash like scarlet fever very frequently occurs; its colour varies somewhat; it is not contagious, and it wants the general symptoms, the throat complication, hot skin, quick pulse, and tongue of scarlet fever. It is due, no doubt, to some volatile poison free in the blood. It has no gravity.

Little is known as to the cause of roseola. The varieties above-named have little right to the distinctive appellations. The causes, according to some, are legion—heat, cold, ingesta, irritation of delicate skin, gout, change of season, acidity, &c.

The Prognosis offers no point of gravity or interest.

The Diagnosis.—Roseola is likely to be confounded with rubeola, scarlatina, urticaria, erythema. In reference to it as contrasted with rubeola and erythema, Devergie makes some excellent remarks. He says the roseolous eruption always occupies a surface of the body more or less extensive, commencing frequently about the breast or abdomen, or upper limbs; and generally the surface is studded with many little con-

fluent rose spots, between which the healthy skin is visible: the spots are largest about the breast, smallest on the limbs; oftentimes, the surface is dotted over with rose spots. From *rubeola* especially it is known by the absence of catarrhal symptoms, coryza, &c.; the want of relation between the febrile symptoms and the amount of eruption; the absence of epidemic influence; the irregular character of the eruption: it is not crescentic, not uniform, not dark; but irregular, rosy, and often commencing about the breast or arms instead of the face: by the circular shape, irregular course, and frequent limitation to one locality.

In *erythema*, the shapes of the patches, giving rise to E papulatum, E. marginatum, and E. nodosum, are peculiar; the colour is not rosy; the blush at the edge becomes purplish; the red blushes are less numerous, more diffuse; the general symptoms are rheumatic, and less acute.

In *scarlatina*, the aspect of the disease is graver; the fever is marked, the throat is bad, the tongue is peculiar; the skin harsh, dry; the rash general, punctiform, boiled-lobster like. The progress is more uniform, and it can be traced to contagious or epidemic influence.

In *urticaria*, the diagnosis is at once settled by the discovery or production of a wheal, and the peculiar stinging character of the local irritation, with the capricious character of the eruption.

The *Treatment* consists in that which is merely tentative: so far as general measures are concerned, in giving salines, aperients, laxatives, &c., and treating any special symptoms. Locally, in removing all causes of irritation—*e.g.*, irritated and tender gums, by lancing; acidity of stomach, by magnesia, soda, or lime-water; intestinal irritation, by "alteratives," such as grey powder, rhubarb, and subsequent tonics, keeping up the warmth of the surface, and, if possible, bringing on perspiration. The surface should not be chilled. My

general plan is to give salines with ammonia, a mild aperient, and then quinine.

ROSALIA.

Now under this term has of late years been described a form of epidemic roseola, which sometimes assumes the aspect of measles, but mostly of scarlatina Under the head of rubella, "anomalous exanthem," erythema scarlatiniforme, I have referred to this disease; and I think it as well to give here a general *résumé* of the matter. Well then, in certain cases, after slight febrile symptoms, a rash developes pretty generally over the body; it sometimes looks like measles, but is too fully developed perhaps in the limbs, too little in the face, and there are no catarrhal symptoms present; at other times it is exactly like scarlet fever, save in regard to general pyrexia and throat symptoms. It does not give rise to desquamation or kidney disease. According to the aspect, therefore, of the rash and its colour, has the disease received appellations that ally it to measles on the one hand and scarlet fever on the other; hence the terms rubella, rubeola notha, rosalia, anomalous exanthem, erythema scarlatiniforme. Its cause we do not know. The treatment is rest in bed for a day or so, warmth and light food. The most important point is to be aware of its existence, that we may not confound it with true measles and scarlatina.

III. URTICARIA OR NETTLE-RASH.

This is a febrile and non-contagious disease, in which are produced here and there on the skin reddened elevations similar to those that follow the sting of a nettle (urtica). The symptoms are general and local therefore. When the disease is well marked there is more or less fever, quick pulse, dry skin, headache, malaise, mostly pain at the pit of the stomach, and often

irritation of the mucous membrane of the intestinal tract, whilst on the skin appear what are termed wheals or pomphi: these are accompanied by tingling and burning; they suddenly come, and almost as suddenly go, without leaving any stain behind or desquamation. The eruption may attack a small part of the body, or the wheals may spring up quickly in succession over a much larger area. Wheals may be thus described: at first a bright flush appears, the centre of this becomes slightly elevated, and pales, hence appears of lighter colour; the tint may be rosy, but more generally it is whitish. These wheals vary in size and shape; they may be linear, bandlike, irregular in outline, or oval; the white centre, which feels hard and raised, may be small, and the red halo large, or a large red patch may whiten at two or three points in its area. In all cases the accompanying sensation is a hot, tingling, burning one. Wheals are evoked readily by scratching. The skin generally is remarkably sensitive, and the application of any irritant is followed by the production of redness or even wheals; so that it is possible by using the nail of the finger to write one's name or to draw figures on the skin, and these are marked out by red lines or wheals produced at the seat of the scratchings. Much discussion has arisen as to the nature of wheals. Some affirm that they are produced by spasm of the muscular fibres of the skin; others by effusion of serosity. It is most likely that both these conditions exist in wheals. Certain is it that there is slight effusion, and the approximation of two scratches in the artificial production of wheals, and their distancing on the application of chloroform or cold, seem to indicate that there is some muscular element in the case. It is probable that the vaso-motor nerves are irritated, the vascular channels are altered in consequence, effusion takes place, and, in addition, there is spasm of the muscular fibres of the derma. The occurrence of effusion is well seen when urticaria attacks the face, the

breast, or the scrotum, for here much subcutaneous œdema is produced. This disease attacks all ages; it is most frequent in spring and early summer, and it may be intermittent or periodic.

Urticaria divides itself into *acute* and *chronic.*

Acute includes—	Chronic includes—
U. febrilis.	U. evanida.
U. ab ingestis.	U. perstans.
U. conferta.	U. subcutanea.
	U. tuberosa.

In the *acute* varieties there is more or less fever, well-marked symptoms of stomach derangement, such as nausea, white and dry tongue, thirst, quick pulse, headache, and general malaise. I have noticed in most cases the hue of the face to be bright, as though there was a faint rosy suffusion. The itchiness and stinging accompanying the eruption of wheals (which are scattered) are well-marked, especially at night, and altogether the disease puts on an active aspect. The skin is irritable, and wheals arise easily from irritation. This, the typical form of the disease, is called *U. febrilis.* When the wheals are more closely packed together—coalescing (conferted)—the variety *U. conferta* is present. These two varieties, which are really different phases of the same thing, last seven, eight, or ten days or more, and in the conferted there is perhaps more swelling of the skin than in the simple variety. *Urticaria ab ingestis,* as the name implies, follows the taking of special articles of food, and it may assume a very acute and severe form. It is sudden in its appearance, but quickly subsides. In the worst forms the patient seems poisoned, there is high fever, vomiting, headache, quick pulse, delirium, the mucous surfaces being hot, irritable, tingling, the conjunctivæ implicated; presently the face rapidly swells, so that the countenance is completely masked; the ears, nose, eyes, and lips are swollen, hot, tingling; the mucous membrane

of the larynx is evidently affected; the swelling speedily subsides and travels to the body and trunk, and this very rapidly. It is accompanied by intolerable itching, and the formation of wheals is attended with alleviation of the general symptoms. Desquamation to a slight extent succeeds. The substances that generally act as excitants are shell fish (especially mussels), pork, prawns, lobsters, oysters; but eggs, fruit, rice, raspberries, strawberries, mushrooms, cucumbers, coffee, &c., and the generally harmless articles of diet, in certain subjects, induce it; and so may valerian, copaiba, &c.

The *chronic* forms may result from the acute, or develop out of a state of tolerable health, and without apparent cause. There is little pyrexia present. When the crops of wheals are of pretty long continuance, the disease is called *perstans*. In other cases the wheals are small and very fugitive; but the skin is irritable and the itching intense. This is *U. evanida*. The name factitious urticaria has been given to that form of the disease which is easily produced by mechanical irritation, and is not idiopathic.

In persons broken in health, especially by intemperance, the urticated patches are raised, in consequence of the implication of the subcutaneous cellular tissue, in patches about the size of a nut or walnut; they show themselves on the limbs, and possess the especial feature of urticaria—viz., quick appearance and disappearance, or intermittence: it is called *U. tuberosa*. In some cases there is swelling and apparent œdema of the cellular tissue—now here, now there; but the wheals are more or less scarce and occasional. The redness, the heat, the tingling, and swelling exist, but it is only the accidental appearance of the wheal that discloses the true nature of this variety, called *U. subcutanea* (Willan) or *œdematosa* (Hardy). Even here capriciousness is marked; the œdema goes quickly.

In some cases, in elderly people, who are apparently in good health, urticaria may assume the characters of

evanida, perstans and tuberosa together. I have seen several of these cases; the only likely cause appeared to be disordered digestion, with flatulence, pain after food, &c. In these cases the tongue was suddenly swollen so as to almost fill the mouth, the eye was closed, the face puffed out on one side, the scrotum and penis become enormously œdematous, and tuberose patches of urticaria showed themselves about the arms or the legs. Such a case was lately under my care. It seemed to me that bottled beer was the exciting cause. I could not prevail upon my patient to forego it. These chronic forms in some cases are truly periodic.

Pathology.—The following case, related by Dr. Heusinger, of Marburg, may well illustrate the pathology of urticaria. In a boy aged sixteen, "when lines were traced on the skin, the course of the lines, in the space of half a minute, reddened; and upon this reddened base there quickly rose up white ridges or wheals, so that in two or three minutes the lines of the writing stood up in strong relief, as exact in figure as if they were cut in marble by the most able sculptor. At the end of thirty or forty minutes the writing subsided and vanished completely, without leaving behind a trace of its presence. When the red lines appeared they were accompanied with an elevation of temperature sensible to the young man himself, and amounting to 1½ or 2½ degrees of Centigrade, and when pricked with a fine needle, the wheals gave forth a minute drop of serum, as do the wheals of urticaria; but however much or frequently the experiment was repeated, the body felt no inconvenience. In explanation of the phenomenon, it is obvious that the stimulus applied to the nerves of sensation was reflected upon the skin in the form of redness, heat, and swelling."*

In urticaria it is supposed that the wheals are due to the presence of fluid in a circumscribed space, this

* The case is recorded in Virchow's "Archiv für Pathologische Anatomie und Physiologie und für Klinische Medicin," June, 1867.

œdema being due to the escape of fluid from a "cluster of capillary loops springing from a common stem, and under the influence of a common nervous twig."

Now what is the sequence and nature here of the phenomena? A morbidly sensitive skin; irritation applied: spasmus of the muscular fibres of the skin, and also of the capillaries, with subsequent dilatation. Hence hyperæmia, or redness, escape of serosity elevating the central part more than the outside of the lines, the whole constituting what is termed a "wheal." *The tissues are passive*, it is an altered state of circulation following nerve disorders; the altered condition of the nerves of the skin is the basis of urticaria, and the disordered sensation, burning, tingling, &c., preceding eruption, indicate as much. Granted this, it is easy to see that wheals may be evoked in many ways, (1) by local irritants, (2) by the circulation of acrid or effete products in the blood, which, coming to the surface, become oxidized and more active, and (3) by reflex irritation. Under the first head, or local excitants, rank the acarus, fleas, bugs, mosquitoes, lice, flannel, the contact of numerous other irritants, such as "jelly-fish." Under the second head must be placed those changes in the blood induced by gout, rheumatism, or disordered digestion, the circulation of medicinal substances, such as valerian, copaiba; and under the third, pulmonary, gastric, uterine, renal disorders, mental anxiety, and emotions of various kinds. In all these cases there is an influence that directly plays upon the disordered susceptibility of the cutaneous nervous plexus. Urticaria mostly arises, however, from stomach disorder, and the nature of the latter is such as to lead me to imagine that the solar plexus is oftentimes involved, the mucous surface being *morbidly* sensible to even ordinary ingesta, fish, beer, &c. In very many cases the urticaria is not due so much to the circulation of any irritating substance or product, as to the reflection of impressions made on the stomach. We

have ample proof that this is possible and likely, in the occurrence of flushing of the face after meals, and chronic erythema, consequent upon dyspepsial symptoms. It is important to add that in some instances we are enabled to discover distinct stomach or hepatic derangement. The type of the stomach derangement is pyrosis. In many cases the seat of the reflected disorder is not the stomach, but the lowest part of the œsophagus. In chronic cases I am not sure that irritation at the neck of the bladder is not sometimes an excitant of urticaria, and in females U. tuberosa follows uterine disturbance, according to Fouquet. If this general view of urticaria be taken it will be likely to lead to the adoption of a successful treatment.

It may be worth while to mention that in the Brazils, the fruit of the Paullinia sorbilis (Sapindaceæ), an ally of coffee, when mixed and taken as it constantly is with water, as a drink, produces urticaria. The drink is called guanara. Asthma has on many occasions been seen in association with urticaria. Dumontpallier has reported a case of intermittent urticaria, in which the attacks appeared each night for six weeks. The parents were both asthmatic, the grandfather asthmatic, the grandmother had angina pectoris and rheumatism, the brothers were rheumatic, and four of the children suffered from intermittent diarrhœa, alternating more or less with actual urticaria.

Prognosis.—Urticaria has no gravity about it. Acute attacks (*ab ingestis*) are of short duration. Chronic urticaria is abominably troublesome. The intermittent form is very obstinate. All depends upon our ascertaining the cause of irritation (direct or indirect) present.

Diagnosis.—Urticaria ought not to be mistaken for any other disease. Its sudden and capricious character, the tingling sensation, the presence of wheals, gastric disturbance, and irritability of skin, are absolutely

diagnostic. I have seen it mistaken for scarlatinal rash; but the error was soon detected by irritating the skin and the appearance of wheals. The evanescent character of the wheals distinguishes urticaria from the erythemata; and in the instance of lichen urticatus, there are pruriginous papules and few wheals, the eruption is of smaller size, feels hard and more persistent; the disease is really a compound of lichen and urticaria. It is the peculiarly capricious character which distinguishes urticaria. U. tuberosa wants the regular and persistent course, the lividity, the soft feel, the oval shape of erythema nodosum.

Treatment.—Thoroughly unsatisfactory is the treatment of urticaria laid down in books. "Correct any digestive disorder, improve the general health, and use remedies to allay itching, is its sum and substance." We have to deal with a sensitive skin; first of all it is our duty to prevent that being in any way directly irritated; flannels should be removed, the utmost cleanliness should be observed, no sudden change of temperature should be permitted to play upon it, either by way of exercise, draughts, or the like. Then we seek to soothe it, by emollient and alkaline baths, anointing it if possible with oil. We should seek to relieve the skin, to give it rest by throwing more work on the kidneys, and by the exhibition of saline aperients. Then we must prevent the circulation of effete products, urea, uric acid, and control all kinds of disorder which may be reflected on to the skin, and lastly, tone up and lull by anodynes the nerve paresis. These are the principles of treatment. I find urticaria one of the most difficult and unsatisfactory of all diseases to cure. The acute are more satisfactory to treat than the chronic cases.

The following is a *résumé* of what appears best to be done:—

U. febrilis.—In simple cases, saline aperients, milk diet, no stimulants, alkalies largely diluted, alkaline

baths, half a pound of carbonate of soda in an ordinary hip bath twice a day, lotions of bichloride of mercury, and rose-water, or cyanide of potassium. Amongst the Formulæ other local remedies will be found.

If the patient be gouty, colchicum should be given with salines; when fever runs high, I have usually given acetate of potash, tincture of digitalis, with even potassio-tartrate of antimony. I should expect much from the tincture of veratrum viride.

U. ab ingestis.—An emetic (zinc or ipecacuanha), a saline purge, and subsequently a mixture of carbonate of ammonia, prussic acid, and infusion of cascarilla. The treatment of chronic urticaria is most tiresome and difficult. One has to analyse carefully every function of the patient, and it requires no little patience to arrive at a distinct conviction that what we are doing is a reasonable plan of treatment. If there be mental disturbance, change of scene does good. Pyrosis, atonic dyspepsia, deficiency of bile, inaction of the liver, non-excretion of urea, uterine disorder, must be treated upon general principles. Generally speaking, it is possible to discover some one thing which taken internally evokes the urtication: it may be beer: it often is, or condiments of some kind. Where it appears that the functions of the body generally are properly performed, bromide of ammonium, or if the disease be periodic, quinine is useful; aconite is another remedy; arsenic is much vaunted; I do not know that it has done much good in my hands.

PELLAGRA, OR ITALIAN LEPROSY.

This disease is common in Lombardy, about Venetia, Piedmont, South of France, in some parts of Spain, and Corfu. It attacks the poorer population to the extent of four or five per cent. in the districts where it is most prevalent. Pellagra is a general disorder of the system: the external manifestations are only a part of graver changes in the system at large. The

symptoms arrange themselves into three groups:—1. Signs of diminished general power, and failure of nutrition; 2. Cerebro-spinal symptoms; and 3. An eruption of an erythematous type.

After exposure to the sun, the pellagrous subject feels in some part of his skin, upon which the sun has played, a tingling sensation; at the same time he becomes weak, feverish, the appetite is faulty, digestion is inactive, and diarrhœa troublesome. The cerebro-spinal symptoms, the result of inanition and the morbid blood-state, are headache, giddiness, impairment of special senses, cramps, convulsive movements, loss of muscular power. The patient dreams, and is despondent.

The eruption makes its appearance on the exposed parts—*e. g.*, the back of the hands, the outer part of the forearm, the forehead and sides of the face, the upper part of the chest and the feet, more or less, in the spring, and is supposed to be excited by the sun's rays. In the men who wear large straw hats the face is not so greatly affected, but the uncovered faces of the women suffer more. Red spots first appear, which quickly become dark and desquamate; the surface beneath the scaly covering is red, thickened, rough, and fissured; there may be pain; and little bullæ, it is said, may form, which die away and are replaced by bluish stains. In some cases the epidermis is shrivelled, thin as if frozen or scaly. The eruption subsides in the winter. In the ensuing spring the whole thing is exaggerated, increasing from year to year; each year the intermittence is marked by the increasing permanence of the discoloration. In the later stages these different symptoms intensify *pari passu*. The patient emaciates: phthisis or anasarca sets in; the skin is dirty, unhealthy, "callous;" delirium, mania (suicidal, it is said), melancholy, epilepsy, idiocy, and hebetude, have each their victims. A typhoid condition is the necessary result, and death ends the scene. It has an

average duration in fatal cases of five years. Sporadic cases may occur in England; they take the form of an erythema about the back of the hands, with cerebro-spinal symptoms and debility.

Etiology of the Disease.—Now, much has been done of late to place us in a position for forming a good estimate of the character of the disease. Its frequency is known: in 1830 statistical observation showed that 20,000 out of a million and a half of the Italian population were affected; this is somewhat about one-sixtieth of the people. Ballardini states this. It appears that in about 90 per cent. the pellagrous are poor peasants, about 7 are artisans, and 3 follow other occupations.

Opinion differs as to the influence of hereditary tendency, because the members of a family are generally placed under exactly similar circumstances,—those very ones which probably engender the disease. Calderini noticed in 184 families (comprising 1319 members), inheriting predisposition, that 648 were diseased, 671 healthy. Pellagra is said to be the result of insanity, this has been especially insisted upon by Billod. It appears that in Billod's asylum (St. Gemmes) patients are affected by pellagra, whilst the inhabitants of the village near (1700 souls), and those of the entire district (22,000) are free from it. But it has to be shown that the inmates are not under the influence of exceptional conditions. It *is* a fact that the insane are affected. Dr. Landouzy determined this question by a special journey through Spain. He visited 44 asylums, in which were 22,873 lunatics, but of these only 73 were pellagrous. Pellagra, says Dr. Landouzy, in asylums is only a matter "of general hygiene and alimentation." During the five years ending 1861, only 310 cases of pellagrous patients have been admitted into the San Servolo at Venice—82 maniacal, 2 monomaniacal, 95 melancholic, and 130 demented. Comparing these figures with the statis-

tical information already quoted, as to the frequency of the disease amongst the general population, it would seem that no excessive proportion of pellagrous persons exists amongst the insane, they are attacked in common with those amongst whom they live, and M. Brierre de Boismont has recently given it as his opinion that the pellagra is not due to insanity. The converse proposition is however true. In about 9 per cent. the pellagrous have some definite form of lunacy.

But other causes are assigned for the disease; the one that finds most favour at the present time, is the use of diseased (ergoted) maize, as food by the people. Now, it has been objected that pellagra is not known in parts where maize is largely used—for example, in Southern Italy, Sardinia, and Burgundy, the people are not pellagrous, though they use maize largely. This may be in part due to the use of a mixed diet, but it is also asserted that where pellagra is present the maize used is diseased, and where the disease is absent, the maize is sound and unaffected. So that those who dry their maize, and keep it dry, escape disease, whilst others even in the same district, who do not properly preserve maize, may be affected. This seems to have been made out. Generally after wet and unhealthy seasons, the grain is liable to be attacked by a fungus, the Sporisorium maidis; the maize, if it be not properly dried, undergoes change by the action of the parasite. Undoubtedly pellagra is most common after wet and unhealthy seasons. But it is still asserted that part of the cause is poverty, misery, bad hygiene, malarious atmosphere, bad water, and uncleanly habits; for these must *deteriorate* the general health; and then there is the exposure to the sun and the dry atmosphere of the summer time. Unhealthy seasons affect man as much as the vegetable world; and the diseased maize, if it be not the efficient cause, is a certain index that the atmospheric and other external conditions that play upon man are none of the best.

The French Academy of Medicine awarded a prize in 1864 to M. Roussel, and an *accessit* to M. Costallat, for certain theses which went to prove that pellagra was unknown till the introduction of maize. These observers arrived at the conclusion after examining apparent exceptions that diseased maize is the real cause of the disease pellagra. A most interesting account has been recently given of the disease occurring at Corfu, by Dr. Pretenderis Typaldos, the Professor of Medicine at the University of Athens, and as it confirms entirely the prevailing opinion as to the cause of pellagra, I cannot avoid summarizing it. Pellagra is said, by Dr. Typaldos, to be of recent origin in the island. In 1839 one case was seen by a practitioner; several in 1858; in 1859–60–61 forty-eight cases were collected. The disease exists in 27 out of 117 villages, containing 15,458 inhabitants. The disease in one village is in the proportion of 1 to 1218; in another 19 to 480 of the population. Dr. Typaldos notices that the disease exists amongst the very poor, whose staple diet now is bread prepared from Indian corn, which is called "barbarella." The supply is prepared oftentimes for a week. "When fresh cooked it is soft and pleasant to the taste, but when dry, it is very heavy and indigestible. Of the persons whom Dr. Typaldos found to be labouring under pellagra, all without exception had lived upon this diet, either almost entirely or in chief part; and he ascertained that the prevalence of the disease corresponded in the different villages to the extent with which maize constituted the food of the peasants. Thus, in some localities they entirely live upon or have in addition to maize, bread made with sorgho (holcus sorgum), rye, rice, or wheat, and he found that when such grains are used the people wholly escape or suffer only slightly from pellagra. The author further contends that it cannot be in consequence of the small proportion of the azotized elements in Indian corn that the grain is injurious,

for it has been shown that when rye, rice, or sorgho, are used, the population do not suffer from pellagra though those grains are still more deficient in azote than maize. He finally arrives at the conclusion, that the essential cause of the disease is the consumption of maize which has been imperfectly ripened or has undergone changes after being gathered, thus adopting the views of Ballardini, as advocated in the thesis of M. Roussel, and described by Dr. Peacock in a former article of this Review."* Dr. Typaldos explains the recent occurrence of pellagra in Corfu by the fact that within the last thirty years in Corfu the vine has been cultivated at the expense of the maize, which in consequence is largely imported from Albania, Romagna, and Naples. This is, however, as good as that grown in Corfu; but grain is also obtained from the Danubian provinces, and as it has to undergo a long sea voyage it is considerably damaged and often mildewed. That from the Danube constitutes by far the largest part of the grain used in the island. Much of the grain sold is diseased, and those are specially pellagrous who use it. Dr. Typaldos finally remarks, that in 1857, a cold and wet season prevailed in Corfu, the grain was imperfectly ripened, and an epidemic of pellagra followed amongst those who consumed the unwholesome grain.

Morbid Anatomy.—Our knowledge on this point is deficient. The brain is atrophied, the arachnoid opaque, the spinal cord congested, and serosity effused around it; the liver is fatty, the lungs congested, and the tissues generally anæmic, and there is thinning of the mucous membrane of the intestinal tract.

As to the nature of the disease, if altered maize be the cause, it is "an ergotism." I cannot quite shake off the impression that malarial influences have something to do with the cause, but I admit I have no facts to prove it a sound one.

* "Brit. and For. Med.-Chir. Review."

Prognosis.—The rate of mortality varies much in different districts, as greatly as the frequency. Ballardini states that in the Milanese districts 78 per cent. get well, 13 are uncured, 9 have mental disease, 6 die from natural causes, and a few are suicides.

Treatment.—This is plain; avoidance of ergoted maize, change and variety of diet, the use of wine, and removal from pellagrous districts; quinine and iron tonics; avoidance of exposure to the sun, and an improved hygiene generally.

I append a special note on medicinal rashes, as they are mostly erythematous.

MEDICINAL RASHES

Are important to remember. Hardy has especially noticed an eruption produced by the inunction of *mercurial* ointment. It is an erythema upon which vesicles form, and pour out a thinnish, clear fluid. The vesicles are quickly broken, the contents desiccate, and the redness remains for a week or ten days. It is clearly a local disease, and not a true eczema.

The *nitrate of silver* discoloration needs no further comment than this, that the silver seems to be deposited elsewhere than on the skin—the lining membrane of some vessels, it is thought.

Arsenic is said to give rise to eczema. I have never seen this: but certainly a lichen well developed about the face, neck, arms, and hands, and erythema of the palms of the hands, with violent fever, are sometimes produced. I am positive it can give rise to double vision by disturbing in some way the accommodation of the two eyes. It can also induce erythema, especially of the face, and a puffiness about the eyes,—I mean in small doses, and during its early exhibition; and it has happened to me to see the best results under such circumstances from perseverance in its use, notwithstanding these occurrences, provided there are no

gastric symptoms. I have seen herpes zoster come on during its exhibition, and some think that it may give rise to this disease, but I am not disposed to believe by any direct influence, but that out of the changes that its use induces a condition may be brought about favourable to the occurrence of zoster.

Iodine sometimes produces erythema of the face, and local inflammation of course.

The friction of *croton oil* into the skin not unusually gives rise to an erythema of the face. I have been in the habit of using this topically and extensively for certain forms of dyspepsia, and I have often seen this erythema of the face occur in a symmetrical manner, lasting for a few days, with distinct heat, and this where there could have been no direct application of the remedy to the face.

Bromide of potassium may give rise to erythema and swelling of the nose; at least in one case this appeared to be its constant action. In the experience of those who have given the drug largely, an ecthymatous eruption may follow its use; but this is probably due to its "lowering" or "liquefying" action, as in the case of *iodide of potassium*, which may induce purpura in a predisposed subject, and of course the erythema and other symptoms of iodism.

Belladonna produces a rash of rosy hue, fever, and a dry throat, with, of course, dilated pupils, whatever may be said to the contrary. Dr. Fuller has denied this, but I cannot but think, especially having regard to the large doses he has given without effect, that his extract has been inert. I am confirmed in my opinion by several communications from eminent physicians.

Copaiba induces a rash well described by Judd in his work; a rosy erythema, of "pumiceous" aspect, as though the skin had been bitten by insects.

Arnica may produce erythema and swelling of the part to which it is applied, and excite acute eczema.

Sulphur, in some cases, gives rise to a dry, red, dirty

aspect of skin, with an attempt at the formation of vesicles, perhaps an artificial eczema, and subsequent pityriasis, accompanied by much itching; mistaken for the continuance or increase of the original diseases, mostly scabies, and demanding the most soothing treatment. A recent case I saw was that of a gentleman who had scabies; he had been ordered a series of sulphur baths, which set up an artificial eczema, with ecthyma from the scratching, that rapidly got well (sooner than usual in these cases, for the sulphur impregnates the system) by demulcent baths and soothing unguents. Sulphur baths should be used with gentleness, and I think the old-fashioned villanous compound sulphur ointment less vigorously than is customary, for I feel sure that it is often continued long after the original scabies is cured, and upon which the secondary effects, erroneously regarded as the thing to treat, depend. I have seen grievous errors committed from a want of attention to the facts I have pointed out.

I had almost forgotten to mention that phosphorus produces chronic ulceration, guanara (coffee tribe), urticaria.

Formulæ for erythematous diseases, Nos. 42, 44, 49, 52, 53, 59, 66, 69, 90, 94, 105, 123, 129, 132, 138.

CHAPTER VIII.

CATARRHAL INFLAMMATION, OR ECZEMA.

I CONSIDER it very necessary to give a pretty full account of eczema, because I venture to hold opinions which coincide with those of Willan, and are therefore opposed pathologically to the views of almost every modern authority and writer upon the subject. I am compelled to this from a conviction, long founded, frequently re-examined and tested, but which seems to me more than ever to be in accord with clinical facts. I will first state what eczema appears to me to be, and then append and examine the views of Hebra and others. Typical eczema is an acute inflammatory disease, characterized especially by an eruption, in connexion with more or less superficial redness, of small closely-packed vesicles, which quickly run together, burst, and are replaced by a slightly excoriated surface that pours out a serous fluid, which dries into crusts of a bright colour, and of moderate thickness. The crusts are composed of blastema, pus-corpuscles, epithelial cells in an ill-developed state, and granular matter of an inflammatory and fatty nature. The discharge has the very peculiar property of stiffening linen. The vesicles appear in successive crops, and may prolong the disease for an indefinite time. They are attended with itching and local heat. The skin is irritable, occasionally excoriations or crackings of the part occur, the true skin itself is somewhat infiltrated, and sometimes the parts around the patch inflame, probably from the irritating nature of the discharge. The patches form on various parts of the body, are of variable

size, and mostly symmetrical. If the disease is extensive and general there may be sharp pyrexia. Generally speaking there is a pallid lymphatic aspect, headache, loss of appetite, thirst, dirty tongue, confined bowels, and the like. The mucous surfaces may become the seat of inflammation, either by the spread of disease from the skin or as a consequence apparently of the general condition. The disease is the most common of all skin diseases, it lasts a varying time, in consequence of successive local developments, and the tendency it has to spread. In the chronic state it often oscillates between cure and recurrence; the skin gets harsh, dry, red, and thickened. After its disappearance it leaves behind no traces of its former presence. Its retrocession is said to be followed by grave symptoms.

Now this typical form of eczema is not often seen, but it does exist; and one of the most marked cases of the kind came under my care at Charing Cross Hospital not long since. The varieties are three—eczema simplex, eczema rubrum, and eczema impetiginodes. The varieties differ in regard to the extent of inflammation (amount of structure involved), and the degree of puriformity of secretion, this being dependent upon the constitution of the patient.

E. simplex (called by Willan E. solare, when slight, because it is often brought into existence as a consequence of the action of the sun's rays), is the typical form. It may be local or more or less general. It is also excited by irritants of all kinds — heat, cold, soap. If it be in the hot season, the patient complains of fever, a "heated state of blood," headache, and the like; presently, on the exposed parts, especially the face, arms, neck, or the back of the hands, little clustering vesicles about the size of pins' heads appear, in conjunction with slight erythema, heat and itching. The contents of the vesicles presently get milky, the vesicles burst, and slight yellowish crusts are formed. The duration of the disease varies very con-

siderably. It is often short, often long, according to the extent of the succession of vesicles. When the disease is extensive, pyrexia is marked.

E. rubrum is the inflammatory form; the general symptoms are often severe, the headache, fever, thirst, and foulness of tongue, are decided; locally the part is "hot, tumefied, red, and shining," and upon this vesicles (which may require the use of a lens to detect satisfactorily) form, and soon become confluent. They speedily burst, give exit to their contents, which desiccate, and give rise to yellow or brownish scabs; the secretion is ichorous in character, and causes considerable irritation to any surface around with which it comes in contact. The whole patch becomes excoriated, the burning pain is often very severe, and the disease spreads. It is generally observed about the flexures of the body, in the thigh, the groin, the elbow, the axillæ, and about the wrists; sometimes it is partial, or it may run more or less over the general area of the body. E. rubrum varies in degree; when it is very severe, the amount of discharge is large, the crusts are thicker, the surface is more inflamed, and excoriated to a high degree. The transition from the simple to the inflamed eczema is easy. E. rubrum is apt to become chronic in old people; when it occurs about the legs, is often the starting-point of ulcers.

Eczema Impetiginodes.—This is eczema occurring in a lymphatic or debilitated subject, especially young children, and since there is more or less of a pyogenic habit present, the corpuscular element in the secretion is in excess. It is therefore often styled a pustulo-vesicular disease. The general symptoms are much the same as those of eczema rubrum. There are, locally, a good deal of inflammatory heat and redness; the vesicles which appear contain a serosity, which is speedily mixed with purulent secretion. The discharge and subsequent drying of this tenacious fluid forms irregular greenish-yellow thick scabs and crusts,

beneath which is a red and hot surface: this form of eczema is very common (35 per cent.), and is not as a rule general but local, confined oftentimes to a limited surface. In infants the sebaceous glands often become irritable, and pour out a large quantity of fatty matter, whereby the disease is increased in severity. This variety especially occurs in the head, and in infants. The description of eczema infantile to be given directly will apply to its severer forms.

If I were obliged to give a short description of eczema, I should say it is a "catarrhal" inflammation of the skin, modified by the constitution of the patient. Now, any of these three varieties may become chronic, and in that case the amount of discharge may be free and irritating; this has been called *E. ichorosum:* or it may lessen, but sufficient remains to give rise to continuous crusting, or what is apparently only scaliness. Hence the disease has been termed *eczema squamosum.* If cracks occur we have a raw, red, perhaps an exuding, cracked surface, termed *E. fissum* (E. fendillé of the French). It oftentimes results from the movements of the mouth: again, induration may be a consequence, or the skin about the patch may become œdematous or warty, or specially thinned, or the fibrous structures may greatly hypertrophy, and a huge shapeless mass, with free ulceration, result. Hence other varieties have been made, such as *E. œdematosum, verrucosum, sclerosum, spargosiforme,* and so on. But really to dignify all these secondary changes by an elevation to the position and rights of special varieties is to me highly objectionable. The induration, papillary growth, and the like, have their origin really in certain special deviations of the tissue nutrition itself, the eczema being the exciting cause, and we have to treat not eczema in these cases, but other conditions of hypertrophy or atrophy which we see occurring when eczema is absent as well as present. Eczema squamosum and pityriasis are

often regarded as the same. In the former the scaliness is secondary; in the latter (pityriasis), a primary form of disease—two totally different conditions. Ulceration occurs after eczema: should that be made a variety?

We find, then, clinically, that in some cases the "discharge" feature of eczema is not so well marked as in others. It may be abortive, and then the erythematous aspect may predominate, the exudation may be slight, and only raise the cuticle into what appears to be papulation; or pus may be readily produced, or the secretion may quickly be re-absorbed, and scales be produced or fissuring result at an early stage. It has been therefore said that eczema may commence as an erythema, a papulation, a vesiculation, a pustulation, a squamation, or a fissure. I deny it. Any of these stages of inflammation and its results may be quickly arrived at or specially preserved, but in all cases the tendency is to the outpouring of a large quantity of serosity of special quality from the skin. This necessarily tends in the first place to the uplifting of the cuticle by the serosity—*i.e.*, the production of vesiculation, which is rapidly over, because the cuticle bursts, and discharges the fluid; but the tendency to free secretion exists, and is the main feature in the disease. (This is "catarrhal" inflammation.) And this vesicular stage is generally passed when the disease comes under the notice of the physician, though vesiculation *may*, with care, be made out at the edge of a patch which is on the increase. It is manifestly unfair to estimate its value or probable occurrence in a disease which is stationary or in progress towards recovery.

But there are certain other varieties mentioned in books which must be briefly described. In the first place E. infantile. This has the characters of eczema rubrum and eczema impetiginodes more or less combined. There can be no doubt that it is a very obstinate and severe disease. We often see this form of eczema

run through almost all the stages represented by the disease collectively. It generally commences as an acute attack, subsides into a chronic state, which may last for a very long time, even years. The child is thin, pale, pasty, takes food badly, &c. When the eruption first appears, its aspect is really a compromise between E. simplex and E. rubrum; the discharge then alters its character, and E. impetiginodes is presented to us. The local signs of irritation are more or less marked; there are heat, itching, pain, swelling, excoriation, rawness, or ulceration; the secretion may be thin or purulent, the glands near are swollen, and according to the aspect of the part attacked, whether moist or dry, the disease has received various names—*e.g.*, *tinea granulata*, *crusta lactea*, *porrigo larvalis*. It affects all parts, but especially the scalp, buttocks, axillæ, ears, and flexures of the joints. The child gets feverish, loses flesh, and marasmus may come on. If not properly treated, the disease becomes very chronic, and the child a pitiable object.

There are several chief situations in which eczema is found, and authorities have hence described several local varieties. There is no part of the surface exempt from the disease.

1. *Eczema capitis* has been really described a moment since under the head of E. infantile. It is seen during dentition, in scrofulous children especially; it may extend to the face; pediculi are common among the crusts. The glands are inflamed from absorption of the acrid fluid. After the acute stage is passed, which is that of E. rubrum chiefly, the secretion dries, and the scalp may present one raw, red, cracked surface, covered over more or less with lamellar scales of yellowish tint, or crusted all over. If there be hair on the head, the discharge mats it into masses, and the hair formation is checked—that is to say, the hair is "thinned." In the process of cure, a state like pity-

riasis is gone through. The disease is often very obstinate.

2. *E. faciei*, is often an extension from the scalp, the secretion is free, and forms large crusts, generally on the forehead, but also the cheeks and chin, the conjunctivæ are often red and tender, itching is troublesome. The disease is mostly symmetrical, and does not present an uniform aspect; here it is inflamed and red, here it is crusted over, here pustular, and here cracked, perhaps. Like the E. capitis, it is often confounded with seborrhœa.

3. *E. aurium*, is another sub-variety. The ear is red, swollen, tender, hot, and tense, the vesicles are often very well developed, and the discharge free, drying into crusts, which after falling, leave behind a dull red surface. The disease often extends into the meatus, causing swelling and blocking up of the passage. More frequently, E. aurium takes on the aspect of E. impetiginodes, then the ear gets hypertrophied, and small abscesses are formed. In old people the ear is often affected, in these the disease is very obstinate, and the surface is dry and fissured.

4. *E. mammæ* is observed during lactation more especially, and is confined to the female sex. It is observed around the nipple, and the degree of inflammation varies: sometimes it is slight, at other times the aspect of impetigo is assumed, and there is oftentimes a tendency to the formation of fissures, with subsequent infiltration, and threatening abscess formation in the lax cellular tissue beneath. The nipple is hot, tender, and often bleeds. Hardy says it arises out of three conditions; in fat people, during lactation, and in scabies, and he believes correctly that it is an excellent diagnostic sign of scabies.

5. *E. manuum et pedum* is chiefly remarkable for the peculiar tenacity and persistence of the vesicles, due to the greater thickness in those situations of the cuticle. The disease assumes mostly the aspect of

E. rubrum on the back of the hands and between the fingers. The fluid in the vesicles, seated upon a red base, gets absorbed, and crusts are then formed; sometimes bullæ arise by the coalescence of vesicles; pruritus is oftentimes severe. Presently the patch becomes drier, more scaly, thickened and fissured, the fissures giving exit to a viscid secretion which concretes into scales; the disease may assume a pustular aspect. The grocers' and bakers' itch is according to some authors an eczema of this class. An acute form has been described, which commences by marked fever and malaise, the tissues generally are inflamed, bullæ form, and the fluid being absorbed, large scales are detached, exposing a red surface, which gives out a quasi-purulent discharge, and this is often followed by a chronic stage. This is eczema rubrum.

6. *E. genitale*, attacks the arms, perineum, scrotum and vulva, and is characterized by its very free secretion. It often commences at the scrotum, which is thickened, puckered, moist and tender, covered with large thin scales, the fluid oozing freely from numerous fissures. It often extends from the scrotum to the anus, and from the pudendum to the vagina, inducing a most intolerable itching, with swelling, heat, redness, and discharge.

Varieties have also been made according to form; when it occurs in round patches the size and shape of pieces of money, it is called E. nummularis. This is often lepra vulgaris.

Eczema marginatum is the name given to a disease which is seen at the inner part of the thigh, or the fork: it is generally symmetrical; there is a red, dry, often scaly, surface, which sweeps in a circular manner from the fork down on the thigh for several inches, and is said to occur in shoemakers and dragoons, as the result of heat and moisture. I believe under this term different diseases are very likely to be included—intertrigo, lepra vulgaris, erythema from pedicular irritation, eczema,

and ordinary ringworm of the surface. In regard to eczema and lepra, the diagnosis is determined by the presence of eruption elsewhere; and the parasitic variety of eruption is known by its ringed character, the papule-like edge of the extending disease, the clearing centre, and the microscopic detection of the fungus.

Pathology.—And now I proceed to give the views of Mr. Wilson, and of the French and German schools, in regard to the nature of eczema.

Mr. Wilson includes under the term "eczematous diseases," eczema, psoriasis (chronic eczema), pityriasis, lichen, impetigo, gutta rosacea (or acne rosacea), and scabies.

In the French school the existence of a "dartrous diathesis" is recognised and insisted upon, more especially by Hardy. It includes eczema, pityriasis, psoriasis, and lichen, as different expressions of one and the same habit of system. Hardy's definition runs somewhat thus:—Dartrous affections of the skin are such as possess different elementary lesions, which are non-contagious, often transmitted hereditarily, recurring frequently, possessing a tendency to spread into new localities, accompanied by itching, chronic in course, leaving behind in process of cure no cicatrices, though accompanied by slight ulceration, and due to a special blood state, *sui generis*. The three chief features are,—hereditary transmission, the tendency to recur, and to spread. The general health is apparently good, but not in reality; the surface is dry, the perspiration is effected with difficulty, pruritus is common, especially about the anus, the skin is very sensitive, and easily affected through local irritants. The general predisponents to eruption are—the use of alcohol, coffee, seasoned aliments, &c. The local eruptions may be vesicular, papular, or squamous, and these are often associated. Once developed, the eruption has a tendency to affect several parts, and it is generally symmetrical, subjective sensations are aggravated at night,

the mucous surfaces are often affected—ex., the vaginal, the bronchial, intestinal, pharyngeal, &c., so that we may have a dartrous leucorrhœa, bronchitis, &c. The dartrous diathesis is seen at all ages, especially in the young, and with an equal frequency in either sex. Eczema prevails in the lymphatic, lichen the nervous, pityriasis the bilious, and psoriasis the sanguineous. Among the exciting causes may be mentioned the occupations of baker, grocer, smith, cook, and chemical manipulator. The existence of such a constitutional condition as the dartrous diathesis is a question under discussion at the present time, and admits of much doubt. There are many facts that militate against any such hypothesis. Hardy includes impetigo under the head of eczema.

The French, then, do not go so far as Erasmus Wilson, but include four diseases (pityriasis, psoriasis, eczema, lichen) under a single class-term—dartres—and make impetigo a stage of eczema. The German dermatologists, however, differ altogether from previous authorities; and we may take Hebra as the representative of the German school. His fourth class of skin disease is entitled *exudative diseases;* two subdivisions are then made into (1) diseases with an acute—including the acute contagious (scarlet-fever, small-pox) and the acute non-contagious diseases (erythematous, furuncular, and phlyctenoid such as herpes and pemphigus);—and (2) diseases with a chronic course, including squamous, acneform, pustular, &c.; and Group 2 of the latter class is called pruriginous, and includes eczema, scabies, and prurigo. Eczema itself is again subdivided into five sub-classes or varieties:—(1) Eczema squamosum, (pityriasis rubra), (2) E. papulatum (lichen, in fact), (3) E. vesiculosum (the E. solare of Willan), (4) E. rubrum seu madidans, (5) E. impetigo seu crustosum. Hence Hebra makes pityriasis, lichen, eczema, and impetigo, stages the one of the other, and related to scabies and prurigo. Dr. McCall Anderson and Dr.

A. B. Buchanan have founded another classification of eczema, as follows:—(1) E. erythematodes; (2) E. papulatum (including lichen simplex and prurigo); (3) E. vesiculosum (the E. simplex of authors): (4) E. pustulosum, or E. impetiginodes (impetigo included); (5) E. rimosum (the E. fendillé of the French.)

To take these in order. The "dartres" I cannot understand. I find Hardy saying that a disordered shedding of the epithelial scales (true pityriasis), an hypertrophy of the papillary and epithelial layers of the skin (psoriasis seu lepra vulgaris), a catarrhal inflammation, characterized by the free exudation of a peculiar serosity (eczema), and "fibrous" inflammation of the skin (lichen), seated mostly in the papillary layer, belong to one and the same class. I find Hebra including a neurotic, *i.e.*, prurigo, a parasitic, *i.e.*, scabies, (and a vesicle, *per se*, is no evidence of eczema), and a disease which he calls eczema, and which is made to include lichen and pityriasis rubra—all dissimilars *in toto*—under the one term ~~eczema~~ [illegible]. I say it is a negation of the commonest principles and data of general pathology to do so. Willan, from clinical observation, noticed that there was a disease in which free secretion of a marked and peculiar kind took place, in which there was a tendency to vesiculation, and he marked it out most definitely. That observation was true, and vindicates the claim that Willan has to be considered as an acute clinical observer, and I attempt to explain by the light of modern research the trueness of the position he took in regard to the description of the disease which he called eczema. I have thus taken only the clinical view of the matter. With regard to the anatomical seat of eczema: this is somewhat special. It is the upper portion of the derma and the Malpighian layer: and free secretion is probably favoured by some attractive influence exerted by the cells of this part. The pathological type of eczema is that of "catarrhal inflammation." It is this which makes eczema as I describe it so very distinct.

The cell formation in eczema is often active, many of the cells are amœbiform.

Biesiadecki states that the commencement of vesiculation in eczema consists of the "migration" from the papillary layer towards the surface of numerous spindle-shaped cells, which are seen partly in the papillary layer and partly in the mucous layer of the epidermis. But of course all depends upon what is meant by eczema. Biesiadecki may take Hebra's view of eczema. This cell change is not common to eczema; it occurs in condylomata, lichen, pemphigus (as stated to me by Dr. Sanderson), and pustular diseases. It is "discharge" or "flux" of special nature that is so characteristic of eczema. It seems to be the horizontal plexus of the skin, from whence the serosity chiefly comes, but no doubt the papillary plexus also. Now with regard to the cause. It may readily be seen that all influences that tend to lower the vital power, such as debility of all kinds—nutritive, assimilative, nervous—will allow the active cause—*i. e.*, cold, heat, irritants of all kinds, and the like—to have special play.

It is therefore easy to see how digestive errors and derangements, organic disease, deficient elimination—as in gout—weakly diathesis, violations of hygiene (such as deficiency of air, cleanliness, exercise, clothing), change of season, deficient food, over-growth, nervous shock, deranged uterine function, convalescence from acute diseases, vaccination, dentition, and other mal-influences *debilitate*, and lay the way open to the operation of what are certainly the most common excitants of eczema—cold, local irritation, and heat. These may impress the nerves of the affected part, and so lead to cell metamorphosis, dilatation of the vessels, and escape of serosity. As regards frequency, eczema is said to make up about one-third of all the diseases of the skin, but it is less than this if by eczema we mean "catarrhal" inflammation. The lymphatic temperament is present in the majority of cases.

Diagnosis.—I hold, of course, that the main feature of eczema is the presence of a peculiar "discharge," which dries into thin yellow crusts. However long-standing any case of eczema may be, it will always furnish sufficient evidence in its history of the fact of its being a *moist* disease. If we attend to this point we shall very soon discover (what I have repeatedly insisted upon as an important clinical fact) that in the vast majority of cases the disease has existed a long time before it comes under the notice of the practitioner; that the early stage is rarely seen, only in those cases in which the disease is general and severe and the constitutional affection is sufficiently grave to compel the patient to seek for medical advice at once. The vesicular stage consequently rarely comes under the eye of the physician. Ask the patient closely as to antecedents and he will often state that the disease began with redness, that then little bladders or watery heads formed, and the surface began to "weep" or "discharge." Where eczema is on the increase one *may* detect the vesiculation at the edge of the patch. It is the "catarrhal" aspect of the disease which I regard as so "characteristic." There is as much difference between eczema and lichen as there is betwixt bronchitis and pneumonia; and there is this additional distinctive mark of eczema, that the application of irritants will mostly evoke "discharge;" there is a capacity for discharge always present that is absent in other similar diseases. There are many diseases confounded with true eczema; these vary according to the stage and "age" of the eczema. *Acute general eczema* may be mistaken in the first place for one of the acute specific diseases, in consequence of the pyrexia which is sometimes present. The redness, too, has a somewhat punctated appearance at its earliest stage, but very quickly all doubt vanishes by the fact that the eruption is clearly out of all proportion, as regards severity, with the pyrexia. The patient is not so ill as he or she would be if the case were one of zymotic

nature, and the vesiculation rapidly shows itself. I have been able to show a case of this kind very recently at Charing Cross Hospital. Acute general *lichen* is accompanied by much itching; it often affects particularly the outside of the limbs: though the eruption is well developed and plentiful, it is truly papular, the papules feeling hard and dry, and there is no "discharge," and no crusting. The inflammation is decidedly *fibrous* and distinguished from *serous*, and this applies to all cases of lichen. Again, the slighter forms of eczema may be mistaken for *Erythème vésiculeux* of Hardy, which arises from the application of a local irritant, and is characterized by vesicles upon a red base; but the disease is of short duration; it has no tendency to spread, it is localized, the discharge is not viscid, stiffening like that of eczema. *Intertrigo* is produced by an evident cause—the friction of two surfaces; its seat is in the folds of the skin; the absence of vesicles, of crusts, and the thin muciform secretion, are distinctive.

No error should arise in diagnosing ordinary *erythema*, the negative evidence in regard to discharge and crusting sufficing. *Erysipelas* is an acute and severe disease, accompanied by shining, tense, smarting swelling, upon which are developed phlyctenæ; there are no pustules, vesicles, &c. The definite course of the disease—small bullæ collected together upon a red base, which do not burst, but shrivel away in a few days, and the absence of light yellow crusts—should define the difference between *herpes* and eczema. In *sudamina* the vesicles are large, scattered over a large extent of surface, developing after sharp perspiration, generally in the course of acute pyrexial disease, and drying up in a few days, with slight desquamation. Occasionally one sees, especially about the hands (the palms), a form of disease which appears to be an eczema, in which the fluid has collected beneath a tough layer of skin, which is somewhat raised if the disease be left

alone; the skin peels off in a thickish layer, leaving behind a reddish more or less tender surface, which does not crust over but simply dries. If the disease be attentively examined at the outset, the fluid will be seen to be perfectly clear (not milky), and to be distending, as I believe, the perspiratory ducts, escaping thence beneath the upper layer of the cuticle; it is an idrosis, an acute outpouring of fluid by the sweat glands, accompanied by an inflammatory condition, and as a consequence, death of the upper layer of the cutis. The disease is always classed with eczema. The treatment, however, is somewhat different. In *scabies* the vesicles are scattered, not confluent; they are acuminated, and present the well-known furrow, at whose end the acarus lies imbedded and may be detected. There is no inflammatory base as a rule. Eczema may be interdigital, and then lead to confusion; but in scabies the eruption is seated on the anterior surface of the forearm, about the breast, abdomen, the buttocks, and the penis; on the feet, pustules (impetiginous and ecthymatous) are present, the itching is intense at night, but relieved by scratching. In scabies crusts contain acari. In the more chronic, the pustular, and scaly stages, the similarity of eczema to other diseases is a frequent occurrence. Where the body generally is affected confusion may arise in the case of general psoriasis, pityriasis rubra, and pemphigus foliaceus. The distinction between general eczema and psoriasis is a matter of daily necessity. The history of "discharge" in the eczema case is here the great guide. An eczema so severe as to cover nearly the whole body could not be without the "characteristic" discharge at the outset of its course. The scales are epithelial in lepra vulgaris, and only partially so in eczema, in which the crusts are also made up of blastema, granular cells, pyoid corpuscles (inflammatory products). The disease in lepra vulgaris, seen generally very clearly on the elbows and knees, or head, is an hypertrophy chiefly of

the epithelial layer of the skin, the papillary portion being involved, whereas eczema is an inflammatory and exudative affair. Nothing is more certain than this contrast. The origin of the disease in *pemphigus foliaceus* is from bullæ that first show about the chest, and thence invade the general surface: they abort, and are replaced by large scales and incrustations, the scales being often thick like parchment; the skin is not infiltrated; the disease is a grave one. In *pityriasis rubra*, as far as I have seen it, there is a dry red glazed surface, with slight infiltration of the skin, the formation of scales that now take the form of branny flakes, now of large thin squamæ easily detached: more extensive plates may form and all be present in one and the same subject. In some cases there are patches of skin that remind one in the feel of a piece of dried bladder, only that they are reddish. There is no discharge, merely redness, desquamation, and condensation, without much itching, burning, or other uncomfortable symptom.

When the eczema is not general but local, difficulties frequently arise. I include impetigo under the term eczema, save in the case of the contagious impetigo, which in its "sparse" and "contagious" nature cannot but be recognised. The inflammatory form, eczema rubrum, attacks several regions at once; the rigors, smarting, and pyrexia may make one suspect sometimes the advent of erysipelas. When eczema attacks the hands, bullæ may form in consequence of the coalescence of vesicles, and pemphigus may seem to be present, but the presence of the vesicles or crusts elsewhere in eczema, and of bullæ in pemphigus, will suffice to avoid error. *Herpes circinatus* (when well marked) I have seen more than once mistaken for eczema, but the red base with vesicles upon this, and the peculiarly well-defined and perfectly circular shape of the patch in the early stage, and the delicately scaly or "frayed" aspect of the herpes, the scales being

formed not so much by discharge as epithelial scales as seen under the microscope. The detection of a fungus should settle the diagnosis. Seborrhœa sicca or squamosa, and even seborrhœa oleosa is mistaken, I believe, generally for eczema. There is in ordinary seborrhœa no "discharge;" there is a red surface which becomes covered over with little dirty yellow flat crusts, which are made up of fatty and epithelial matters, and on these being picked off, which may be done pretty readily, the surface beneath is seen to be red, dry, not unusually hot: the sebaceous follicles, moreover, being somewhat distended and prominent. In other cases the sebaceous flux may be of a more oily nature, and then there is less crusting. There is a discharge, but it is fatty, and there is not the crusting of eczema, and the sebaceous glands often atrophy somewhat. But this form of seborrhœa may take on the aspect of eczema faciei, the naked-eye difference between the two being the peculiarly oily, honey-like character of the discharge in seborrhœa, and the absence of "crusting" which we would expect, having regard to the amount of discharge, were it eczema.

Lichen circumscriptus and *lichen agrius* may resemble eczema; the distinctly papular and the non-catarrhal nature of the former should suffice for the diagnosis. Lichen agrius, or inflamed lichen, has "discharge" no doubt, but it is not followed by the light yellow crusts of eczema, the patch is thicker, harsher, the scaling more epithelial, the skin generally more infiltrated than in eczema. I have no objection to regard lichen agrius as including those cases in which lichen and eczema occur together, and which we know as lichen eczematodes or eczema lichenodes, particularly as the treatment is the same as that of eczema rather than lichen; but this I do say, that you may have an inflamed lichen, simulating but distinct from true eczema, in the same way that you may have an inflamed and exuding lepra vulgaris which looks like but is not eczema, and whose

history is that of lepra plus superadded irritation and inflammation (not catarrhal).

From eczema, *favus* and the *tineæ* would be known at once by the microscopic characters of the scales and hairs. In lepra vulgaris, which is partial, there is never any secretion; it is a primary form of disease; there are no vesicles, the patch is thick, cracked, and covered by white scales; the disease affects peculiarly the elbows and knees. Eczema lichenodes is the same as lichen eczematodes; it exudes very slightly; the edge, however, is papular. As I have said, lichen agrius is considered by many to be eczema lichenodes; in it the surface is not very moist; there are no vesicles; the secretion is not that of eczema; there are no yellow crusts, but thick scales; and the surface beneath is rough and papular; there is more or less induration and thickening, and the edge is markedly papular. I have no objection to unite the two.

Then eczema may be altered very much by secondary changes that increase in proportion to the chronicity of the disease. Eczema fissum may appear to be identical with lepra vulgaris, in which cracking is common; hypertrophy of the skin and subcutaneous cellular tissue (one or both together may follow an eczema); in the one case we have E. verrucosum, in the other E. spargosiforme; in another case the tissues may harden, in another ulceration may follow; now in all these instances the history of the case is our guide in determining the mixed nature of the disease.

Then, lastly, eczema may complicate and occur together with other diseases: with lichen, scabies, even lepra vulgaris; and in such instances we have necessarily a blending together of the characters of the separate diseases. To remember the possible coexistence of diseases is one of the first necessities to a safe diagnosis.

The Treatment.—Eczema I hold to be of the nature of a *catarrhal* inflammation. This implies debility.

It is highly unsatisfactory to consult books about the treatment of eczema. One gets very little from them. I shall not follow the bad example hitherto set of giving a general *résumé* of the action of remedies: but I will try and depict what we want in practice. Remedies are local and general, of course. Some of the slighter forms of eczema produced by irritants, the action of the sun, friction, and injury, readily get well by the removal of the cause, and the use of topical sedatives and astringents. But in the vast majority of cases we require to give internal remedies to correct vicious nutrition, or some influence that debilitates, and so cripples, the restorative power of the system directly, and the reparative action of the tissues indirectly. Acute general eczema does not give us much trouble: salines and aperients to counteract the pyrexia, and vegetable bitters presently, with ammonia, or the mineral acids, with the use of zinc ointment or lotion, do all that is required. It may chance, however, that the patient is a strumous or gouty subject, or suffers from nervous depression, or has been overworked: the indications here for appropriate treatment are obvious enough: cod-liver oil, colchicum with alkalies and ammonia, rest, and nux vomica or quinine, or iron (if anæmic), soon aid and consolidate Nature's cure. But in the more ordinary forms of eczema it is the physician's duty to search carefully for flaws in the health of the patient, especially in regard to his assimilative functions. The treatment of eczema can never be a stereotyped one. In the infant, cod-liver oil and steel wine are called for by the pale, pasty, lymphatic aspect of the little patient; and how rarely do they fail in effecting a rapid cure, provided the food be attended to and properly prescribed. The one great fault is poverty of the nurse's milk; and whilst we lay stress on medicine, we must not forget the prime importance of influencing the child through the natural means. Mothers if need be, must take tonics, more animal food, fresh air, proper

rest and quiet, and keep free from anxiety as far as possible. If the child is being "brought up by hand," "corn-flour" and other purely starchy compounds, I think, should be avoided. Fine-baked flour, and milk, with "wheat phosphates," is perhaps the best compound. I only speak as I have experienced. And going on to a later age, the same remarks apply in regard to remedies. The patient must be treated according to his or her diathesis, and special nutritive wants and failings, and not the name of the disease.

Then the sanguineous must take aperient tonics. I know none better than a mixture composed of sulphate of magnesia, sulphate of iron, dilute sulphuric acid, tincture of orange-peel, and some carminative. Of course the dose is to be regulated according to the aperient action of the medicine. But in adults we may discover a dyspeptic state, gouty tendencies, and loaded urine; in these instances, cutting off beer and spirits, colchicum, purgatives, and then tonics—*i.e.*, vegetable bitters and alkalies—are indicated. In eczema rubrum, aperients and tonics combined act best. In a very large number of cases, in persons of middle age, especially in hospital practice, one sees at once that bad living, hard work, and anxiety, have prostrated the eczematous patient; under these circumstances good food and quinine cure. In the better ranks of life, dyspepsia (pyrotic, atonic, or irritable) are at the bottom of the mischief; luxury has entailed torpor of the secreting and assimilating functions: bismuth, soda, pepsin, mineral acids, or strychnine, as the case may be, are now available, and do good service. In ladies who have uterine mischief, iron and the like are called for. In all the chronic cases in which scaliness is the main feature, arsenic is serviceable. I am not disposed to extol the virtues of arsenic to so large an extent as is the fashion. It is a valuable remedy in eczema, but by no means a *panacea*. I find in the scaly cases, in which the health is seriously impaired, it does good;

but I know it also does harm when pushed beyond reasonable limits, and I regard it as positively unjustifiable to give courses of the drug for two years or more. In chronic eczema, with marked infiltration and induration of the skin, a mild course of bichloride of mercury with bark is of infinite service; and I fully agree with Dr. Frazer on this point. My maxim is, treat the patient as well as the disease. So varied are the deviations from health, that it is impossible to give more than an indication of the line of procedure in eczema, taken as a whole. I would refer lastly to the value of purgatives and diuretics. In eczema, especially, purgatives are of use; they may act, and do, as derivatives from the skin, where discharge is free, and in all the more serious and inflammatory forms they should be given in conjunction with tonics. In the same way diuretics are useful over and above any general alkaline action they may have.

Local Treatment.—If there be one thing more necessary to impress upon the minds of students, it is this, that the skin of an eczematous subject is a very sensitive and irritable one, therefore the main plan of treatment, as far as local measures are concerned, is to soothe and to allay irritation. In a large number of instances, local remedies suffice for the cure of eczema. The routine is to use either zinc or some mercurial, or other irritating, ointments, and I believe that in a good proportion of cases, the disease is made worse by the use of irritants. In acute general eczema the hyperæmic cutis is, as I have said, very sensitive, and the disease being *inflammatory*, we must *rest*, *protect*, and *soothe;* this is most important in the *exudative*, and less so in the *scaly* stage. And other guides are the sensations experienced by the patient—the feeling of burning should make us very cautious in the use even of stimulant remedies. Water-dressing is useful at the outset, but the best plan if there is much swelling is to lightly bandage with a lotion containing a

fair quantity of liquor plumbi (℥ij ad ℥vj), or a lotion made of calamine powder ℥j, oxide of zinc, ℥j, glycerine ℥jss, water to ℥vj, this being used very freely so as to keep the surface moist, and exclude the air if possible. If the itching or sensation of burning is bad, poppy fomentations, cyanide of potassium ointment (gr. iij vel gr. v ad ℥j), chloroform, wine of opium, and belladonna lotions, are useful. A very convenient application is an ointment containing an ounce of elder-flower ointment, rubbed up with ℥jss of liq. plumbi and ℥j of vinum opii. In the second or exudative stage it is the custom to employ ointments, but I generally, indeed always, avoid them; in proportion as the heat or itching, the redness or swelling disappear, do I employ astringents, but whenever there are signs of irritation I use soothing and emollient remedies externally — borax, carbonate of soda, and lead lotions are as good as any, and these in connexion with aperient tonics, generally control the discharge, and I follow this plan even where the eczema is pustular. It is almost unnecessary to add that the diseased parts should be most gently handled at all times. Soap should not be used, and no friction with the clothes allowed.

When the third or scaly stage is reached, I believe it is often still highly necessary to avoid the use of any applications which act as irritants; I mean that induce continual smarting, serous exudation, or increase the redness and the induration of the diseased patch. There is a good deal of local (tissue) debility left behind in eczema, and *irritability is one of the chief characteristics of the skin of an eczematous subject.*

Astringents are generally called for in simple forms of eczema—such as we see in the scalp. I prefer, in connexion with tonics, the use at the outset of, borax ℈ij, acetate of lead gr. ij, and glycerine ℥j, to ℥j of lard; a stronger ointment is ℥ij of ung. hyd. nitratis, ℥ij glycerine, and adeps ℥ij. In some cases the ammonio-

chloride of mercury ointment acts very efficiently. Where thickening and induration finally remain, these may be regarded as secondary and ordinary results of congestion, and should be treated accordingly by revulsives. I often use a strong solution of nitrate of silver (℈ij), in nitric ether (℥j), ointments made of the pyroligneous oil of juniper (℥j vel ℥iij ad ℥j adipis), or should that not suffice, iodide of mercury ointment (gr. v—xv to ℥j). I cannot say that "English skins," bear satisfactorily the "tar treatment" of Hebra; by adopting it I have often disgusted my patient, and am not disposed to push it in future. The above line of procedure holds good in the case of children; but here in addition an absorbent powder is serviceable. It may be made of oxide of zinc and calamine powder and starch in equal parts. I prefer a lead or calamine lotion with exclusion of air, and at night a layer of elder-flower ointment, to anything else as simple applications in eczema infantile.

The calamine powder I speak of is not that of the shops. None should be used save that which has been repeatedly washed, and very assiduously rolled or ground to an impalpable powder, otherwise it acts as an (gritty) irritant. When eczema is general, other local measures are called for, and foremost amongst them stand alkaline and gelatinous baths, separately or conjointly, if there is very much "soreness." Carbonate of soda four ounces, and three pounds of clarified size is that I most usually order in the early stages; in other cases, where the irritation is great, a "size" bath may even be advisable. Where there is free "discharge," and the patient is much distressed by the heat and irritation of the surface, we may make a thinnish paste with common whitening, and paint the surface freely over from head to foot, if necessary night and morning, taking care to keep the body as cool as possible in regard to the bed coverings, whilst seeking by aperients and diuretics to

relieve the discharge, and "determine" it elsewhere. In the pustular forms, a strong borax lotion is my favourite, in conjunction with a weak citrine ointment. I repeat that in the disease which Willan called eczema, the plan is to soothe as much as possible. Authors have spoken very highly of certain plans which are based upon a different mode of action, but I suspect that this arises from the fact that lichenous, psoriatic, and pruriginous diseases have been regarded as eczema. It seems to me that one main argument in favour of the isolation of the "catarrhal" form of inflammation of the skin, under the term eczema, used in a limited sense, is to be found in the success of an emollient system of treatment, which is of little use in other diseases supposed to be stages of an eczema, in a much wider sense. Lastly, there is one exception to the rule here laid down in regard to the use of stimulants, and it is the case of eczema secondary to scabies. Here the scabies must be treated and cured at all hazards, and then the eczema will probably vanish, at all events by the use of the simplest remedies after the specific treatment for scabies has been fairly employed.

Impetigo, see Pustular Diseases.

For special remedies, see selected formulæ, Nos. 32, 33, 34, 46, 48, 49, 50–2, 64–9, 86–7, 123–6, 129, 146, &c.

CHAPTER IX.

PLASTIC INFLAMMATION, OR LICHEN.

Willan included under the term Papulæ three diseases —lichen, strophulus, and prurigo. In all of them are found little solid elevations of the derma (papulæ), generally about the same colour as the skin, scattered or collected, feeling harsh and solid to the touch, and attended by itching. In the case of prurigo, these elevations are known to be the direct result in some cases of a disorder of the nervous element of the skin; they are often accompanied by symptoms of atrophy of the skin, and marked signs of nerve paresis. Hence this affection is most properly transferred to the class of neurotic diseases. In lichen and strophulus the papulation is supposed to result from active inflammatory action, in which the blood and tissues are concerned (a fibrous or plastic inflammation), constituting the primary and main disease. The papulation of true lichen is accompanied by dryness, more or less roughness, and general thickening of the skin. There is never any "discharge;" lichen is not a "discharging" disease, and in this respect differs altogether from eczema; it is due to the effusion into the skin itself of plastic lymph.

Strophulus is considered to be the lichen of children, but I shall have occasion to deny this, and to state that it is a mixed disease. However, at examinations candidates are required to say that strophulus is the lichen of infants and young children.

LICHEN.

This disease is essentially chronic and non-conta-

gious, characterized by the appearance of little papules, about the size of millet-seeds, slightly red, or of the same colour as that of the skin, distinct from, though close to, each other, at other times closely grouped. The former distribution is often seen on the inner, the latter on the outer aspect of the limbs; the papules feel hard and cannot be removed by pressure; if they are scratched, a little clear fluid may ooze out. The skin generally is dry and thickened; there is considerable itching. Once formed, the papules undergo little change until their disappearance, but then scales form upon them, and they are dry, very fine, and greyish. The disease has a great tendency to recur, to chronicity, to be complicated by other forms of disease, and to spread from one region to another. It may be acute or chronic. Its seat may be limited, or absolutely general; it exhibits, however, a predilection for the back of the forearms and hands, the lateral parts of the neck, and the face. As before observed, some think lichen merely a stage of eczema (especially Hebra and Hardy).

Lichen may be divided into (*a*) simple or uncomplicated, and (*b*) complicated or mixed. In the latter group the characters of other disease—urticaria, purpura, or eczema—are added to those of ordinary lichen.

Simple or uncomplicated.	*Complicated or mixed.*
1. Lichen simplex.	1. Lichen urticatus.
2. „ circumscriptus.	2. „ lividus.
3. „ gyratus.	3. „ eczematodes.
4. „ agrius.	
5. „ pilaris.	
6. „ tropicus.	

Under the head of lichen, Hebra includes two forms of lichen, named respectively, lichen rubra and lichen scrofulosus, to which special reference will be made.

Lichen simplex is often seen in the summer, sometimes recurring in the same person several times; the

papules are red, smallish, and more or less pointed, lasting a week or so, and followed up by the development of others; they are usually seen on the back of the hand, the outer aspect of the forearm, the neck, and the thighs: there is a good deal of itching. This form may last for weeks and months. The disappearance of the papules gives rise to a little desquamation. The skin generally is dry, thickened. *L. circumscriptus* is present when the papules are collected together into little round or roundish elevated patches; the border is well defined and papular, the surface elevated, rough and dry to the feel; its area increases by circumferential enlargement, and its centre presently clears somewhat; there are generally several circles, and their most usual situation is the back of the forearm or the hip; at other times the back of the hand or calf may be affected. The patches after a while get more or less scaly, or inflamed and cracked, simulating eczema, or in consequence of the centre healing, assume a circinate form; but the history, absence of moisture, and the dry red base of derma, are distinctive. When several patches run together and form bands as it were, the disease is named *lichen gyratus* (Biett): this is nothing more than the coalescence of several circles of lichen circumscriptus. *Lichen agrius*, or the inflamed form of lichen, differs from the above in the presence of secretion, and hence approaches eczema; but it is, as its name implies, an acute inflamed lichen. It commences with fever, more or less marked, headache, pains in the limbs, stomach derangement, and the like; some of these may be absent. The local manifestation consists of clustered or closely-packed red papulæ, accompanied by intense itching and burning, causing the patient to scratch violently; this in its turn sets up additional irritation, the torn and excoriated papulæ are inflamed, and exude a thin fluid; the whole patch thickens, fissures, and becomes covered over with *thin scales*, not

the yellow puriform scales of eczema. Lichen agrius may also arise by inflammation of the chronic stage of any of the other forms of lichen, not primarily as an acute form. The acute state is about ten or fifteen days in duration, the chronic weeks or months: this variety of lichen is observed about the back, neck, legs, arms, and shoulders: it constitutes one aspect of grocers', bricklayers', and bakers' itch. Vesicles and pustules may however form; and then we have an inflamed, raised, reddened, excoriated, discharging, fissured patch, the seat of intense and often intolerable itching and burning, made worse by stimulation of all kinds, especially the warmth of bed. This is no doubt a mixture of eczema and lichen, and is rightly termed eczema lichenodes or lichen eczematodes. The disease either subsides or increases by the development of fresh crops of papulæ. In true lichen agrius, the papules form the prominent feature. True lichen agrius then is an inflamed lichen; but the co-existence of lichen and eczema in one and the same patch closely simulates it.

Lichen Pilaris.—Much dispute has arisen in regard to this variety. Occasionally one sees, either alone or in conjunction with ordinary lichen, little elevations like papulæ, which are however seated at the hair follicles; in fact the hair pierces the centre of the papule. A distinct alteration is felt by the finger. There is no doubt but that hyperæmia of the follicular plexus is followed by fibrous deposit outside the follicle, forming a papule. There is no reason why in ordinary lichen this should not happen in the same way that hyperæmia and enlargement of the sebaceous follicles is seen as an accident and accompaniment of scabies and other diseases. Indeed any irritation may induce this "lichen pilaris," and it is sometimes seen in chronic scabies. Generally the papulation involving the hair follicles is slight, but I have seen it take on a very exaggerated form in the leg, the effusion of lymph

producing hard, large flat papules, nearly the size of split peas, perforated in their centres by hairs. In the last case I had under my care, in consequence of the number and close packing of the papules, there was a patch over the whole inside of the leg from below the knee to about three inches above the ankle: on the other limb the disease was not so far advanced; each papule was covered by what appeared to be a largish adherent scale. This was made up of epidermis cells. The patch was elevated sensibly, felt dense, and was dark coloured. I have seen other cases of the kind. There was in one case severe, and in a second scarcely any, itching. It might well be called lichen planus, but differs, as we shall see, from lichen ruber of Hebra, which is not seated solely at the follicles. Lichen pilaris then is "fibrous inflammation" seated at the hair follicles, the effusion of plastic lymph taking place around the follicular walls, and producing according to its degree, more or less well-marked and distinct papulation, each elevation being perforated by a hair. It must not be confounded with pityriasis pilaris, which is merely a desquamation of cuticular cells into, and distending, the hair follicles, preventing the formation of the hair, and producing a blocking up of the follicles, the collected cells forming "a knot" in the upper part of each follicle, and constituting in scrofulous subjects what Hebra describes as *lichen scrofulosus*, a distinct form of disease which, according to Hebra, shows itself by the appearance of little elevations, about the size of millet seeds, either pale, or yellowish, or brownish red, never vesicular; always grouped, sometimes in circles or segments of circles. The parts which have been papular after awhile appear to be covered with a number of little scales; the patches itch slightly, but not being scratched, are not excoriated nor discoloured by blood. These patches remain in the same state for a long time, and undergo no further changes than exfoliation and involution. The disease is limited to the

trunk, the belly, the breast, and back, being rare on the extremities. The course is very slow; generally speaking the groups are developed at the same time, reaching their height in a little while, and then remaining *in statu quo*. Oftentimes, in consequence of the absence of local symptoms, the disease exists unnoticed for some time. When at its acme, other symptoms are observed: between the groups, and at the same time, on parts free from lichen—that is, on the extremities and face, more or less numerous isolated bluish-red elevations are developed; these are about the size of lentils, and look very much like common acne; some are said to contain pus, then by-and-by they wither and disappear, leaving darkly pigmented orbiform, lentil-sized marks in some places, whilst in others fresh formations take place. The skin between the diseased patches is the seat of desquamation, the scales being pale and shining; thus the whole skin assumes a cachectic appearance. In 90 per cent. it is observed in markedly scrofulous subjects, with swelling of the submaxillary, cervical, and axillary glands, with caries and necrosis, or tabes mesenterica. In no case is there lung disease. Hebra has seen many cases, and all recovered. It is not phthisical pityriasis. As to pathology, each knot or papular elevation is seated at the orifice of a hair follicle, and is made up of epidermic scales and fatty matter, in the form of fatty nuclei within the cells. The disease is seen almost exclusively in males, between the ages of fifteen and twenty-five. The treatment is cod-liver oil internally and externally. This disease is not a lichen. There is no inflammatory effusion outside the follicle, but accumulation of epithelium and fat inside. It is a pityriasis pilaris, and differs in no way from that disease which will be described under pityriasis, save that it occurs in strumous subjects, and is in consequence all the more severe. The fatty matter given out by the sebaceous glands is more abundant, and the acne like spots are

readily accounted for by the blocking up of the hair follicles into which the sebaceous ducts open, and the resultant inflammation, favoured by the diathesis: the cicatricial marks left after the disappearance of the acne spots being due to atrophy, which is one of the most usual events in struma. The cure by cod-liver oil is one of the strongest arguments in favour of this view.

Lichen ruber is really, as far as I know, a true lichen, but I am not certain that the disease occurs in this country, save to a slight degree. According to Hebra it has three stages:—1. In which are papules, millet size and discrete, covered with fine scales, not clustered, not irritable, and therefore not scratched and excoriated; not general, but confined to one part, mainly the limbs, keeping their original size and not themselves enlarging. 2. In which a patch is formed by the springing up of new papules in the intervals of the old ones, the patch being dull red and covered with scales. 3. The whole skin gets red and papulated and at length cachectic; it desquamates in flakes. The nails become brittle and thickened. There is not much itching. The whole skin thickens and cracks from the muscular movements, and what is of importance as effecting the determination of the nature of the disease, this latter state affects especially the palms of the hands, soles of the feet, besides the fingers and toes. "On examining thin sections of the skin with the microscope, the chief morbid change which has been discovered is in the root-sheaths of the hairs. As is well-known, the root-sheath, in its normal condition, is a cylindrical tube, surrounding that part of the hair which is embedded in the skin. In cases of *lichen ruber* it is changed into a funnel-shaped body pointed below, expanding towards the mouth of the sac, and looking as if it were made up of several hollow cones, loosely included in one another, and having the hair in the middle. Besides this, the cutaneous papillæ have been found to be enlarged, and the vas-

cular loops which they contain to be dilated in this disease." When the disease becomes chronic, emaciation, and a state of marasmus set in, and these are followed by the patient's death.

Lichen tropicus, or "prickly heat," is generally described as an eruption of numerous papillæ of vivid red colour, about the size of a pin's head, without redness of the skin generally, often interspersed with vesicles and accompanied by a peculiar tingling and pricking sensation, which may be almost intolerable, and is excited and intensified by heat, warm drinks, flannel, &c. The disease mainly occurs in hot climates, and attacks the parts covered by the clothes, the arms, legs, breast, thighs, flanks, and the upper part of the forehead. It sometimes occurs in this country. On one day, the 21st of July last, during the unprecedented hot weather which prevailed, no less than seven cases came under my notice in the skin department at Charing Cross Hospital. Now the disease is mostly regarded as a lichen. I cannot subscribe to this opinion. No doubt acute lichen is produced by intensely hot weather very frequently, but as far as I have seen lichen tropicus, that disease in which "pricking," burning sensations are marked—and many cases came under my notice in Syria—the anatomical seat of the disease is the perspiratory follicles; the great demand made upon the perspiratory glands deranges their circulation, so much so, that they are mostly unable to excrete sweat; the result is that the surface is not properly cooled by evaporation, the sweat products are retained, and consequently the nervous plexus of the skin is acutely disordered: hence the burning, pricking sensation. Here and there over the surface, a certain amount of perspiration is produced, this collects beneath the cutis and forms vesicles. It is not uncommon to find lichenous papules intermingled with those of prickly heat, and even enlarged sebaceous follicles; these are accidental, the result

of the disorder of the circulation. I should therefore take lichen tropicus away from its present position, and place it amongst the disorders of the perspiratory glands. To recapitulate. Under Group I., or uncomplicated lichen, I rank lichen simplex, circumscriptus, gyratus, agrius, pilaris, ruber, transferring lichen scrofulosus to pityriasis pilaris, and lichen tropicus to disorders of sudoriparous glands, and this leads me, before noticing the second group—viz., mixed or complicated lichen, to speak of the

Pathology.—Now one of the broad distinctions between lichen and eczema is the entire absence of discharge in the former and its presence in the latter. Very many different opinions have been held as to their anatomical seats. It has been said that the little solid elevations of the skin which we call papulæ are seated at the sebaceous glands; others affirm that they are due to hyperæmic follicles, with subsequent effusion; others that they are enlarged papulæ of the skin. Now in some cases, where chronic irritation exists, it is very common to see congestion of the sebaceous follicles, as in scabies; in others the follicles become inflamed and prominent. These conditions give rise to elevations that look like papulæ, but they differ from the hard, pale, or slight red papulæ of true lichen, which is produced by an effusion of plastic lymph into the skin, especially its papillary layer; and this effusion is not limited, but is general, so that in well-marked cases of lichen the whole integument is dry, harsh, discoloured somewhat, tougher than usual to the feel, contrasting strongly with the thin, light, delicate skin of an eczematous subject. As far as microscopic examination has gone this has been shown to be true, the vessels of the papillæ may be dilated, the papillæ themselves hypertrophied. Even in lichen the irritation set up induces turgescence of the sebaceous and other glands, especially in lymphatic subjects: but these phenomena are only accidental to true lichen. It will now

be seen why I regard lichen scrofulosum and lichen tropicus as misnamed and misplaced. I am not prepared to say the relative degree in which the vascular and nervous papillæ are involved in lichen. And now I speak of Group II., or mixed forms of lichen. There are three diseases here: L. urticatus, L. lividus, and L. eczematodes. The latter has been referred to under the head of lichen agrius.

Lichen urticatus is simply lichen complicated by urticaria, described especially by Bateman, confined to children, and of special obstinacy. It is generally described as resembling the bite of bugs, but more properly as consisting of papulæ, which are larger than usual, surrounded by redness, and intermingled with wheals here and there. In consequence of the scratching, the points of the papules are torn off and a little dark speck appears, so that the papules are more or less pruriginous. In other instances the papules themselves are a compromise, as it were, between the two forms of eruption; there are smallish, white, fugacious elevations in conjunction with an irritable itchy skin; and generally pruriginous papulæ are present. The disease, it is highly important to observe, may attack the feet. In other instances the papula is developed out of an urticated spot; so that in all instances we may trace the composite character of this variety of lichen. The warmth of the bed is particularly distressing in augmenting the itching. When the disease lasts some time, the surface is thickened, dirty, so to speak, and dry. It is common in the middle months of the year (summer and late spring), and scabies is often at the bottom of it, and its original excitant.

Lichen lividus is lichen in conjunction with purpuric spots. It is seen in those of ill-health, in the intemperate and badly-fed, especially about the legs, where gravitation comes into play. The development of the papulæ is accompanied by a little hæmorrhagic effusion, and this may take place at the exact seat of the forma-

tion of papulæ, or elsewhere: hence we may have as separate existences, hard, livid, flattened papules; or ordinary papules with purpuric spots—a mixed, not a confused eruption. The characters of ordinary lichen may be seen elsewhere—on the arm, for instance.

Prognosis is not grave. Lichen circumscriptus and lichen agrius are often very obstinate, so is so-called lichen pilaris and lichen occurring on the face. As a rule, the simple forms get well, with proper treatment, in two or three weeks.

Causation is supposed primarily to be due to the existence of a peculiar (dartrous) diathesis, but of which I know and can comprehend nothing Lichen appears to be most apparent in the nervous temperament in summer time. It attacks all ages, and is evoked by local and reflex irritation, by a deficiency of alkali in the system; irregularities—mental, physical, alimentative, &c.; hereditary tendency; certain occupations—*e. g.*, cooks, bakers, grocers, bricklayers, &c.; by hot climates. Similarly in this as in other diseases—a predisposition to disease shows itself by tangible evidence whenever any determining cause unbalances the resistant power of the system.

Diagnosis.—There are some difficulties here. The chief points to remember in regard to lichen are the dry and thickened state of the skin, the presence of papules, which are always to be found, if the disease is in patches, at its extending edge, their hard feel to the touch, and their tingling or itchiness. Lichen simplex and scabies may be confounded. *Lichen* is uniform, *scabies* multiform. In *scabies*, besides papules there are vesicles, often pustules, and the papules are not so closely aggregated; the eruption also is in the line of flexion, not, as in lichen, in that of extension—*e. g.*, lichen is seen chiefly on the outer aspect of the arm; it may occur on the back of the hands and fingers, but it is not interdigital. Lichen never, except in its urticated variety, occurs in the feet; it is common on

the face; scabies is not. In scabies too we find the characteristic vesicle and sillon; then the disease is contagious and easily removed by sulphur treatment. It is also seen in the seats of pressure, rarely above the level of the mamma, and not associated with the peculiar dry, harsh, thickened state of skin as lichen.

Lichen urticatus closely resembles scabies, but the eruption differs in the evanescent character of some of the spots (urticaria), in the absence of vesicles, of pustules, &c.; in its presence, oftentimes, about the face, and its general absence from the feet; for it is very probable that when it attacks the feet, L. urticatus is complicated by scabies. In the chronic condition, the papular aspect of the rash, with the peculiar hard solid feel, and brownish aspect of the papulæ, will at once be distinctive.

Prurigo may simulate lichen, but prurigo is associated with an unhealthy, relaxed, muddy, dirty state of the skin,—flabby is the word; the papules (which are pale) are fewer in number, and each is marked at its apex with a dark black speck (dried blood), effused as the result of scratching. The skin is not thickened and dry, as in lichen, nor is there any attempt at scaliness, as in lichen, nor aggregation of papules into patches or groups. Prurigo is essentially a disease of advanced age; pediculi are mostly present, and there is often a peculiar urticated state of skin, seen very markedly on the back and chest, produced by an exaggeration of the spaces inclosed by the normal furrows. Prurigo is not common about the face; the sensation is one of formication, and is altogether out of proportion to the local disease, whilst pediculi may frequently be detected in the folds of the linen.

Lichen agrius resembles *eczema*, but the latter is moist and discharging, occurs in delicate and thin, not in harsh dry skins; again, the history and edge of the patch in lichen point to the existence of papules; then the patch is much thicker and harsher than in eczema,

and wants its thick yellow crusts: the latter in lichen are thin, pretty few, and "flimsy." Chronic eczema never gives rise to such a thickened condition as lichen.

Lichen circumscriptus with its papules ought not to be confounded with the vesicular or furfuraceous herpes circinatus, in which a parasite is found; nor with *lepra vulgaris*, which is entirely devoid of discrete papulæ, and presents peculiar white imbricated scales, and as its selective seats, the points of the elbows and knees.

It is important to remember that scabies may be complicated with lichen, and the latter may be set up as the result of irritation of scabies. One sees this state of things very frequently in the hot season—the irritation of a few scabious spots bringing out a pretty general lichen.

Treatment.—The early stages of lichen, when accompanied by febrile symptoms, may be treated upon general principles. Salines, aperients, tepid baths, to which may be added bran, gelatine, size, and the like, are proper. In lichen agrius poulticing, rest, and lead lotion, or an ointment containing watery extract of opium, lead, and adeps. To allay itching at this stage, besides the baths, ointments of cyanide of potassium may be used in the proportion of three grains to an ounce of lard; oxide of zinc, borax, of each a drachm, camphor ten grains, and adeps one ounce; or bichloride of mercury or borax lotion. Then, when the disease has passed the acute stage, we must treat the patient according to his constitutional bias. In a goodly number of cases we shall note that he or she is overworked, worried, not taking sufficient food and rest, is annoyed by dyspepsia, and is looking thin and anxious. In such cases a change from depressing and over work, the correction of acid or atonic dyspepsia, mild aperients, and a course of mineral acids and bitters, will speedily be effectual, the local treatment consisting in the use of mild astringents—zinc and dilute nitric acid lotions.

In other cases, where the urine is loaded, and the skin generally is discoloured and harsh, alkalies are of service, and may be given with ammonia and bitters, together with alkaline baths and borax lotions. In other cases it is apparently impossible to say that anything beyond general debility exists; under such circumstances arsenic is to be employed. In lichen circumscriptus again, an alkaline course is beneficial, and if there be any tendency to rheumatism bromide of potassium may be given in addition; and in lichen agrius gouty tendencies must be met by colchicum. In the former variety of lichen weak mercurial ointment, the citrine ointment diluted 4 or 6 times, or the ammonio-chloride (grs. v to ℥j) or acetate of lead, iodine, iodide of sulphur, and sulphur ointment, according to the induration and chronicity of the patch, and in the latter variety maceration with glycerine, borax ℥j to ℥j of adeps with glycerine, or ammonio-chloride of mercury ointments, and lastly, painting with a solution of nitrate of silver, or glyceral tannin, are of use.

When the disease is very chronic, and there is much thickening of the skin in general, and in lichen pilaris, a course of bicyanide of hydrargyrum, in the same doses as the bichloride, with bark, is necessary to cause resorption of the plastic material poured out into the derma; and local stimulation to the skin with sulphur vapour baths may then be employed. But, indeed, no one plan can be laid down for lichen. Each patient must be treated according to his individual peculiarities—one man will need cod-liver oil, another steel, a third aperients, a fourth arsenic, a fifth colchicum, and so on; but the tendency should be in the early stage to use alkalies, and in the later stages arsenic. The too free and early use of stimulants to the skin should be avoided—emollients and alkaline baths being most fitting for recent disease. In all cases stimulants are to be dispensed with entirely if possible, and the food is to be unstimulating. A very good form

of local application for itching is dilute hydrocyanic acid a drachm and a half, Brandish's solution of potash half a drachm or a drachm, and six ounces of rose water. Lichen lividus requires the free use of acids and bark, with good food. In lichen urticatus the presence of scabies must be very closely looked after. I have generally succeeded in curing this obstinate form of lichen by ensuring perfect cleanliness in the way of linen, giving diuretics, with occasional doses of calomel, cod-liver oil, and baths containing sulphuret of potassium. See Formulæ, Nos. 32, 33, 39, 41, 48-52, 58, 60, 72, 106, 122, 124, 126, 132, 141, 146, &c.

STROPHULUS.

This disease, popularly known as the red gum, tooth-rash, white gum, or red gown, a "papular" rash observed in children, is looked upon usually as the lichen of infants. It is a disease of acutish aspect, characterized by the appearance, on the most exposed parts, the face especially, but also the neck, arms, and limbs, of successive crops of little red, irregularly dispersed or slightly aggregated, acuminated papules, intermingled with more or less erythema. The papules vary in size from pins' heads to small millet seeds; are attended with itching, sometimes slight moisture, and desquamation. There are several varieties, as follows, according to Willan:—S. intertinctus, confertus, albidus, candidus, volaticus; and in addition, Hardy and Bazin have described a mixed form under the name of S. pruriginosus.

S. intertinctus.—In this variety the papules are vivid red, and seen about cheeks, forearm, and back of hands; they are especially characterized by the intermixture of red blushes (erythema), and are intertinctured, in fact. It occurs in young infants under three months generally, and lasts from two to four weeks. When the papules are numerous and closely packed—confluent—the name *S. confertus* is used. There is

less erythema here; the papules are paler, the disease is of longer duration than the last, and a recurrence is likely. This variety occurs about the period of dentition, and in a chronic state is often limited to a few patches, which run through a slow course, and leave the skin harsh and dry. It is also most common on the arm.

S. volaticus is a term applied to the disease when it consists of small ephemeral patches, made up of a dozen or so of papules, the skin being somewhat hot and itchy. This variety is observed about the arms and cheeks. Patches spring up here and there for two or three weeks.

S. albidus is a misnomer. The name is applied to small papular elevations, perfectly white, which make their appearance about the face and neck, and are distensions of the little sebaceous glands of the skin.

In *S. candidus* the papules are large and whitish; they are seen intermingled with those of S. confertus; appear about the shoulders, flanks, and arms of children about a year old, and disappear in seven or eight days. The above are all simple varieties. The mixed form of disease presents, it is said, the characters of strophulus and prurigo conjointly, and is named

Strophulus pruriginosus.—This is a true lichen, in which the papules are pruriginous; it is an obstinate form of disease, and a not very rare one. It occurs in young children from a twelvemonth or so to eight or nine years of age. Papules appear pretty generally over the body; they are harsh, dry, discrete, not confluent; some are surrounded by a red blush. These papules itch considerably, are scratched, and then the apices become discoloured from the drying of a little exuded blood, as in prurigo, but it is often only a very minute dark speck. After a while the papules are covered by scaliness, the skin looks dirty and discoloured. Ecthymatous pustules may result from the

continued scratching. The chief seats of the disease are the back and front of the chest, the arms, and the face. The disease looks like a dotting over a dry harsh surface by pale papules with dark apices (pruriginous). The disease is mostly chronic. It follows as a consequence of uncleanliness, bad living, the want of fresh air and proper ventilation in dwellings, and is frequently seen in hot weather. It is easy to conceive that the nutrition of the skin is very much below par, and that the disease is in a great measure due to a disorder of the nervous element in the skin. The disease is very uniform in its aspect. It is thought that the prurigo mitis of Willan may be this disease, which is better named lichen pruriginosus than strophulus pruriginosus.

Pathology and Cause.—It is often said strophulus and lichen are one and the same thing in essence, strophulus occurring in the delicate and vascular skin of infants. After adolescence the nutrition of the body has so far changed, and the skin has become firmer and less elastic, so to speak, and strophulus does not occur. It is also said in books that in children simple disorder of the stomach leads to blood changes, and this is readily reflected on the skin, producing strophulus—ex., acidity, bad milk, teething. I cannot subscribe to this. The strophulus of authors is a mixed disease, in some cases a real lichen, in others a different matter. I believe that whereas the anatomical seat of lichen is the papillary layer of the derma, in what is often termed strophulus, it is the sweat-follicles. The recent hot season (summer of 1868) has supplied me with a good deal of material, and in cases which have all the appearance in children of strophulus, the papillary elevations have been seen with a powerful glass to be seated at the sweat-follicles, and on viewing them in a slanting direction the central dark apertures of the pores were seen by the students. When we remember that in cases of strophulus the children attacked are those

who are kept in heated rooms, or are muffled up from the fresh air—that the disease occurs during change of season, and on exposed parts—it will be readily conceived that the view I take of it may be the correct one. I think, therefore, that the simple forms of strophulus should really be ranked under the head of disorders of the sweat glands.

In contrasting the papule of a lichen and strophulus, there is every difference found: that of lichen is not removable by the finger, and it is solid feeling (exudation) and pale; that of strophulus is vivid red (vascular), diminishable by pressure, and softish to the feel.

Diagnosis.—In strophulus the papules have an exanthematous aspect which is very significant. As a rule, they are not so dry and harsh as those of lichen, and the disease occurs peculiarly in infants; it is not accompanied by a harsh state of skin, by crackings, or the formation of crusts; it is more intermitting in its aspect than lichen. S.—or as I would call it, lichen—pruriginosus is recognised by the presence of lichenous and pruriginous papules together. In lichen, the papules are generally closely aggregated, and there is the muddy aspect of the skin; besides, the disease is seated on the outer aspect of the limb, and the pruriginous papules are wanting. S. pruriginosus puts on a very close resemblance when pustules are present, as the result of irritation, to scabies; but the history of scabies is not papular, but vesicular: it affects the legs and feet, whereas S. pruriginosus does not; it commences in children often about the buttocks; presents the characteristic vesicle and cuniculus; does not attack the face, as in S. pruriginosus. *Scabies* is sometimes pruriginous; but then it is so chiefly about the abdomen. It is the early history which clears up the doubt, for the ecthymatous pustules are the result in both cases of irritation—in one the strophulus, in the other the scabies; and hence must bear much re-

semblance. If these secondary manifestations are absent, the diagnosis offers no difficulty.

Treatment.—In simple strophulus, cleanliness must be observed; the child must not be too much wrapped up; the use of soap must be avoided; the child should have proper food; the state of health of the nurse should be seen to; local irritation—*e. g.*, that of teething, hot clothing (flannel), must be remedied; any aphthous state must be cured; acidity should be corrected, and gentle aperients given; tepid sponging, spirit or alkaline lotions may be used locally. A very useful one is, carbonate of soda 20 grains, rose-water 6 ounces, with 2 drachms of glycerine. Almond emulsion, lime-water, and mild sulphur ointment may be also used. In the pruriginous form of strophulus, we must place the patient under the most favourable hygiene; give him good food, good air, plenty of washing; and internally, iron, cod-liver oil, and quinine, or chloride of potash. See formulæ for lichen.

CHAPTER X.

SUPPURATIVE INFLAMMATION OR PUSTULAR DISEASES—IMPETIGO—CONTAGIOUS IMPETIGO—ECTHYMA—FURUNCULUS—ANTHRAX OR CARBUNCLE—MALIGNANT PUSTULE—DELHI BOIL—ALEPPO EVIL—BISKRA BOUTON.

In many very different diseases of the skin, pûs is present, and if the term pustular were used in its very widest sense, a large number of diseases would have to be included within it; for instance, acne; parasitic diseases, such as favus and scabies; pemphigus; variola; farcy; varicella; and so on. But in these the presence of pus is, as it were, a superadded phenomenon; it is not a primary or even essential condition, and it is thrown into the shade by the prominence of other features. In those affections which may more strictly be called pustular, the suppuration is the leading and the primary condition, that which we have to recognise and to remedy. Now under the terms pustular diseases, thus defined, are usually comprised impetigo, ecthyma, and furuncular affections—the latter term including furunculus or boil, anthrax or carbuncle, and pustula maligna or malignant pustule.

If we compare the two diseases, *impetigo* and *furunculus*, we note in the former that the disease is very superficial, does not involve the deep structures, is rather sero-purulent than truly purulent, has no tendency to ulcerate, occurs in lymphatic subjects, and is accompanied by a slighter degree of inflammation and less amount of concomitant pain and heat. The anatomical seat is the rete mucosum and derma. In furunculus the disease is deeper, there is more inflam-

matory action, there is more pain, more swelling, there is sloughing and ulceration, and subsequent cicatrization. In ecthyma there is cachexia, freer suppuration, but no "core," as in furunculus—that is to say, no portion of the skin-tissue sloughs. However, what are called boils may occur together with ecthyma, which stands midway between the two groups. Now in furuncular affections the seat of disease is said to be the sebaceous glands. This will be more particularly dwelt upon in speaking of furunculi.

IMPETIGO.

In describing eczema it was stated that in some cases instead of the secretion remaining sero-plastic, it became charged with pus-cells, in fact sero-purulent or puriform. The variety in which this occurred is called eczema impetiginodes (pustular eczema). Now this purulent character may be assumed from the first, and then we have what is called impetigo. Most authors agree in regarding impetigo as a pustular eczema—an eczema occurring in a pyogenic habit of body. It may therefore rank with eczema, but I have placed it under the head of pustular diseases at present in order that I may compare it with another form of disease which is like it, but of whose true position I am yet uncertain—I mean that form of disease which I have called impetigo contagiosa (contagious impetigo). But I will first describe what is generally known as

Impetigo.—It is characterized by the presence of psydracious pustules, which are elevations of the cuticle, by small collections of pus: they run together; the increased production of pus, sometimes at different points, augments the area of the purulent patch often to a large size. The pus is soon discharged by rupture of the cuticular wall and then dries into thickish yellow crusts, accompanied by more or less oozing.

The disease then is an infiltration of pus beneath and in the deep layers of the cuticle; there is of course hyperæmia of the cutis. Now when the patches are small and scattered, the disease is called *impetigo sparsa* (scattered); when it occurs in a large irregular patch, *I. figurata.* When the discharge is free, and there is a heaped-up and thick crusting from the drying and collection of the secretion, it is termed *I. scabida*, and occasionally the deep tissues are inflamed, and then we have *I. erysipelatodes.* I must say a few words upon each of these varieties.

Impetigo figurata.—After more or less pyrexial disturbance, numerous pustules aggregate upon a reddish surface; they run together, break in two or three days, and discharge a tenacious fluid, which at first is very much like "concrete honey" (hence the name, *Melitagra*); presently becoming dry, yellow, discoloured. The disease is generally observed on the face. The circumference of the patch is red, and exhibits fresh pustules; several patches may coalesce; the crops of pustules are successive; the surface beneath the scabs is red and superficially excoriated. It often becomes chronic, and may cover the entire face. When this is the case, the deep parts are secondarily inflamed and swollen. The size of the crusts depends upon the amount of secretion. When it is free, as in infants at the breast, the scabs may be "stalactitic;" hence also the terms crusta lactea, porrigo larvalis. The neighbouring glands are swollen.

I. sparsa, as I understand it, is nothing more than the above, in small and distinct spots. It occurs often over a wide area—the head, the lower limbs, and the trunk.

I. scabida is produced from either of the above varieties by the formation of thick large crusts. It is best seen on the limbs, as in a case some time ago under my care, where both legs were covered from knee to ankle with hard, dry, brownish, and thick

crusts, covering over a red weeping surface beneath, like the "bark of a tree."

In *I. erysipelatodes*, the onset and march of the disease is marked not only by general but much local irritation—*e.g.*, heat, tension, redness, swelling.

Local varieties attack the ear, the nose, the scalp, and face. It is usual to specify particularly I. capitis. This has received a host of names: porrigo larvalis, tinea granulata, melitagra, crusta lactea, &c. It may be I. sparsa or I. figurata. The pustules are perhaps not so distinctly clustered, they are whitish, attended by itching, the presence of pediculi and swollen glands. The discharge mats the hair together into a compound, sour-smelling mass, beneath which the surface is red and tender. The sparse variety is the rarer. Children of strumous tendencies are attacked.

Two other forms are described by authors, *I. sycosiforme* and *I. acniforme*. The former is really I. labialis, in which there is a good deal of swelling and tension, and the discharge heaps up into honey-like crusts, often just beneath the septum nasi. The latter is a suppurative inflammation of the hair follicles of the beard, and is often confounded with parasitic sycosis. But this impetigo of the beard is often an acute affection. There are impetiginous spots about the face outside the beard; it affects quickly at the onset a large extent of surface; it is more superficial than the parasitic variety, has more crusting, the hairs in the follicle are not loosened or rendered dry and brittle, and there is no fungus present. The disease may become chronic.

Pathology.—True impetigo is a suppurative inflammation of the skin, the anatomical seat being about the derma and the cuticle, at the basement membrane. Pustules seated at the hair follicles may be, as before observed, not impetiginous.

Causes.—Impetigo attacks both sexes and all ages,

but mostly the young. I. sparsa affects elderly people perhaps most frequently; in a person predisposed, any irritant will evoke the disease—*e.g.*, local irritation, uncleanliness, solar heat, teething. It is most common among the lower orders; in those ill-clad, ill-fed, ill-housed; in scrofulous and lymphatic, pale, and pasty subjects.

Prognosis is always favourable.

Diagnosis.—Impetigo is known by the psydracious pustules, the yellow secretion drying into honey-like and subsequent thickish, dirty, yellow crusts. Eczema impetiginodes is a mixed form of disease, in which the onset is that of eczema by vesiculation, the discharge in the progress of the disease becoming like that of impetigo.

Ecthyma is known from impetigo by its phlyzacious pustules; the hard, inflamed, indurated base; the thick dirty discharge; the adherent crusts, and the history of the case. In *sycosis* there is swelling of the subcutaneous cellular tissue, indurated pustules, little secretion, change in the hairs, the presence of a parasite, and, in later stages, "tubercles," and the disease is seated at the hair follicles.

Treatment.—This consists mainly in the administration of remedies calculated to counteract the evil influence of the lymphatic or strumous temperament present—as cod-liver oil, iron, quinine, milk, good animal diet, together with, locally, the use of emollient and subsequently astringent remedies. In the early stages of disease, when there are acute general febrile symptoms, salines, purgatives internally, and emollient cataplasms, poppy decoction, warm lead lotion, zinc ointment externally, are useful. If there be any irritation from teething, the gums must be lanced.

Before commencing the exhibition of tonics, the bowels should be carefully attended to. Saline aperients in those of pretty good age are called for, especially in servants who have had very little exercise, and who

"stuff" themselves with unwholesome articles of diet. Having, however, rectified any error of this kind, we at once employ tonics, generally cod-liver oil and steel. Where there is any amenorrhœa, a course of iron is called for.

With regard to local treatment. At the outset, and in direct proportion to the degree of irritation present, our remedies must be of an emollient nature. Poulticing, fomenting with decoction of poppy-heads, to remove the crusts and allay inflammation, is the first step. Weak lead or borax lotion may then be used, and subsequently an ointment made of a drachm of the nitrate of mercury, or three grains of the ammoniochloride to an ounce of lard. If the scalp is affected, the hair must be cut from around the disease. Pediculi are to be destroyed by the white precipitate ointment, chloroform vapour, the pyrethrum roseum or stavesacre ointment. I prefer the former of these. In many cases alkaline lotions are of use—ex. gr., carbonate of soda (sixty grains to six ounces of water).

In impetigo scabida other steps must be taken; the general health must be regarded from a gouty, a rheumatic, or a latent strumous point of view, and treated accordingly—the kidneys especially made to act well. The diet should be good and unstimulating. Then locally, the scabs are to be removed by repeated soaking in glycerine lotion, and by poulticing, and the denuded surfaces may be treated with lead lotion, tannin and glycerine at first, and then the white precipitate ointment, or one composed of pyroligneous oil of juniper two drachms, and sulphur ten or twelve grains, to an ounce and a half of lard. Finally, painting with nitrate of silver solution will heal the surface, and if the limb is affected, and the skin is much swollen, careful banding must be resorted to. In impetigo of the beard hot fomentation, the exclusion of air as much as possible, a course of iron with acids and sulphate of magnesia, and locally alkaline washes, then glyceral tannin,

sulphate of zinc lotion, and the nitric oxide of mercury ointment, generally suffice.

IMPETIGO CONTAGIOSA, OR CONTAGIOUS IMPETIGO.

I am anxious again to direct attention to the *clinical* features of a common form of cutaneous disease, seen especially in dispensary and hospital practice, and universally classed by practitioners with eczema impetiginodes or impetigo simplex, but which is, as regards nature and treatment, a wholly distinct affection. Its cure is usually certain and easy by local means. It is classed under the term porrigo, as used by some writers, and is one of the many varieties of eruption which together constitute the composite "scald-head." I have hitherto called the disease contagious impetigo; for it is essentially inoculable (contagious). It is often *quasi*-epidemic; it differs in severity and in features at different times, tends to run a definite course, exhibits a uniformity of character as regards the eruptive condition, and is vesico-pustular in type. Mr. Wilson has recently stated that the disease is a distinct and common one. I had the pleasure of showing Dr. McCall Anderson some cases a few weeks since, and he acquiesced in the special nature of the disease. Dr. Clifford Allbutt has informed me that he is now satisfied as to the existence of the affection as I have described it.

Clinical history.—The disease is seen amongst children of the lower orders especially, probably in great measure because the opportunities for contagion are more numerous, but occurs also in those who have all the advantages of social position and good hygiene. It is ushered in occasionally by smart, generally by slight, fever; or the child looks ill, pale, languid, and is said to have been "in a burning heat," or to have had "cold chills."

There is clearly an affection of the system at large before the occurrence of any eruption, which in the

majority of cases appears first of all on the face, or top or back of the head, in the form of "little watery heads" (vesicles), that enlarge into flat bullæ. Sometimes the hands are attacked at the outset, and look as if burnt here and there; phlyctenæ may also arise out of and around the remnants of vaccinia, or about cuts or bruises. The disease then extends to other parts, the back of the neck, buttocks, feet, &c. The vesicles are always isolated. In five or six days the bulla may reach the size of a sixpence or shilling, unless ruptured, and then it is flat and depressed in the centre, the contents becoming turbid. The secretion consists of lymph-like fluid, granular cells, and subsequently pus-cells.

Scabs commence to form a few days after the appearance of the disease. They are characteristic of the disease, varying in size from that of a split pea to a shilling; they are flat, straw-coloured, dry, and granular-looking, and appear as if "stuck on" to the part; they present, as a rule, no inflammatory areola around their circumferences, though this is the case in severer instances of the disease. If removed, little sores are observed beneath, more or less filled in by gummy-like secretion, or a little pellet of aplastic lymph. The disease may be spread from spot to spot by direct inoculation with this secretion in the act of scratching. The crop of vesicles is to some extent successive, though the majority of the places "come out" in the first week or so. In some instances the disease resembles vaccinia very closely. There is always a uniformity about it; it always commences by vesicles; there are no papules present at the height of the disease. On the face the spots may be confluent, and then the disease resembles eczema impetiginodes; but the patches are made up of the elements described above. On the head the disease consists of circular, mostly isolated, flat-scabbed spots about the top and back of the head, the hair being matted by the crusts.

There are usually no pediculi and no offensive smell.

The mucous membranes of the eye and the nose are often implicated; then inflammation is produced by the development of little ulcers, that take their origin in the development apparently of vesico-pustules, identical with those seen on the surface of the skin. The eye may look as though affected by slight purulent ophthalmia, but soon recovers itself. All the children in a house may be attacked at one time, or consecutively, by the disease, and in such a way as to impress upon friends and attendants the idea of its being contagious, and under these circumstances it may be regarded as scabies. *It may complicate eczema, scabies, and other affections, and vice versâ.*

Diagnostic features.—Its apparently epidemic character in many cases; its attacking children; the antecedent febrile condition; the origin from isolated vesicles, which tend to enlarge into blebs, and to become pustular, the bleb having a depressed centre, and it may be, a well-defined, slightly raised, rounded edge; the *isolation* of the spots, the *uniform* cha acter of the eruption, and its general and scattered condition; its seat, and frequent commencement about the face or head; the circular, flat, granular, yellow crusts; its contagious nature and inoculability; its frequently following in the wake of vaccination; the implication of the mucous membrane of the eye; the absence of pain, and especially troublesome itching at night.

It may be confounded with *eczema;* but the history is altogether different, and the isolation, the small scabbed patch, the characters of the crusts, and the facility of cure, at once distinguish it. *Impetigo sparsa* does not arise from a vesiculation, but is primarily pustular, made up of aggregated pustules; it is not phlyctenoid; it is not contagious nor inoculable; it does not run a definite course; it is not confined to the young; it is not so amenable to treatment. *Pemphigus;* but here

the blebs are more persistent, oval, and distended; the contents are watery and acid; it is non-contagious; it does not occur especially on the face or the head; it is less inflammatory, and wants the characteristic scabs. *Ecthyma:* This is primarily a pustular disease, seen also in adults; there is more induration and swelling; a good deal of pain; it is non-contagious; the scabs are heaped up and dark. *Pustular scabies:* This is the disease with which it is mostly confounded. It must be remembered that the two diseases may co-exist. Both *in children* attack the buttocks especially; both may exist about the hands and feet; but the distinctions are really very clear. In scabies there is no febrile condition; the eruption is *multiform*. If there be ecthymatous pustules, like impetigo contagiosa, they are covered by dark thick crusts; there are plenty of characteristic vesicles, with cuniculi, and papules. If the impetigo contagiosa begins about the buttocks, it appears presently on the face or the head, or both. There is not the irritation of scabies, so bad at night, nor the effects of scratchings about the body; the bullous origin of the disease is distinct, and the peculiar scabs are characteristic. The hands are not specially affected in scabies in the child, but even impetigo contagiosa may attack the hands and feet markedly; still there is no *multiform* eruption. Inoculation will settle the point in twenty-four hours if we cannot find an acarus. We must not be misled into the idea that scabies exists because several children in the same house have a certain disease, and have apparently caught it the one from the other—a rule adopted by very many. Lastly, the two diseases may occur together.

When a correct diagnosis is made, the treatment is easy. *The natural course of the disease is a short and definite one.* The disease sometimes occurs in badly-hygiened subjects, and, therefore, tonics may be given. The secretion is a most active element (per inoculation

self-practised by the patient) in transmitting the disease to different parts of the same subject or to others; and this ensures perpetuation and chronicity. And, therefore, we should destroy the secretion, and then alter the behaviour of the surface that yields it. Astringents and antiseptics avail; but the best is a little ammonio-chloride of mercury ointment—five grains to the ounce. The scabs should be removed, and the ointment applied to the secreting surface. The disease is supposed to be due to the contact of those attacked with non-specific unhealthy pus; but there are many reasons against this, which cannot be noticed here. It is a very definite disease, dependent upon a particular poison, easy to treat, but little known.

Impetigo Rodens.—Under this term have evidently been included many different diseases. Hardy calls the affection scrofulide pustuleuse. It is said to occur about the sides and tip of the nose, first as small pustules on a red base, that break out into ulceration, and are replaced by a brownish scab, which covers over a dirty foul ulcer. But impetigo is a superficial pustulating and non-ulcerating affection; the word rodens signifies an "eating out," and it is most probable that by I. rodens has been meant now a syphilitic, now a scrofulous ulceration.

ECTHYMA.

This disease is described as consisting of isolated phlyzacious pustules—viz., those which are "large, raised on a hard base, of a vivid red colour, and succeeded by a thick, hard, dark-coloured scab, beneath which there is ulceration." The pustules are generally distinct, round, and isolated; they are mostly general; they may be partial, and leave cicatrices behind. The shoulders, buttocks, and limbs, are the parts usually attacked. There are two chief forms—acute and

chronic. The local symptoms are generally in direct ratio to the amount of general disturbance.

Acute ecthyma commences with slight febrile disturbance, and occasionally sore throat; locally, a sense of heat and burning, followed by the appearance of reddish raised points, with hard indurated bases, and distinct vivid areolæ; these points quickly pustulate, vary in size from that of a pea to that of a shilling, and are often accompanied by acute, sharp pain. In two or three days the pustules give exit to discharge, which dries into hard, adherent, dirty, discoloured scabs, covering over circular ulcerations: the crusts fall off in a week or so, leaving behind dark stains. The ecthymatous spots may be many or few; in the former case a good deal of irritation is set up; the patient may be unable to sleep from pain, and the glands and lymphatic vessels may become inflamed, and small abscesses form. The disease is generally protracted by successive crops of pustules, or it may relapse into a chronic state. The limbs, shoulders, and trunk, are the seats of the disease.

Chronic ecthyma occurs under three forms:—

a. E. infantile, which is the disease as seen in ill fed, half-starved children, fed by unhealthy mothers. The pustules vary in size—some are small, some large; the crusts are dark; the ulceration unhealthy, giving out a fœtid and sanious pus. The disease affects the body generally, often commencing about the lower limbs; the scalp may become the seat of the disease; the child often wastes, becomes hectic, diarrhœa may set in, and death ensue about the fifth or sixth day.

b. E. luridum, seen chiefly in old people and debilitated subjects: it is usually extensive; the pustules are large, slow in progress; they have a dull, livid look, a dark areola, are filled with sanguinolent curdy fluid; in a week or ten days they discharge their contents, which are dirty and fœtid, and scab over or ulcerate.

c. E. cachecticum is pretty much the same disease; it is seen mostly on the lower extremities; there is not so much of the livid aspect; it is rather more active; the subcutaneous cellular tissue is involved: the contents of the quasi-pustules are not so sanguinolent as in E. luridum, and there is not so much ulceration; there is often a good deal of fever.

In the last two varieties the eruption is really something between a bulla and a pustule. Ecthyma, it must be remembered, may result from any long-continued irritation in badly-nourished subjects. It is a frequent complication of scabies and prurigo.

The three chronic varieties are but stages of one and the same disease; so-called *E. gangrœnosum* is *rupia escharotica.*

Pathology.—Ecthyma is clearly pyogenic in character; the seat of disease appears to be the uppermost layer of the derma, not unlikely about the glands of the skin, the depth of surface involved is less than in furunculus, and there is no "core," otherwise ecthyma would be well classed with boils, and described as differing therefrom in the fact of its more diffuse suppuration, and the aplastic character of its pus, explicable by the cachectic state of the patient. The tendency to ulceration and sloughing, the lividity of the inflammatory areola, the disturbance of the general system, all point to a cachectic condition, which is readily explained by a reference to the so-called *Causes* of the disease. These are always such as lead to debility and an impoverished state of blood. They are in infants, bad nursing, suckling by mothers much out of health, scabies, bad clothing, damp dwellings; in adults and others, over-work, fatigue, convalescence from acute diseases, bad food, privations, various occupations that induce irritation of the skin—ex., bricklayers, excesses of all kinds, debauchery, uncleanliness, night-watching, overcrowding in public institutions, workhouses, jails, hospitals, and such like.

Prognosis is to be made according to the general condition of the patient. The ecthyma, *per se*, is of little guide, save when it is of the *lurid* variety, in old people; then it is grave.

Diagnosis.—The distinct, large, isolated pustules, with an inflamed areola, a hard base, distributed over the body, are very distinctive of the disease. It may be confounded with *Impetigo sparsa*, but in this disease there are rather sero-pustules than pustules; the discharge is viscid, yellowish, there are no dark scabs, no indurated, inflamed and painful bases. *Furunculus* is deeper, it runs a slower course, and contains a central "slough" or "core," as it is called. It is more circumscribed, and there is little scabbing. In *Scabies* ecthymatous spots are constantly seen, especially about the hands and feet, and in conjunction with other signs of scabies, being secondary in point of time thereto. *Prurigo* is complicated by ecthyma. The conical, dark, heaped-up stratified crusts of rupia distinguish that disease from E. cachecticum.

Treatment.—We must recollect that ecthyma is a cachectic disease, that it often occurs in those in whom the eliminating organs are sluggish, at the same time that effete material has been largely produced in the system. Firstly, if secondary to scabies or prurigo, we must treat the primary disorder, then with the aid of tonics the ecthyma will soon disappear. Again, if it arise from the action of local irritants upon unhealthy skins, as from the contact of lime or sugar, we have only to remove these sources of evil, and use soothing remedies with astringents—alkaline lotions, or glyceral tannin, or biborate of soda or zinc ointments, and give internally iron, mineral acids, or other suitable tonics, for the case to get well. But suppose there is no external cause of this kind, we must treat the impoverished state of blood which gives rise to the disease. I am of strong opinion that elimination first of all needs attention. In young subjects, saline

aperients together with tonics are the best remedies. After a good colocynth purge, the exhibition of such a mixture as sulphate of magnesia, sulphate of iron, tincture of calumba, and cinnamon water, or if the appetite is bad, dilute nitro-hydrochloric acid with sulphate of magnesia, quinine, and infusion of roses, soon improves the whole tone of the system. But this end is still further secured if we take care that our patient eats wholesome food, that he gets his proper rest, and the proper amount of air in his sleeping room; especially that he is cleanly, and not over-worked. All these are material points in the treatment. If the patient be young and growing, he must be well dieted, have a sufficient amount of wine or sound beer, and take cod-liver oil. Then locally, in these acute cases, emollients are alone admissible—warm lead lotion and poppy-head fomentations. Presently we may substitute opiate and tannin ointment—extract of opium, ten to twenty grains, a scruple of tannin, with an ounce of simple ointment. I trust to the general and not the local remedies. Then there is still the chronic form of ecthyma to deal with. Even here I lay great stress on a sufficiency of aperients, and on the mineral acids, with bark, bitters of all kinds, quinine; if there be much nervous disturbance, pain, restlessness, and the like, opiates judiciously exhibited are of service; change of air will sometimes work wonders. In the *cachectic* varieties, free living, plenty of meat, wine, with bark and ammonia, must needs be given; and locally in chronic ecthyma the scabs should be removed, and attempts made to get clean and healing surfaces by the application of weak Condy's fluid, weak carbolic acid lotion, simple sulphur ointment, or weak nitrate of silver lotion, when it is necessary to stimulate. If there be much irritation, lead and opium lotion, or charcoal dressings, may be of service. A good application is an ointment made by

rubbing together an ounce of lard, and half a drachm or so of Friar's balsam.

No two cases are exactly alike, and the special knowledge of the physician is often needed to detect some flaw in the performance of the organic functions which mainly determines the occurrence of the disease. Other remedies will be found in the formulary.

FURUNCULAR AFFECTIONS.

I have said that furuncular affections differ from impetigo and ecthyma, amongst other things, by being deeper, and by their pustules containing in their centre a dead piece of tissue which is called the "core," in fact a central "slough." This "core" is indeed the essential feature of a boil. Now we are told in books, and expected to say at examinations, that furunculus or boil, anthrax or carbuncle, and malignant pustule, are forms of one and the same disease. But malignant pustule is produced by a specific poison, and should be ranked elsewhere. The general character of furuncular affections is in the occurrence of inflammation of a limited extent, affecting the tissues deeply, the central part dying and forming "the core." Some think this core is a true exudation, some a piece of "dead cellular tissue." When a boil is, so to speak, multiple, when there are several "cores," and the cellular tissue is much involved, and more or less sloughy, then we have a carbuncle. But, to put it in text-book language, "the characters of distinction between furunculus and anthrax relate to their prominence, depth, breadth, colour, number of cores, and degree of pain." Furunculus is a solitary pustulation, it is more prominent, less deep, involves less of the tissues around, has a deep red areola which assumes a bluish tint after awhile: the "core" is single, and the pain is less severe. Anthrax is less prominent, it is deeper, involves more tissue, is much darker in colour, possesses

many "cores" (dead tissue), and is accompanied by greater pain.

First of

FURUNCULUS OR BOIL.

The general symptoms are as follows in some cases:—Febrile disturbance, rigors, loss of appetite, headache, disordered bowels. Locally, a little red lump, the size of a split pea, makes its appearance: it is tender, painful, and tense; this soon becomes indurated, the disease is felt to be pretty deep, a red blush surrounds the base of the swelling, and changes from bright red to purple. In from three to six days, the apex of the boil becomes yellow from the formation of pus: the pain is now throbbing, the induration of the tissues at the base augments, and so does the amount of pus in the centre of the pustule. If left to itself, "the pustule" bursts, and presently "the core" comes away, healthy granulations at once spring up, and repair is quickly completed. Sometimes the suppurative stage is scarcely reached, and then we have *blind boils.* Furunculus generally attacks the neck, buttocks, arms, especially in young people, and there are successive crops of pustules, so that the disease often lasts a considerable time. The glands may be enlarged. The pain is severe in boils that occur in parts that are dense and cannot swell, as in the meatus of the ear and the pudendum, or those that are freely supplied with nerves, as the face.

ANTHRAX, OR CARBUNCLE,

Is a multiple furuncle; it arises as a hot hard swelling, not so conical as that of the boil, more indurated, however, the cellular tissue around being much more extensively implicated; the colour is dusky, the sensation burning, dull, throbbing; in size the carbuncle varies, the swelling becomes "brawny," due to the meshes of the cellular tissue becoming filled with aplastic lymph.

The next step is the formation of a *quasi*-abscess; the central part softens, feels boggy; the skin thins over the surface, and at several points openings occur, through which slowly issues more or less sanious pus; and the little holes are seen to be plugged up by small white cores, which presently loosen and come away: the apertures are red and papillated, the edges indurated and everted, particularly when several openings coalesce, so as to form one or more large openings. Gangrene may set in; the healing process is often indolent; the parts remain undermined, brawny, dusky, shreddy, and also sloughy. Carbuncles are generally solitary. The patient, if the attack be severe, gets into a very depressed state. The posterior aspect of elderly people is the selective seat of carbuncle. I shall refer to the cause together with that of boils.

HORDEOLUM, OR STY,

Is a small boil seated at the edge of the eylids and involving a Meibomian gland. It is not an active kind of boil, but progresses sluggishly, the pustular centre being small, it is painful, and some time lapses before all traces of its existence go. There may be one, two, or more, on one or both eyelids.

Pathology and Cause of Furuncular Affections.—Now under what conditions, first of all, do boils occur—(1) during seasonal changes in spring and summer; (2) from eating diseased meat (frozen); (3) when any special alteration is made in the ordinary habits and economy of the body, as in the training of prizefighters; (4) from the influence of cadaveric poisons; (5) from sudden change of diet; (6) after fatigue of long dura'ion; (7) during convalescence from debilitating diseases; (8) as a consequence of the action of septic poisons, as in fevers, &c.; (9) in albuminuria; (10) in the diabetic habit; (11) during adolescence, and in the first stage of manhood. In most of these cases there

are "debility" and an overloaded state of system—ex., the circulation of urea, of sugar, of septic poison, or of effete matter which is plentiful during convalescence. But with this state of things—*i.e.*, evident general disorder of the system—the local inflammation is *active*, and the suppuration is "healthy," the pus laudable, the process of repair peculiarly vigorous and complete in its character. Now it is this which gives the lie, as it were, to the doctrine that a boil is due to the occurrence of a spontaneous gangrene or death. It supposes that there are two actions going on side by side of diametrically opposite characters—a gangrenous and a vigorously reparative one. If the primary death resulting in "the core" were due to a tendency to gangrene in the system, why should there be present in the same subject and in the same part a thoroughly satisfactory process of repair. What, indeed, is there in the clinical history of boils, or the condition of patients affected by them, to account for the spontaneous death of a piece of cellular tissue? If "the core" be regarded as an exudation, we have no analogy to support such a proposition. It is clear that the only satisfactory explanation is that which recognises that some disorder in the circulation of the part first takes place, that the tissues fail to be properly nourished, to perform their functions, and then die (slough), and that an attempt is made by suppuration to get rid of the moribund or useless tissue. M. Denucé, of Bordeaux, believes that the anatomical seat of the disease in furuncle is the sebaceous gland (as is the case in sty); this gland, in the performance of its emunctory act, is disordered by the effete matter with which the blood is charged; it is then congested and inflamed, then it suppurates, dies with the contiguous cellular tissue forming "the core," and healthy reparative action is at once set up after the dead tissue comes away. "The core" is a dead sebaceous gland, and more or less of its contiguous cellular tissue. It is

easy to see how it is that friction and irritants of all kinds determine the seat and occurrence of boils in those who are predisposed to them. It is said in the case of a blind boil we have an inflamed sebaceous gland, which happens to recover itself before the stage of suppuration is reached or needed. Boils occur in parts where the glands are large, where the skin is tough, and liable to be injured—ex., the back of the neck, shoulders, and the outer side of the limbs. The boil varies in character and degree according to the depth of the cellular tissue around the gland involved, and the state of the blood; boils are large and severe in debility after convalescence, in diabetes, albuminuria, and the like; small and painful in young and plethoric subjects. If boils are the result of an inflammatory state of the skin glands, their occurrence in full-blooded and apparently healthy persons, is explained by the overcharged state of the blood with the waste products of the body. In contrasting boils with simple acne, we notice that the latter is merely a choking up of the sebaceous duct by fatty secretion, with more or less secondary inflammation; there is not necessarily suppuration. In boils the whole gland itself is involved, not merely the excretory duct; the alteration of the blood current is primary—the gland is disordered and inflamed as a consequence. In acne rosacea we have a closer approach to a boil; there is not suppurative but plastic inflammation of the gland and the tissue outside. Let acne rosacea suppurate freely, and though the cause be different the result is mainly the same. The microscopic structure of "the core," it is said, bears out the opinion here expressed, to which I have long inclined. In carbuncles we have a similar action to that in boils, but a much severer degree of disease. Here a group of sebaceous glands is involved, and in consequence of the more cachectic state of the nutrition the reparative attempt is less perfect, the inflammation is of a lower type, and the cellular tissue to a much greater

extent sloughs and dies. The nutrition is not only unequal to prevent the local disorder, but also incapable of putting repair in proper operation; and what is the blood state in carbuncle?—a tendency to a diabetic condition. This has been exemplified of late by many observers—Prout, Goolden, Landouzy, Wagner, De Calvi, Fonseca, Menestrel, Küchenmeister, and others. Anthrax is very common in Pernambuco, and Fonseca finds it connected with diabetes, or a diabetic tendency. Sugar occurs in the pus of the carbuncle, and it is a curious fact—so it is stated—that when anthrax developes, the sugar is diminished or disappears from the urine. M. Verneuil not long since corroborated Wagner's observation relative to the occurrence of phlegmonous and gangrenous inflammation in diabetics, before the French Academy, in certain cases of gangrene of the lower limb occurring in connexion with saccharine urine. Lastly, I said that ecthyma and furunculus, save in the absence of the "core," bore some resemblance. I cannot but think that some change in the blood current leads to superficial suppuration about the upper part or the ducts of the sebaceous glands in the topmost layer of the derma, in ecthyma, in which disease a pyogenic habit of body is present; at any rate, boils and ecthymatous pustules often occur together.

Diagnosis of Boils and Carbuncles.—No error can possibly be made in respect of these two diseases; in the former, the hard, deeply seated induration, the pain, the central suppuration, and the "core," are distinctive. The manifold openings, the boggy feel, the sloughing, the grumous discharge, and the implication of the cellular tissue in carbuncle, are very peculiar. Furunculi are sometimes epidemic.

Treatment.—If the view I have given of the nature of boils be correct, then we may at once lay down a definite plan upon which to base our treatment. Boils are accidents common to many conditions, but pro-

duced in all these upon a similar plan—viz., a disordered blood condition, with nutritive debility and deficient elimination in subjects whose tone is lowered. First, of boils. There is always deficient elimination; it may be in a young and naturally vigorous youth who is rapidly growing, and is perhaps hard worked, and who does not get quite the right food he needs,—it is plentiful, but scarcely wholesome. If the disease assumes what may be fairly called a sthenic form, here saline aperients and a modified diet suffice; but where there is marked want of tone, in such a case sulphate of magnesia, infusion of roses, and quinine at first, and then cod-liver oil, would be the proper remedies internally. Again, in those who are breathing a vitiated atmosphere —in the dissecting-room, for example—change of air, quinine, aperients, and rest, soon improve the general condition; or bark and chlorate of potash, with the mineral acids, are equally good medicines. In the case of individuals of mature age but good average nutrition, the emunctory functions may be disordered; here we must again eliminate and tone. If the urine be loaded, and the bowels irregular, the combination of acetate or bicarbonate of potash with ammonia, followed by calumba and an alkali, are advisable. If there be a gouty diathesis even colchicum or iodide of potassium are called for, with *tonics*. In the case of boils occurring during convalescence from febrile diseases, there is still the removal of waste products to attend to, and the necessity for tonics at the same time. These remarks mainly refer to young persons; but boils trouble middle-aged and elderly folk. In some instances we have to deal with careworn and anxious men and women, who have a pretty hard struggle to maintain their position, and a good many mouths to fill at home, and who are yet originally healthy and sanguine subjects. The diet of these persons has been deficient; it requires to be not only more ample, but more varied, if possible. Here again aperient tonics

seem to me to be indicated, and I believe that opiates (the watery extract) freely given, if there be much nervous excitability, will lull the patient, both as regards his pain and his depression. Then it is of prime moment that we are sure that our patient's gall-bladder is properly emptied. In some instances of overworked middle-aged persons, the sallow complexion, the almost actual icterus, the loaded urine, flatulent dyspepsia and want of tone, point mainly to a congested and inactive liver as the source of mischief. Such a case demands podophyllin in repeated doses, the nitro-hydrochloric acid internally with nux vomica, and the careful regulation of the diet; the avoidance of saccharine matter, pastry, and malt liquors. In young women who are naturally of good constitution, and who get somewhat anæmiated, or have their menstrual functions disordered, boils are often seen about the armpits. In such cases aloetics and quinine with iron, moderate exercise in the open air, and plain food are called for. In all cases fresh air, abstinence from work, if at all needed, and frequent ablution, should be prominent items in the treatment. With regard to local treatment, in the vast majority of cases boils always run on to suppuration, and the object to be attained is the removal as quickly as possible of the "core," or dead tissue, whilst we improve the general blood condition. In the slighter forms, which we know by experience will probably "subside," emollients may be applied, lead lotion, warm applications, poppy-head fomentations, or pressure by means of soap-plaster, by which means boils may be helped to abort; we may attempt by aperients and diuretics, if need be with tonics, to prevent their formation. In the more decided forms we encourage the suppuration, help the evulsion of the dead tissue, and favour the healing of the ulcer subsequently left. We must also allay pain. Now poulticing, the prevention of local irritation by proper protection, *resting* the affected part if this is possible, are the means generally employed, as every-

body knows; but though practitioners know this, they do not appreciate the contingent fact that, inasmuch as local irritation of all kinds determines the occurrence of boils, local remedies, such as poulticing and the like, should be confined as much as possible to the exact seat of local inflammation. Nothing is more common than the springing up of fresh around old boils from the neglect of this precaution. Now, when suppuration has set in, then we may hasten the preparation and exit of "the core" by the application around its indicated locality of potassa fusa or acid nitrate of mercury. We may, to sum up, attempt to moderate and limit the suppurative action at the outset, but we must, when pus has shown a tendency to form rapidly, at once encourage it. When the "core" has come away, any simple astringent dressing does—nitric acid lotion, with or without opium—the disease is over, and Nature quickly repairs the damage done. Then general and local treatments are directed to tone up the system and to prevent a repetition of mischief. In all cases of boils there are conditions which show that the health of the patient is naturally vigorous, that it is somewhat perhaps below par at the time of the occurrence of boils, but especially that effete products are in excess in the system. Denucé is of opinion that the cutaneous glands are disordered, that the gland function becoming perverted, the glands inflame, suppurate, and finally slough. The treatment, therefore, consists in eliminating, toning up, and helping on the suppuration in the skin and the discharge of useless portions of tissue. I believe this is the best and most useful account I can give of the matter. Then with regard to the treatment of carbuncles, the same line of procedure holds good, only the constitutional condition is one of more serious importance, it is one produced by such an influence as a diabetic tendency. The local mischief is therefore severer and more extensive, the suppuration is less healthy, more tissue dies. It is thought several glands perish,

forming so many "cores," but their surrounding cellular tissue is specially involved in the death or slough; the reparative circumscribing action is not so manifest, the healing is not so rapid or perfect, and serious results are more common. Uric acid is allowed to be more abundant in the blood. The indications are clear—the combating of gouty tendencies, and the stimulation of the liver and kidneys at first. The restriction of the diet to plain animal food, and large doses of quinine with opium—the latter if there be any decided diabetic tendency or much nervous prostration—the whole tempered with the aid of more or less stimulation, good nursing, and the freest support, as the case may need.

Now we know that if the patient is tolerably strong and has no organic disease, the carbuncle itself will slough out, and reparative action quickly follow. The case gives us no anxiety, but we may materially aid the cure and moderate inflammatory action, by aperients, by diuretics, by opiates, or by tonics. In one case the patient's strength *may* fail at an early period, and here we give what would be inadmissible in another—port wine, plenty of strong beef-tea, and full doses of bark and ammonia; but yet we must not forget the diabetic tendency, or the importance of liver and kidney action. Then with regard to local measures. It is clear that the sooner the carbuncle is "ripe" and the dead tissue away the better; thereby the sooner the pain and its effects on the body generally are lessened, and the sooner Nature can commence repair. To this end we need to keep out the blood from the tumour, and to destroy artificially the part that will die; taking measures, by internal medicines, to bring the blood back as quickly as possible to a condition of healthy activity. And so, locally, we employ pressure by strips of soap-plaster; if this does not seem to succeed, we incise to relieve tension and pain. The incision may be subcutaneous or not, crucial or single.

Surgeons are mostly in favour now-a-days of pres-

sure, and afterwards caustic applications, with poultices to hasten the softening up of the carbuncular swelling; pain being met by opium once or twice a day. When the process of repair is approached, stimulating applications are needed; the best perhaps is some Friar's balsam, a drachm, say, rubbed up with an ounce of lard, or a carbolic acid ointment. M. Soule, of Bordeaux, has suggested that Vienna paste be applied early, and an incision be made the next day: this prevents the presence of a wound that can absorb from without into the veins, whilst the dead tissues are the more readily removed; after the incision, the wound is to be dressed with tincture of iodine more or less diluted.

In both boil and carbuncle a certain part has to die and come away. The sooner this occurs the better, and therefore I think that caustics are the best remedies, incisions being employed to relieve such tension as cannot be prevented by pressure.

PUSTULA MALIGNA, OR MALIGNANT PUSTULE.

Within the last few years very definite facts have been obtained in regard to malignant pustule. The disease is characterized by the occurrence of a boil-like inflammation, accompanied by gangrenous changes, and produced by the contact of a certain animal poison derived from beasts affected with the disease called charbon, or *Sang-de-rate*, which has prevailed from time immemorial on the Continent.

General Description.—The disease varies in severity according to the amount of tissue involved, the degree of gangrene, and the occurrence of secondary pyæmic results. It attacks the exposed parts or those which come in contact with the hides or secretions of diseased animals; therefore the face, and neck, and hands, are the chief seats of the disease. It commences as a vesication on these parts, accompanied by induration,

an inflammatory blush of dusky hue, and filled with sero-sanguinolent fluid. At first there are itching, heat, and burning; the central part now blackens and forms an eschar: in severe cases a large surface becomes rapidly gangrenous. When this stage is reached, constitutional symptoms of a typhoid nature develop, and these correspond in severity to the local changes. They follow the local symptoms, and are produced by absorption of poison from the gangrenous part. If death occur it is from pyæmic conditions, induced from the fourth to the eighth day. But the gangrene may be arrested, then the subsequent progress of the case is that of anthrax. Malignant pustule is at first a local disease. Numerous bacteria have been found in the blood, but it is not certain what influence, if any, these possess in the causation of the disease, or whether they are accidental and secondary to the blood changes.

The cause of malignant pustule is, as stated, the contact of an animal virus, derived from animals affected with "charbon." Dr. Richaud, quoted by M. Raimbert (of Chateaudun), has observed the disease largely since 1830, and he now asserts that it occurs in those who touch the dead carcasses of "charbon" animals, are in constant contact with beasts, or are stung by flies that have feasted on the former. The disease is very common in the plains about the Alps from May to October, when the sheep in their peregrinations die plentifully on the road. The disease may also be got by direct inoculation—as in butchers, herdsmen, drovers—from contact with hides or tainted hair of diseased beasts, and, it is said, by eating the flesh of the latter.

In a recent number of the "American Journal for Medical Sciences," is a paper by Dr. A. H. Smith, on Malignant Pustule, as it appeared in the vicinity of Las Cruces, New Mexico, in 1865. During the summer of that year an epidemic resembling *charbon*, or

the malignant pustule of surgical writers, occurred. It commenced as a papule of a livid or purple colour—hence the Spanish designation "grano negro;" and at the earliest stage the tissues round about could be felt to be indurated to a considerable extent and depth, and distinctly creaked on being incised; the section had the appearance of dense fibrous texture, containing in the meshes dark pigment. The boundary was abrupt and well defined; little blood flowed from it, and the sensation of the part was less than that of the skin around. In from seven hours to two days the papule became like the vaccine pustule, only livid or black, and erysipelatous redness extended around it, spreading oftentimes with great rapidity. The pustule and the swelling around steadily increased, as the rule. In some cases the former was stationary, the latter very active; the cuticle was then raised by effusion and blebbed, and sloughing ensued; the pain was burning, but only in exceptional cases severe. The constitutional symptoms seemed to bear an exact ratio to the extent of the local mischief; the breath was offensive; tongue moist, coated; pulse quick and strong, becoming small and frequent; the skin relaxed, perspiring after a while; no delirium. The only one whom Dr. S. saw die was comatose. Great difference existed in the extent of the disease: in some only a small spot was present, the size of a split pea, made up of a little redness, and in a day or two the patient was well. In favourable cases the disk of dead tissue in the centre sloughed, leaving a healthy granulating surface behind.

Cause.—Dr. Smith says, "a careful inquiry enabled me to trace it to infection from diseased animals." A distemper prevailed at the time to a slight extent amongst cattle, and was described by the Mexican rancheros to Dr. Smith. "The fact that in every instance the pustule occurred in a part of the body not protected by clothing goes far to confirm the view of the disease, that it is not in any degree the local manifestation of

a constitutional infection, but always the result of direct LOCAL INOCULATION." He gives the following instance:—"Two men were engaged in skinning an animal which had died of the distemper. One of them had a pimple on the face which he had scratched with his nails until it bled. The other had received a scratch in the face from a thorn in passing through the chaparal. The day was extremely warm, and the men frequently wiped the perspiration from their faces with their hands covered as they were with the fluid from the animal. In a few hours pustules were developed upon the abraded surfaces in both individuals. The disease proved fatal in one (which I did not see), and the other recovered with a considerable loss of tissue from the cheek." Dr. Smith says it is impossible to say if simply eating the diseased meat sufficed to give the disease, although many people declared they had not touched the meat. One case appeared after handling dry hides.

In one case a woman was attacked. She had eaten with the rest of the family of a goat that got the distemper, but which was killed "for fear it should die." Several ate the flesh, but this woman alone was attacked, and she had *prepared the goat for the table.*

The Treatment consists essentially in fully destroying at the earliest possible moment the eschar or vesicating part by caustic (potassa fusa), subsequently incising, applying charcoal poultices, with chlorinated soda washes, and giving internally a cathartic; followed by free doses of tincture of steel, carbonate of ammonia, and brandy, with generous diet.

DELHI BOIL, ALEPPO EVIL, AND BISKRA BOUTON.

In this place some notice must be taken of these three diseases endemic in India, at Aleppo, and in Algeria, respectively, whose pathological position is at present uncertain. They are believed to be allied in many

particulars, to anthrax. These affections all bear a close resemblance, and it is generally thought that they are the same in nature. I must content myself with the descriptions of those who have written upon the subject, as I have little personal experience of these diseases. Compared with anthrax they are very chronic; they are at first papular, then suppurate, and finally ulcerate.

Delhi Boil, called Arungzebe, after the monarch of that name, who suffered from it, is seen at Delhi, in Scinde, Moultan, Agra, Lahore, Muttra, and Aden. In 1857, at the first-named place, 400 to 700 per 1000 of the troops suffered from it during their first year's residence there. It attacks new comers to the cities in which it prevails. It is not dangerous, but intractable. The disease begins by itching; then the patch looks reddish and warty in the centre, where it then scales, so as to resemble a patch of lepra vulgaris. According to some, a small pustule next appears in the middle; others say a thin ichor is discharged; at all events, the next stage is the formation of a brownish crust, which becomes elevated in the centre, whilst ulceration goes on beneath, and if the disease is irritated the crust rapidly increases. The ulcerated surface is raw, with flabby, irregular, fungoid granulations, that bleed freely. The sore discharges a thin, darkish-coloured fluid, the ulcer meanwhile enlarging at the circumference. The reparative process commences at the centre after two or three months, and more or less disfigurement finally results. The most common seats of the disease are the backs of the elbows, forearms, back of hands and fingers, ankles, legs, face, thighs, and near the scalp. The general health is good, it is said. As to the cause, the natives think that the disease is due to drinking water impregnated with organic and saline impurities; it certainly affects those who live well and in good situations. It is more frequent after rains, it is said. It rarely attacks unexposed parts; it is

inoculable: some think it malarial. Mr. Godwin, Assistant-Surgeon, Royal Artillery, has seen much of the disease, and his experience will be found in the *Lancet* for the present year. Dr. Fraser has also written on the disease in the Army Medical Reports, 1860. I am enabled to give the two following sketches of the

Fig. 1.

disease from photographs of Deputy-Inspector General Dr. Murray, of the Indian Service, which were given in the *Lancet* a little while since.

Biskra bouton, or *Biskra Button*.—The following account of what appears to be the same disease as Delhi boil, is given by Deputy-Inspector Dr. Paynter, in the Army Medical Reports for 1867, at p. 438, and it will be noticed that he refers to its similarity to an anthrax. "We find, in the southern part of the pro-

vince of Constantine, about 160 miles south of the sea-coast, at a military station with a considerable civil population of European colonists as well as natives, an

Fig. 2.

endemic disease, so common, that it is called the 'Biskra Button,' from the circumstance of its prevalence at and around Biskra, the first station in the desert. It is, however, not peculiar to this part of Algeria, for it is also found at Tougort, Ouargla, and Tlemcen, and is, probably, to be met with in all parts of the desert. It is also seen in parts of the neighbouring kingdom of Morocco. This singular disease attacks its victims during the months of September, October, and November, at the end of the great heats of summer. Consequently, I had not an opportunity of seeing it in its first stage; but, from the description given of it, it appears to commence with an itching sensation, long before any appearance is appreciable on the skin. After a time, a small tubercle is perceived about the size of a very small pea, located, very superficially, in the layers of the skin and subcuta-

neous tissue; remaining stationary for some days, or even weeks, and causing little inconvenience; at length it enlarges, the epidermis scales off; and, shortly, a small ulcer appears, which discharges a sero-purulent fluid. Seen by myself during the month of February, in its chronic stage, it presents precisely, what I may describe as, a small superficial anthrax. Differing in diameter, from one to two or three inches, these patches present the appearance I have alluded to; and when pressed, a thick purulent secretion oozes out through several openings. There were a few cases in the military hospital at Biskra at the period of my visit; and with the exception of being inconvenient, disagreeable, and unsightly, did not appear to give any particular pain, or cause any constitutional derangement. This eruption appears, most frequently, on the legs, fore-arms, dorsum of feet or backs of hands; on the nose, cheeks, and ears: varying from one or two spots to a dozen, or even more. The affection lasts from four to eight months as a general rule: oftentimes, for a year, a year and a half, and occasionally for a longer period. Whatever the period may be, the appearance, when cured, or cicatrizing of itelf, as it does if left without treatment, is that of the cicatrix after a burn. The disease attacks natives, Europeans, all sexes and all ages: and, occasionally, relapses are met with (*i.e.*, one attack not rendering the person free from a second invasion). Of the cause of this affection little is known. Bad water, heat, dirt, &c., have all been named; however, these are very prevalent in other regions where nothing like this singular disease is seen. It has been met with in the horse in some of those regions where the human race is liable to its attacks; but not, I believe, in the dog. It is said not to be contagious. The cause of the affection not having been settled, its treatment is of course not very defined. Thorough change of air possibly shortens the time required for its cure, and is

probably the best remedy. This disease partakes of most of the characters of the Aleppo button." The most successful treatment is to blister the ulcers in the early stage, and apply iodine subsequently.

The Aleppo evil, or button, is no doubt the same thing as the last described disease. It is endemic about the Tigris and Euphrates, at Aleppo, Bagdad, and Bussorah, it is met with at all ages, and attacks both natives and strangers, the latter after a short residence. It is like the Delhi boil, confined to the cities, and occurs once in a lifetime. It begins as a papule, which pustulates in two or three months, and scabs over whilst ulceration goes on beneath the crust to the extent of from a quarter to two or three inches, having all the characters of that in Delhi boil. After a year or so the ulcers heal, leaving an indelible cicatrix. At Aleppo the disease is ascribed to bad water. Where there is one tumour it is said to be the male, that which is surrounded by several smaller ones is called the female. The disease is painless; it never kills, and is indolent in its course.

Now all of the last three described diseases, it will be observed, bear close resemblance the one to the other. They really seem to have some of the characters of disease directly produced by external influences, as the bites of insects. But there is no evidence that they are so produced. The treatment is the same in all cases—viz., that stated under Biskra Bouton.

Cochin China Ulcer.—In the *Dublin Medical Press*, May 21st, 1862 (from *Gaz. des Hôp.*), it is stated that M. Rochard, Chirurgien-en-chef of the French navy, describes an endemic form of disease which attacked some of the French in China. The debility consequent upon the mal-action of the climate predisposes to it. It is prevalent especially in wet seasons, and appears to be uninfluenced by age, sex, or constitution. It is non-contagious. The disease consists of ulceration, which follows some lesion of the skin, often the most

trivial, in those out of health. The lower limbs are chiefly attacked, and particularly the parts about the ankle and instep. M. Rochard has never seen it attack the plantar surface. Generally the ulcer is solitary, but the disease may attack both legs. The ulcer is usually two inches and more in diameter, and may extend more or less, or completely round the leg. Its shape is always angular. It does not usually penetrate more deeply than the skin and cellular tissue: it may, however, attack the muscles, and even bones, producing caries. The progress of the disease is rapid. First of all, some lesion occurs, then a red areola makes its appearance, quickly followed by ulceration, pain, and, by-and-by, insensibility. After a time the ulcer stops in its increase, gets clean, is covered by a pultaceous scab, that is subsequently thrown off and often re-formed, together with sanious discharge. Some cases demand amputation; in others, attempts at repair are made, and change of air cures the patient. Sometimes the disease becomes chronic. At Brest Hospital the "ulcers presented a depressed, uneven base, traversed by deep red longitudinal streaks, consisting of small anastomosing bloodvessels, having between them yellowish lines of pultaceous aspect." The edges were hard, irregular, the skin around wrinkled, and anæsthesia was noticed in the parts around the sore,—in one case complete anæsthesia of the dorsum and plantar surface of foot, even to red-hot iron. No cure has yet been made out.

CHAPTER XI.

BULLOUS DISEASES—HERPES, PEMPHIGUS.

UNDER this head are included the diseases which are especially characterized by the occurrence of bullæ. Willan described a bulla or bleb as "a large portion of the cuticle detached from the skin by the interposition of a transparent watery fluid" In fact a bulla is a large vesicle. It will be seen that in the wide sense of the term several diseases are really bullous, such as erysipelas, herpes, pemphigus, rupia, eczema of the fingers, and impetigo contagiosa. But there are only two that really rank under the term Bullous—*i.e.*, herpes and pemphigus. Erysipelas belongs to the distinct class of zymotic diseases; rupia is syphilitic, and grouped under that head; the bulla produced by the coalescence of vesicles in eczema is accidental and secondary; and in impetigo contagiosa, the primary stage is a vesicle, the secretion is sero-purulent, and the general behaviour and outward aspect are those of an impetigo. Besides, herpes and pemphigus are peculiar and alike in regard to the influence of the nervous system in their production. Therefore, true bullous diseases, or those which are probably of neurotic origin, and in which the bullæ are primary, with transparent contents, are herpes and pemphigus.

HERPES.

This disease is characterized by the presence of vesicles larger than those of eczema, distinct from each other, mostly chambered and seated upon an inflamed base; these large vesicles, or small bullæ (bullulæ),

are generally tolerably few, they do not rupture, as the rule, but their contents, which are alkaline or neutral when clear, and slightly acid when turbid, after becoming opaque disappear by resorption, but now and then by rupture and desiccation into light brownish scabs. The bullulæ last about seven or eight days. The disease is mostly accompanied by sensations of heat, tension, and burning, which indeed are felt to a greater or less extent before the appearance of the eruption; occasionally severe neuralgic pains occur before, together with, or after, the eruptive stage. This is particularly the case in what is called Herpes zoster, or shingles. Writers generally divide herpes into two groups,—the *phlyctenoid*, including the disease as it generally occurs about the body (herpes phlyctenodes); with certain local varieties—H. labialis, palpebralis, nasalis, auricularis, and herpes zoster; and the *circinate*, including herpes circinatus, and herpes iris.

1. *Phlyctenoid group.—Herpes phlyctenodes* occurs in any part of the body, and its description will apply to all the local varieties. It commences with a sense of local heat and inflammation, with some erythema; upon this arise round grouped vesicles, from ten to twenty, in patches the size of sixpence to a five-shilling piece, surrounded by a red areola: there are generally several of these patches; they mostly occur about the face, arms, neck, and upper limbs. The contents of the vesicles, at first transparent, become milky, then quickly disappear; the vesicles shrivel, and scabs remain; the smarting heat and tension also subside; the disease lasts ten days or more; the vesicles get to their height in two or three days, and dry up on the seventh or eighth. When seated about the lips, the disease is named *H. labialis*. The patch here is small, and generally the bullulæ not over developed. It commences as a "cold," with pyrexia, &c.; then the local heat, smarting, and tension are followed by a

patch of herpes, with about six or eight vesicles. Herpes affects the mucous membrane of the pharynx and palate. It is common after catarrh—of which it is probably a definite part—typhoid, remittent, and intermittent fevers, cerebro-spinal meningitis, pneumonia. Herpes occurring under these circumstances, is said to be *symptomatic*, as contrasted with the more general *idiopathic* forms. *H. præputialis* is often syphilitic; in simple cases, the patch scales over in a week or so; the scabs fall off, leaving little ulcers the size of pins'-heads or more, which quickly heal, the prepuce being irritable, and red. If syphilitic, there are successive crops; the prepuce gets hard, and indurated about the seat of the herpes; coition is sometimes painful. The mucous surface is more or less irritable, and the origin from bullulæ clear; the bullæ give place to little ulcerations, which are close together, and quickly scab over; in other cases, the vesicles abort, desiccate, and scale over; the little crusts fall off, leaving little pits, which presently heal. *H. zoster*, *zona*, or *shingles*, possesses the characters of H. phlyctenodes, but derives its special name from the peculiar manner in which it tends to encircle one-half of the body like a girdle. It is really H. phlyctenodes, but as it has some peculiarities in regard to distribution, I may give a special description of it. It follows the course of one or more of the cutaneous nerves, generally stopping short at the median line before and behind, though it may cross this point, and in this matter the experience of Hebra, Wilson, Startin, Hutchinson, and myself agrees. It generally affects the trunk, but may attack the face, the shoulder, the belly, or upper part of the thigh; the right side more than the left. Of 178 cases collected by Barensprung, in 101 the herpes was on the right side. It is most common in the young; of about equal frequency in the two sexes, and occurs particularly during change of weather. It seems on some rare occasions, to be almost epidemic. It is an

acute disease, of definite duration, lasting about fourteen to twenty days. The patient often ails a few days before the eruption appears, is feverish, out of sorts, complains of headache, shivering, perhaps pain in the side, which may be very acute and of neuralgic aspect; presently patches of erythema appear, and present, on close examination, a number of little white points, which quickly enlarge into bullulæ, perhaps coalescing and forming distinct bullæ; they are tense, and contain clear serosity; in four or five days the vesicles become partially emptied, flaccid, the contents becoming turbid and dark; at the same time the red blush fades, and the patch scabs over; the crusts disappear in ten days or so, leaving dark red stains. The changes are not completed at the same time over the whole area of the patch, but are later in taking place in one part than another—hence travel, as it were, over the surface; consequently, several aspects or stages may be noticed in the same subject. In some rare cases, the H. zoster may ulcerate, or even become gangrenous. Pain may be a very prominent symptom; it may be lancinating, smarting, or burning. The convalescence finds the patient weak and neuralgic. The scars are not lost for some time. The disease rarely occurs twice in a lifetime. It is usual to make certain varieties of zona or shingles. Roughly stated, they are Z. capitis, faciei, nuchæ, brachialis, pectoralis, abdominalis, and femoralis. It is as well to know that the eruption follows the course of distribution of certain nerves: the trigeminal in H. facialis, the labial branch in H. labialis, &c. &c. When the limbs are attacked, and they are now and then, the line of eruption corresponds to that of the long axis of the limb; the eruption does not encircle the limb. A want of knowledge in this respect I have known to mislead. If we compare the various forms of herpes phlyctenodes, we find that they are not different, save in seat and extent. The herpes of the nose, mouth, and ear, are identical,

save in the part attacked. In zoster, there is not one patch as a rule, but a line of eruption often made up, however, of several patches; the main feature being the *unilateral* distribution.

In the second, or *circinate* group, authors place two diseases: H. circinatus and H. iris. Under the term herpes circinatus two totally distinct things have been classed, the one parasitic, the other not. In ordinary herpes phlyctenodes, the whole area of the portion of skin included by the outer edge of the diseased patch presents the herpetic aspect; there is no clear centre; but in certain cases there may be a ring of bullulæ inclosing a portion of unaffected skin; the ring itself in diameter varies from one-twelfth to a quarter of an inch, and is made up of a red base, upon which are distinct bullulæ, or large vesicles, giving place to subsequent scabbing. The diameter of the whole patch varying from half an inch to two inches, or even more. This is a truly herpetic disease; it has a short and definite course, identical with that of ordinary herpes phlyctenodes. I have seen it on the neck, face, and forehead, in non-syphilitic, and again in syphilitic subjects, becoming chronic, and being cured by syphilitic remedies in the latter.

The syphilitic form is *symmetrical* and *chronic*, and accompanied by special concomitant evidences of syphilitic infection; the other, or parasitic form of herpes circinatus, which I have ventured to call tinea circinata, is the ordinary ringworm of the body. It commences as a red spot, which enlarges in circumference, the central part getting paler or gradually recovering its natural appearance. There are various degrees of this disease. There may be a circular erythematous patch, which is more or less scaly, but is not covered by anything like crusts—in fact, a desquamating erythema. In other cases, at the extending edge vesicles may be plainly visible, and the centre may clear; in other cases the centre may be unaffected, and the ex-

tending disease appear as a red ring enclosing a pale centre, the edge of the ring presenting a papular or vesicular aspect. This of course approaches most closely to the true herpes circinatus. I have seen tinea circinata develop rapidly as a largish patch, with well-developed vesicles, and then look very much like herpes phlyctenodes; but in all these cases the origin from a small red spot, the papulation or vesiculation of the extending edge, the clearing of the centre, the slight desquamation, should at once decide the nature of the disease. The microscope should be used if there is a suspicion of parasite, and in any circular eruption which has a furfuraceous desquamation. The disease, too, lacks altogether the definiteness as to outset and duration, of true herpes. The cause is the growth and irritation of a fungus, and it is easy to see that the aspect of the disease will vary with the luxuriance of the parasite and the condition of health of the attacked. I hope the name tinea circinata will be given to this ringworm of the surface, and it will not in future be confounded with herpes, with which it has only a similarity in external appearance. With regard to herpes iris I have little to say, as I know little about it. Two or three cases have come under my care; they occurred on the back of the hand in elderly people. The disease consists of a herpetic circular patch made up of concentric rings, there being generally a distinct vesicle in the centre. It is an unimportant variety. I would remark that the division into *phlyctenoid* and *circinate* groups of herpes is to me unnecessary.

The Pathology of Herpes.—There is little doubt but that we are on the road to explain satisfactorily the occurrence of herpes. That it is closely connected with a perversion of the nerves going to the affected part is certain. Two clinical facts have now been sufficiently demonstrated, especially in zoster; they are—1. The constant occurrence of neuralgic symptoms prior to the

development of herpes. Some of the most intense cases of "pleurodynia" are connected with zoster, and the pain is speedily relieved by the outbreak of eruption. A very remarkable case will be found recorded in the *Lancet* for August 24th, 1867, in connexion with a gouty diathesis, showing the connexion in ordinary herpes between pain and eruption. 2. The second fact is, the exact correspondence as to site of herpetic eruption with portions of surface supplied by certain nerves, and the development of the eruption in the course of nerves. To take the last point specially, zoster of the chest will make its appearance frequently in the part supplied by the posterior cutaneous branches of the intercostal nerves, then in that furnished by the anterior, and so on. With regard to the other point, much evidence has been put on record. Perhaps the most striking case is that recorded by Mr. Paget, in which herpes affected the parts supplied by the infra-orbital, the anterior dental, and the anterior palatine branches of the superior maxillary nerve. After catching cold, the patient was attacked on the third day with herpes of the cheek, side of nose, the upper lip, the palate, and buccal membrane. The final results were in some respects remarkable, and in keeping with the explanation as to the implication of the nerve trunks. A bicuspid fell out on the sixth day, a second on the seventh, and later still the canine and two incisors, whilst the alveolus in part necrosed. In the herpes ophthalmicus, so fully referred to by Mr. Hutchinson, the same truth has been illustrated in a very remarkable way. All these facts clearly show that the nervous system determines the seat of the eruption. Then as to the exact causation. In almost all cases we are enabled to understand how it is that irritation is reflected along the nerve trunks, going to the exact locality of the herpetic eruption. When catarrh affects the sensitive mucous membrane of the air passages, the occurrence of herpes of the lip or nose can readily be understood;

the play of cold air (chilling), or the direct application of cold to a heated surface, will account for the appearance of herpes phlyctenodes; herpes præputialis has come on after an emission; after connexion regularly, so as to leave no doubt as to the co-relation; and after other irritation of the urethral mucous membrane. The passage of a catheter has before now been followed by rigor and labial herpes. There is no great difficulty in admitting this latter occurrence. The only point upon which we require enlightenment is that which concerns the why and wherefore of the reflexion to the nerves that go to the lip. Gerhardt observes that the group of diseases in which zoster of the face occurs is remarkable "by the frequency of an initial rigor or the occurrence of an increase of temperature even to 32° Reaumur, on the first day." He thinks that the irritation must be caused by the following peculiarity of the fifth nerve: "The branches run through narrow bony canals along with small arteries: these arteries contract in the initial rigor, but then *dilate*, and their abnormal size creates a pressure on the branches of the trigeminus and the sympathetic. The occasional result is the occurrence of a vesicular eruption. When this has once occurred an accommodation takes place in virtue of which a second attack of febrile dilatation of the vessels does not irritate the vaso-motor fibres so as to cause an eruption." It is curious that in intermittent fever herpes only occurs once, and it is held generally between the second and third fit.

Pudendal herpes follows vaginal irritation likewise. In the case of herpes zoster more information is needed: that the nerve trunks are disordered there is little doubt, and here, as in other cases, this is followed by hyperæmia and vesiculation. There is no reason why a cold should not give rise to zoster. But zoster is said to occur only once in a lifetime, one shielding from a second attack, and cold, chilling of the surface and the like, are constantly happening. Hence a good deal

more clinical observation is necessary absolutely to verify this opinion. But other forms of herpes occur repeatedly in the same subject—herpes labialis and præputialis; and this does not at all militate against the part assigned the nerves in the production of the disease, or prove that zoster is different in nature from the more common forms. It is also easy to see that emotional disturbance, mental distress, may also play an important part in the causation of herpes. But the typical mode of production is seen in labial herpes, where irritation of the mucous membrane of the air passages is reflected upon the nerves going to the lip, giving rise to hyperæmia and vesiculation. It should be mentioned that herpes zoster has been observed to occur during the exhibition of arsenic.

Lastly, in regard to the pathology of herpes as a whole, I may state that the disease presents in many of its features a family likeness to the exanthemata, as observed by Willan. It has a definite duration; it is anteceded by general pyrexial symptoms, presents eruptive phenomena, which are not successive, but which go through stages of maturation and decline, as in the eruptive fevers.

The Diagnosis.—Herpes cannot well be confounded with any other disease. The red base, upon which a few large clustered distinct multilocular vesicles (bullulæ), which are larger than those of eczema, and smaller than pemphigus, are seated, with the acute regular course, of definite and short duration, its non-secretory aspect, and the frequent presence of neuralgic phenomena, and ordinarily of smarting, heat, and tension, are diagnostic. Erysipelas may resemble H. zoster; but it is not unilateral, the bullæ are large, the redness is accompanied by swelling, the edge of the blush is well defined, and rigors are present.

Prognosis.—There is no anxiety whatever to be entertained save in the occurrence of zoster in persons of feeble constitution in advancing or advanced life.

In this case great debility, and ulceration in the site of the herpetic patch, may result, and the special care of the physician will be needed to sustain the powers of the patient.

The Treatment.—Usually the only thing necessary in the treatment of herpes is to protect the eruption from being irritated by the clothes of the patient, and other external influences. This arises of course from the fact that herpes is a disease of definite duration, and that the eruption is, so to speak, its "explosion." The temporary nerve paresis, of acute production, therein spends itself, and no cause exists for the continuance of the disease; and so we find that when once the eruption is "out" relief from pain, neuralgia and the like, is obtained, and the healing process at once commences in the affected skin. We only need therefore to help the reparative process set a going by Nature.

I use generally a lotion of oxide of zinc and acetate of lead with glycerine locally, and cover the patch over with a layer of amadou, or two or three layers of lint, in the early stage; and subsequently, when desiccation has taken place, apply a cerate composed of elder-flower ointment an ounce, lead lotion a drachm, and prepared calamine powder two scruples; but glycerine of tannin is equally good, and indeed may be used from the commencement. In zoster the eruption may be oiled over, and then dredged with flour freely, placing upon this a layer of cotton wool. The great thing is to avoid too much meddling. In some cases neuralgic pains are very severe; here poppy fomentations: equal parts of the linimentum belladonnæ P. B., and linimentum camphoræ, or olive oil: chloroform: morphia dressing, or, if required, the hypodermic injection of aconite and morphia, are necessary. And under these circumstances internal remedies are to be used—quinine especially in full and repeated doses, ammonia and bark, and aconite or opium, as the case may be. After herpes zoster I always advise a course

of tonics—the mineral acids and quinine with slight aperients. In certain other cases there may be special indications for general treatment, either by reason of pyrexia, or the debility of old age, bark and port wine and plenty of nourishing food being here requisite. Should ulceration occur in zoster, nitric acid and opium lotion, or a weak solution of caustic (grs. x—xx) in nitric ether (℥j) will be serviceable. In herpes iris nothing special is called for. In those cases which I have seen there was nervous debility present, and the mineral acids with bitters, and some astringent application locally, acted satisfactorily. Of course when herpetic eruptions occur in the course of catarrh or fevers, the proper treatment is that which is fitting for the general disease. See Formulæ 66 A, 71, 32, 62.

PEMPHIGUS.

This disease is characterized as regards eruption by the appearance of little separate blebs usually grouped in threes or fours, seated upon slightly inflamed bases, which by enlargement they quickly cover. These blebs may attain a size varying between that of a pea and a hen's egg. They are distended with fluid, which is at first very transparent, but soon becomes milky, and is quickly reabsorbed, or the blebs or bullæ simply shrivel, the distended globe becoming flaccid. Very often the blebs burst in a few days, and then the contained fluid dries into crusts of lamellar aspect, beneath which is the slightest ulceration; the contents are sometimes sanguinolent; the bullæ are generally successive; they arise in the course of a few hours; their outline is generally round or oval; there may be one or many, and they may be confluent, but are usually discrete. Now and then a species of false membrane is contained in the bullæ. The reaction of the fluid is generally alkaline, but with turbidity comes acidity. The local symptoms are, slight itching

and smarting at the outset, and more or less soreness. The healing process in pemphigus is sometimes tardy, a thin ichor being secreted by the surface originally blebbed, and so a quasi-impetiginous crust is often produced. The disease attacks all parts of the body—rarely the head, palms of the hands, or soles of the feet; sometimes, however, the mucous surfaces—ex., the intestines, vagina, &c.

Now this general description applies to all varieties about which much unnecessary fuss has been made. The term pompholyx was originally used to denote the chronic and most indolent form of pemphigus, but the two terms are now used in the same general sense.

Pemphigus is almost always chronic, but there is an acute form; and we have therefore, in accordance with most authors, to make two groups, *acute* and *chronic*.

Acute Pemphigus is seen in children, and is synonymous with pemphigus neonatorum. Now the greatest doubt exists as to the nature of this affection. According to Dr. Steffen there are three forms—(1) pemphigus occurring in children apparently healthy and ending favourably; (2) pemphigus in children who have been badly nourished, or who have fallen into a state of marasmus, and in whom it is therefore the result of cachexia; and (3) syphilitic pemphigus. Under the second head would therefore rank the pemphigus gangrænosus which occurs amongst the ill-fed Irish, and so named by Dr. Whitley Stokes. From all that I can gather, and basing my observations on such an epidemic as that which occurred in the General Lying-in-Hospital in 1834–5, it seems clear to me that there is a non-syphilitic and a syphilitic form. When it is *epidemic* and occurs amongst the children in a lying-in institution, it seems to me to result more from the operation of acute blood-poisoning, such as that of puerperal fever. Apparently healthy children are seized with severe constitutional symptoms, the skin is livid, the areola dark; the contents of the bullæ are

fœtid; the ulceration is unhealthy, deep; its surface is dark, blackish, and exudes an ichorous matter; the edges are livid, shreddy, so that large circular depressed black gangrenous ulcers, acutely produced, are present. The feet and hands may be affected, but also the limbs, the genital parts, the abdomen—even the mucous surfaces and head; death occurring about the tenth or twelfth day. In other cases, in bad fed and overcrowded children, the disease may not be so severe, but presents much the same kind of changes. There is a purplish base to the bullæ, sanguinolent contents, ichorous discharge, and a good deal of sloughing and gangrene; the disease being propagated by succcessive crops for weeks, and the child often dying, worn out by irritative fever and exhaustion.

Pemphigus (neonatorum) acutus is also syphilitic, and occurs as a consequence of the cachexia of that disease. It occurs, not as an epidemic, but in connexion with other symptoms of congenital syphilis, and is well-marked about the hands and feet soon after birth; it may give rise to deep ulceration.

Ordinary pemphigus has sometimes an acutish aspect, there may be headache and pyrexia; in a couple of days or so, little red points appear; and upon these little bullæ form, which rapidly increase and fill: there may be an areola; all depends upon the increase of the bullæ. The latter and the red blush increase together, but generally not *pari passu*, for the bulla overtakes the areola and hides it from view. In two or three days more the bullæ burst, a raw surface is left; but this scabs over: at first the incrustation is yellow, then brownish. The bullæ seen on the limbs and trunk are successive, and so prolong the disease for some weeks. When the disease occurs in a more chronic form, it has been called *P. diutinus*, the two together making up *P. vulgaris*. Sometimes there is but one bulla developed at a time; it is large, bursts in one or two days, crusts over, and disappears; then another developes.

It is chiefly seen in old people who are debilitated. The bulla appears after a little tingling about the ankle or the wrist. Five or six bullæ in all show themselves. This form is styled *pemphigus solitarius*. All these forms may occur in children and young persons, as well as adults. There are two more varieties. In one, *pemphigus foliaceus*, the disease commences on the front part of the chest by a single bulla, and by the development of others around, spreads over the whole surface, the bullæ being more or less imperfectly formed; the skin is red in many places, but there is not much infiltration; itching is not severe. After the bullæ form, large yellowish squamæ are produced, with more or less desquamation; the scales, which may be large, are the remains of imperfectly-formed bul'æ, and are free at their margins, and they are reproduced very rapidly. The bullæ are successive and confluent; oftentimes the skin exhales an offensive odour. The scales have been described as resembling French pastry, pieces of parchment, or papyrus, and vary in size from three-quarters of an inch to two inches. It is often a fatal form of disease, death being ushered in by irritation of the mucous surfaces and dropsy, in old people who are weak and out of health.

Lastly, there is a form in which the characters of prurigo and pemphigus are intermingled, to which the term *pemphigus pruriginosus* is given. The bullæ are small and not well formed, though numerous, and the pruriginous itching is most distressing. Microscopical examination has detected in the fluid of pemphigus what seem to be mucus and pus-corpuscles, but are thought to be newly-formed epidermal cells. Bamberger declares that there is a great deficiency of solids, especially albumen, in the blood, and of phosphoric acid in the urine.

Cause.—Little is understood in regard to the exact causation of pemphigus. It is well-known that general debility, intemperance, cold, gastro-intestinal distur-

bance, moral emotion, cachexia, and bad living, often seem to evoke the disease, but what we want to know, is the immediate and proximate cause. From all that has been written, it would seem that the nervous system is specially concerned in the matter; and that it is the channel by which morbid influences that result in the eruption are conveyed. In many cases an appreciable disorder of it precedes the eruption. Dr. Russell has remarked this. That there is some serious constitutional disturbance, is shown by the fact that those who have died of the disease have been found to have fatty livers, and amyloid changes in other organs. Compare the case of leprosy. We have serious deterioration of the general health, in which the nervous system is implicated, and one of the very first evidences of the latter is the production of bullæ about the skin prior to, or in connexion with, the occurrence of anæsthesia, which we know is due to distinct disease in the nerve trunks. This seems to me to throw considerable light by analogy on the veritable mode of production of the eruption of pemphigus. The deficiency of solids in the blood, and of phosphates in the urine, indicates a condition of blood which must disorder the nervous system, and may fully account for the disease. Now in herpes, we have the effect as it were of a temporary or sudden, or non-persistent influence; in pemphigus, we have a persistent and slowly-evolved influence, reflected through the nervous system upon the surface, hence in the one case a disease of short and definite duration, in the other a chronic malady.

But some different explanation is needed in regard to acute pemphigus. In this instance it is possible to conceive that the nervous system is particularly involved, although the whole body is affected seriously by septic poison, absorbed from without. It must be remembered that bullæ occur in erysipelas, and here the burning heat, the evidently great and sudden distension of the vessels of the affected part, and the consequent

rapid effusion, show that the nervous control over the vessels is specially at fault. If the acute effusion were due to the fact that the blood was of such a quality that it would not pass through the capillaries, we should expect to have bullæ in all acute specific diseases. What I wish to emphasize is the fact that the morbid influences that cause the cutaneous changes in pemphigus seem to operate immediately, not through the blood, but the nervous tract; why the nervous system specially is another question, beyond our knowledge at present.

Prognosis.—The cure is not rapid, but slow; recurrence of the disease is frequent. In old people, where the disease is general, and in children with much ulceration, the issue of the case is often unfavourable. The general condition of the patient is to be our guide, and in these cases a cautious opinion is always needed.

Diagnosis.—Pemphigus can scarcely be confounded with anything else, the bullæ are so appreciable a sign. In eczema of the hands, bullæ may be produced secondarily by the confluence of vesicles, but their origin is clearly traceable, and co-existent eczema is to be found elsewhere. Pemphigus is rare on the hands and fingers, *per se*. General eczema and P. foliaceus should not be confounded; in the latter the bullæ are present, the scales are larger and peculiar, the skin is not infiltrated.

In ecthyma cachecticum the pustules contain bloody fluid; there are no true bullæ; the crusts are thick and dirty; the ulceration is deep; the disease is pustular. In rupia, the bullæ are smaller and flatter, the contents sanious, the crusts thick, dark, prominent—cockle-shell like; the ulceration beneath deep. Pemphigus foliaceus resembles pityriasis rubra; but in the latter there is no history of bullæ; the scales are altogether smaller; there is no characteristic odour, no wasting of flesh.

Sometimes in impetigo contagiosa, the bullæ become

somewhat large, but they are never distended as in pemphigus, but flat; the contents soon become purulent, and flat yellow scabs form, which are characteristic. It is clearly pustular.

Treatment.—In the acute forms the disease must be treated as a typhoid disease, an aperient to begin, then salines, with ammonia, unstimulating nourishment—strong broth—and as soon as the pyrexia is at all subdued, tonics should at once be had recourse to; in children, chlorate of potash and quinine, with wine, will be necessary; in the syphilitic variety much the same line must be followed as regards the child, whilst the mother should be well toned up and well-fed. Slight mercurial inunction in children who are in sufficiently good condition to bear it, should be employed. Then as regards local measures, weak solutions of permanganate of potash and carbolic acid, with the use of absorbent powders; and presently, when the sores are cleaner, weak nitric acid lotion seems to be the best. An ointment of scrophularia nodosa is advised by Dr. Stokes, in the gangrenous variety. In the chronic forms, good diet, with quinine, the mineral acids and arsenic, are the remedies usually employed internally. In many of the cases of pemphigus that I have seen, there has been a deficiency of proper meat in the diet, and a good deal of worry, the two together inducing an anæmiated and exhausted condition. In these instances, plenty of good food, with the mineral acids and cod-liver oil, and a due attention to elimination, has sufficed for the cure. We may generally find some cause of debility in our patients, and it is necessary that we treat that specially. I think, in many cases, that aperients combined with tonics are called for. If we feed up a half-starved individual, or give tonics to a debilitated subject, whose waste products have already overcharged the blood, without taking care that proper emunctory work is carried on, we may even increase the disease. I have seen this, and

therefore I think it important to attend to the proper elimination of effete products from the system, through the bowels and the kidneys. In the more quiescent forms, arsenic seems to be as good a remedy as any. I am not certain that phosphorus with quinine is not a good treatment (with a thirty-second part of a grain of the former). In old people, pemphigus may be regarded as the hint of a "break-up." In such cases, a nourishing diet, quietude, and bark and acid are the best remedies. Locally, in these chronic forms, we may let out the fluid from the bullæ, apply some inert powder, such as lycopodium; subsequently weak astringent lotions, such as alum, tannin, zinc, or even ointments of zinc; and if the sores do not heal, use a solution of nitrate of silver, gr. iij vel iv to ℥j.

In the pruriginous variety, conium and aconite, or quinine, internally, with alkaline baths, or cyanide of potassium lotion, may be employed. A very good application, to cool and comfort the surface in all cases, is a mixture of common whitening, glycerine, and water, made into a thinnish paste, and spread over the surface by means of a brush.

CHAPTER XII.

ALPHOUS DISEASE (LEPRA VULGARIS).

THIS disease is characterized by hyperæmia of the cutis, hypertrophy of the papillæ of the skin and the epidermic cells, as shown by the free production of well-formed, whitish, epithelial scales, aggregated together, so as to form a more decided scaliness than in pityriasis. There is an entire absence of any discharge, vesiculation, or pustulation, throughout the whole course of the disease. It arises as a primary condition, and occurs in about seven per cent. of all cases. The eruption affects parts of the skin (by preference) whose epithelium is thick, especially the elbows and knees. It may be partial or general. At the outset the disease is attended by more or less pruritus; the increase of the patches is by centrifugal growth, and there is oftentimes a slightly red margin: the surface beneath the scales is dull red and shining and papular; the scales are shed, to be again replaced by others; in chronic cases the derma itself becomes very distinctly infiltrated and thickened. The general health is often apparently good. The disease is non-contagious, runs a chronic course, and is very prone to recurrence.

The structure of the scales or squamæ of lepra is peculiar; if the under-surface be carefully examined it will be seen to be pitted or marked by little hollows, and these correspond to the enlarged papillæ of the skin; the adhesion of scales to the surface beneath is decided. The scales, placed under the microscope, are seen to be composed of epithelial cells only, matted together, well-formed, sometimes even enlarged; many

are flattened together, so as to be almost fusiform, and this results from their rapid growth and close package.

Lepra occurs as an hereditary disease. It attacks males more than females, and is most common between the ages of fifteen and thirty. The sanguineous temperament is present in many cases. All classes of society are liable to it, and it is seen mostly in summer and winter.

Psoriasis is the same disease as lepra, according to most writers, but Mr. Wilson applies the term to chronic scaly eczema. The varieties of lepra may be given in a very few words. It was the custom to apply the term psoriasis to the ordinary patches of the disease, and lepra to that variety in which the centre of the patch clears, and the disease takes the form of a *ring*. This distinction is not kept up now.

Lepra begins by little minute spots of a whitish tint, made up of epidermic scales heaped together; this is *Lepra punctata*. It usually affects the body and limbs. When the spots are larger they look like drops of mortar, and the disease is then called *Lepra guttata;* it is seen about the arms, breast, back, legs, and thighs. When the eruption occurs in patches about the size of a shilling or so, we have *Lepra nummularis;* it is produced sometimes by the coalescence of smaller spots. When the disease is in a still more developed condition it is termed *Lepra diffusa*. It often covers a large extent of surface, is always seen on the elbows and knees; the scales are well-formed, the patches generally thickened, and often cracked. When the eruption takes the form of bands, it is styled *Lepra gyrata*. This is always due to the running together of circles; the scales are thin and speedily reproduced. This variety is seen mostly in the back. Now lepra may pass through all these stages in one and the same subject, or the features of one stage may be preserved in individual cases. Then we have *general* psoriasis or lepra, which may present the features of any one of the varieties described. Chronic, or *Lepra inveterata*, in

which the patches are much thickened and cracked, the scales large, dry, and adherent: the patches may be hot and tender, and slight discharge occur. This is what Devergie called "psoriasis eczemateux." It presents the characters of lepra, and, in addition, the tendency to pour out a fluid secretion, which dries into scales of rather larger size than those of psoriasis; the surface beneath is red, and slightly moist: it is seen about the forearms and legs. The itching and pain are more marked than in psoriasis. The disease is a mixture of lepra vulgaris and eczema. The nails may be opaque, brittle, worm-eaten. When the scales are very white, the term *Lepra alphoides* is sometimes used. Occasionally the accumulation of scales takes place to an unusual extent: the scales are heaped up so as to form crusts, something like those of rupia. Dr. McCall Anderson has given this the name of psoriasis rupioides. On removing the crust, a circular red surface is exposed, but it does not "discharge." There is a tendency in this form of psoriasis apparently to the production of pus. I have seen ordinary lepra vulgaris assume the characters described as *rupioid* during convalescence from intercurrent measles, the debility consequent upon the latter favouring cell proliferation. I regard psoriasis rupioides as lepra modified by cachexia, in which there is a tendency to pus formation. There is no ulcerative stage, and therefore the word rupioides is apt to mislead. Itching is only occasionally troublesome in lepra, and then it generally occurs at the outset. The elevation of the patches of lepra varies, generally it is about a line. It is customary to make certain local varieties.

L. capitis.—The head is the commonest seat of the disease, next to the elbows and the knees: the whole scalp may be affected, or there may be only one or two small points of eruption; when extensive, the disease travels on to the forehead, forming a kind of fringe along it at the upper part. There is co-existent disease

elsewhere. The hair on the scalp thins out frequently. *L. palpebralis* is seen at the outer angle of the eye; it is usually a part of more extensive disease in other parts; there is itching, scaliness, and the eye becomes irritated. *L. labialis* occurs on the lower lip mostly, and is often confounded with eczema; the surface is scaly, fissured, puckered in towards the angle of the mouth, and reddish; the scales are speedily reproduced. *L. palmaris et plantaris* are important local varieties. The skin in the affected parts is thick, and the aspect of the disease differs somewhat from the usual type. It may be limited to the centre of the palm of the hand or sole of the foot, coming on gradually and running a chronic course. In other cases conjoined to the typical disease on the knees or elbows. The patches are dry, harsh, thickened, discoloured; the scaliness is not very marked, but the superficial layers peel off from time to time. Presently the surface cracks and fissures, and healing is very tardy; occasionally the surface bleeds. The muscular movements of the hand are painful. In other cases the disease runs a more acute course; the palm of the hand is quickly invaded over its entire surface, and the disease may travel along the palmar aspect of the fingers; the skin is red, "hot," cracked and fissured; as in the other case, it is sometimes attended by itching. When the sole existing disease, it is probably always syphilitic.

Lepra (or *Psoriasis*) *unguium* is mostly a complication of the inveterate form of lepra, but may exist alone. The nails (and several are usually affected) lose their polish, and soon become opaque, thickened, irregular, and brittle; they are then fissured and discoloured in lines (from dirt), their matrix becoming scaly. The disease (lepra) also affects the scrotum and prepuce; the parts are swollen, red, hard, tender, scaly, fissured more or less, and give exit to a thin secretion, which adds to the scaliness; there are pain and pruritus, and the local mischief may be the sole, or part only, of general disease.

When lepra is in progress of cure, the scales lessen and the reddened elevated surface beneath comes more prominently into view, but this diminishes gradually till the eruption disappears, leaving oftentimes no trace of its former presence behind. It may leave, however, pigmentary stains, the result of the congestion. It is in the disappearance of patches of lepra that the centre rapidly clears, and the ringed form or *lepra circinata*, or the lepra of old authors, is produced.

Pathology and Cause.—Hebra and some of the French writers have sought to ally lepra vulgaris to eczema and lichen, but this relation is utterly negatived by the pathology of the disease. If a portion of skin affected by lepra be examined microscopically it will be seen that the papillæ of the skin are enlarged, the epidermic cells of the Malpighian layer being specially well developed. In addition, cell growths, resembling cuticular cells, are observed along the course of the vessels running near to and into the papillæ, and these vessels are like the other structures, of larger size than natural—in fact, hypertrophied. This new cell-growth is most abundant in the upper layers of the corium, and about the apices of the papillæ, and here cells are piled together into little heaps, and no doubt are pushed forward to form the ordinary scales. Neumann, who has lately investigated this subject, finds that the vascular twigs sent by the vessels of the corium to the papillæ are peculiarly well-developed, spread over the entire area of the papillæ, and even disposed in circles, so that the "cells" which are outside the vascular walls are arranged in horizontal lines, as well as parallel to the long axis of the papillæ. As the vessels are so abundant, the whole stroma of the papillæ is filled with the cells which lie outside the vessels. Hence there is hyperæmia of the cutis, hypertrophy of the papillæ as a whole, and an excessive formation of the cells which ordinarily go to form the epidermis, this cell proliferation commencing in the upper layer of the corium, and

chiefly around the vessels of the papillæ, and coming forward to the surface in the form of the white imbricated scales. Now these changes are primary in lepra; cell proliferation occurs to a varying extent, as the result of congestion in other diseases—but here they are different from those observed in lepra. The cell-growth may exhibit an amœbiform character. This view of the pathology of lepra at once disengages the disease from all relationship with eczema. Then with regard to the cause—the circumstances that bring about this hypertrophous growth of the papillæ and cuticular cells—little is known. The disease occurs oftentimes in those who seem quite robust and healthy, and a certain amount of constitutional vigour seems to be necessary to its development; but I don't think they are sound in nutritive power. I agree with Dr. Anderson that there is very frequently some cause of debility present, "though this is quite incapable of calling forth the disease unless the predisposition exists." What that is is as yet a mystery. Over-lactation, "over-growth" in youths, mental worry, bad living, over-study, all predispose to the occurrence of lepra.

Prognosis.—The disease always is difficult of cure and has a tendency to recur. The most obstinate cases are those of lepra nummularis of the back and buttocks, as far as I have seen, in which there is much elevation and thickening and deep redness, and lepra of the hands and feet.

Diagnosis.—Red patches covered over with white more or less silvery scaliness as a primary formation, without any history of discharge, are the main diagnostic points. Lepra may be confounded in its local varieties with pityriasis, lichen circumscriptus, eczema, tinea circinata, erythematous lupus, and, when general, with pemphigus foliaceus, pityriasis rubra, lichen ruber, and the squamous syphiloderm. *Pityriasis* is known by its thin, branny scales, which freely exfoliate, and do not therefore form imbricated layers, the

absence of all thickening or marked hyperæmia of the cutis. The diseased patch is not elevated, it does not feel thick and harsh, the elbows and knees are not specially affected. *Lichen circumscriptus* is an itchy disease; it is produced by the aggregation of papules. The scaliness is slight, and it does not attack the elbows and knees. The skin generally is thickened. *Eczema* always has a history of "discharge." Crusts, as distinguished from scales, are present in the early stage, and, therefore, it is only in chronic eczema, when the epithelial formation is recovering itself, that any error can arise. In this the scales are mixed with blastema, they are loosely attached and thin, not silvery white; there is burning and itching; the disease is not seated at the elbows and knees. In *tinea circinata* there is a kind of scaliness, but it is rather a "fraying" of the epidermis; there is itching, a circular form, the centre is often pretty smooth whilst the outer edge is somewhat papular; it is unsymmetrical, often vesiculating at the edge of the patch, and under the microscope the scales are seen to be composed of blastema and epithelial cells and fat, together with spores and often mycelium that has found its way among the mass; and lastly, the disease is contagious and may exist in several members of a family. *Erythematous lupus* should not be confounded; there is *no true scaliness*, but deposit in the skin, with a tendency to loss of substance and scarring, a gelatinous look and a deep red colour. The disease is mostly limited to the face, and occurs in strumous subjects, which is not the case in lepra. *Pemphigus foliaceus* is known from general psoriasis by the fact of its origin from bullæ, the presence here and there of bullæ, the absence of silvery imbricated scales, and the presence of large flakes or lamellæ, produced by the collapsed walls of the bullæ, together with more or less secretion. *Pityriasis rubra* has no thickening of the cutis, no papillary hypertrophy, but constant exfoliation of flakes, together with small

scales. It is very general, attacking every part of the body; there is a peculiar yellow aspect about the disease well seen if the blood is pressed out of a portion of the affected skin, and the hyperæmia is more generally and more perfectly marked. *Lichen ruber* is a papular disease. The confusion of *Squamous syphiloderma* is by no means unlikely. For the diagnosis see syphilitic diseases. Eczema may complicate lepra, then we have the characters of lepra plus those of eczema. This is the explanation of those cases of chronic disease which commence as lepra and presently exhibit more or less "discharge" and crusting.

Treatment.—Lepra, as I have said, puzzles us by its occurrence in persons of apparent sound health, but there are exceptions to this rule. We find a woman becomes pregnant, gets some stomach derangement, out comes her old enemy, psoriasis; another is nursing, she lives badly, presently suffers from hyperlactation—the disease appears. A gentleman who has heavy head-work to do, is worried, anxious, and becomes affected. A servant gets very little fresh air and plenty of work to do—debility follows and psoriasis results. Another partakes too freely of wine or seasoned food, or is influenced by circumstances which give him a gouty or rheumatic habit, or occasion a temporary change from his ordinary quiet mode of life, and he too suffers. Now in all these instances, the disorder of the general nutrition helps out the disease, a predisposition to which exists in those who are attacked. Anything in fact which tends to lower the general tone of the system (the resistant power), is likely to conduce to the occurrence of the disease.

Some of the best results I have obtained have been, in over-worked women, from the use of cod-liver oil, with steel, or quinine, or a course of the mineral acids. We must treat the patient rather than the disease. Now it is the custom to regard arsenic as the only remedy for lepra. I cannot subscribe to this. Every

case should be treated upon its merits. The specific treatment is rather local than general, and the idea which I have in regard to treatment, is to tone up the system generally, by removing causes and conditions of debility, and mal-assimilation, so as to enable Nature to bring back the mode of cell-growth in the skin, to its proper character. Hence in growing children I give iron, cod-liver oil, and plenty of meat. In lactating women quinine, the mineral acids, good diet, and porter; in gouty and intemperate subjects, alkalies, and colchicum, or the mineral acids as the case may be; in over-worked men and women, change of scene and rest from fatigue if possible. A full animal diet is often important in connexion with tonics. Dyspepsia should be carefully attended to. Whenever there is much hyperæmia of the cutis, or any febrile symptoms, I use diuretics, and the best I have found is the acetate of potash, in half-drachm doses three times a day, with or without arsenic. Then supposing that the general state of the patient appears to be almost faultless, what is to be done. Give specifics? This is what we are recommended to do. The one specific is said to be arsenic. Where the scaliness is free it does most good. If there be much hyperæmia, I combine it with alkalies. Dr. M'Call Anderson recommends carbonate of ammonia in large doses. Tincture of cantharides has not been of much service in my hands, nor have tar pills. Iron, cod-liver oil, mineral acids and bitters, in the anæmiated, or ill-nourished, dyspeptic, and strychnine and phosphorus, with large doses of dilute nitric acid, in subjects suffering from *nervous* debility, have proved most successful. In old-standing cases, where there is much thickening of the patches, a mercurial course is advisable, followed by tonics. The local treatment is very important. Bearing in mind the morbid cell-growth, it is easy to conceive why tarry preparations act efficiently, and they are the remedies of general applicability and utility in lepra. When cases

first come under treatment, or more properly in the early stages of lepra, and before tarry preparations are used, it is necessary if there be inflammatory symptoms that they be subdued by water dressing, alkaline and emollient baths, aperients, and diuretics.

It is an important point not to stimulate the skin to too great a degree by outward applications, *so long as the disease is increasing*. This is a rule of some moment, inasmuch as the stimulation by tar or otherwise, may only increase the hyperæmia and consequent spread of the disease. I am sure of this. When therefore the disease is actively increasing, the emollient, diuretic, and aperient treatment should be first used. In all cases the scales, when abundant, should be removed by maceration, so that the applications may reach the real seat of the disease.

If the disease is slight and localized to a few spots only, we may at once begin with tarry applications, for the scales are thereby removed sufficiently well. An ointment composed of olive oil ℥j, pyroligneous oil of juniper ℥ij, and adeps ℥j, may be used night and morning. At the hospital I employ creasote six drops, mercurial ointment gr. xv, and adeps ℥ij. Where the disease is more extensive, or the scales thickly covering the patch, alkaline baths are to be employed (four ounces of carbonate of soda to each bath), the patient "soaking" for some twenty minutes or so, or individual patches may be softened up with water-dressing, or glycerine plasma, and this is especially necessary in hardened spots of lepra about the hands and feet. Independently of its softening action, the alkaline bathing seems to exert some curative power. When the scales have ceased to form freely, a solution of nitrate of silver in ether (℈ij to ℥j) painted over the spots night and morning helps the cure. In chronic lepra, with thickening of the patches, or where there is much elevation of the disease—ex., the *nummular* variety, a more decided impression may be produced

by rubbing in a solution with flannel, of equal parts of tar and spirits of wine, or equal parts of soft soap, tar, and methylated spirit.

When there is a tendency to "discharge," the nitrate of mercury ointment ℥ij, with glycerine ʒij, and camphor liniment ℥j, is useful. When cracking occurs, as in palmar and plantar lepra, a paste made of glycerine and borax is useful, or the cracks may be touched with nitric acid. Sometimes the cuticle is so hard, that it is necessary to poultice freely in order to soften up the hardened cuticular lamellæ. Sometimes it is preferable to apply lotions to lepra, in that case the following may be useful: liquor carbonis detergens ℥ss—℥j, glycerine ℥ss, water ℥viij. In very chronic cases, where the disease is limited to certain patches, it is advisable to use blistering, or iodide of mercury ointment (gr. x—xv ad ℥j) so as to set up a revulsive action. The ill success which attends the treatment of lepra, is generally due not to a want of remedies, but the mode of their application, and an inattention to individual peculiarities of diathesis, and of derangement in the assimilative and secreting organs. For other remedies see Formulæ Nos. 31, 68, 69, 86, 87, 112, 113, 124 *et seq.*, 140, 146-7-8-9.

CHAPTER XIII.

STRUMOUS DISEASES—SCROFULODERMA AND LUPUS.

The strumous habit of body often modifies the more common diseases of the skin. For instance, in lepra, the crusting is more distinct, and there is a tendency to the intermingling of pus corpuscles with the epithelial scales. So in ordinary eczema, in strumous subjects, there is more than ordinary infiltration of the skin; the cellular tissue beneath, and the sebaceous glands, are implicated; there are locally more swelling and excoriation. This is due to the strumous diathesis; but strumous inflammation of the skin may exist as the sole disease, and it is considered to include scrofuloderma and lupus. In the former the general signs of struma, and the implication of the lymphatic glands and of bones, are marked; in the latter no marked evidence of struma exists, but it is regarded as a close ally of, if not a part of, struma.

SCROFULODERMA

Is characterized by the appearance of indolent, dull red tubercular formations, that tend to suppurate, and are soon covered over with a darkish scab, from beneath which oozes an unhealthy pus Ulceration to a greater or less degree takes place, and the healing is accompanied by distinct scarring. The whole disease is of the most chronic character; one can scarcely mistake this strumous ulceration for any other disease; it may spread and cover a large extent of surface, and in this case the ulcerated surface is half covered by darkish irregular crusts, whilst the ulcers discharge a thin dis-

agreeable dark pus, and granulations are flabby and pallid, bleeding freely on being touched: the edge of the ulcers is livid, and various attempts at repair are made. The mucous surfaces of the nose or eye may be inflamed and slightly ulcerated; onychia may be present; there are old scars of former strumous disease, and the whole aspect of the patient is a sufficient telltale of the disease. The treatment is generally most successful, viz., the adoption of better diet, the use of cod-liver oil, iodide of iron—certainly not arsenic—and locally an astringent ointment of tannin, or acetate of lead.

LUPUS

Is characterized by the presence of patches of a dull red colour, out of which arise tubercles, that are small, circumscribed, vascular to a certain extent, and somewhat hardish: they tend to soften, sometimes to ulcerate, to crust over, and finally disappear, leaving behind in process of cure indelible cicatrices. There is a low type of cell tissue deposited in the skin in place of normal material. There are three forms of lupus. The one in which the deposit is slight and superficial, whilst there is no ulceration, *lupus erythematodes;* the second in which the deposit is greater, the tubercular formations are distinct, and the surface is affected not in depth, but area, *L. non-exedens.* The third variety, *L. exedens,* is that in which ulceration occurs, and eats deeply into the tissues. Sometimes hypertrophy occurs together with cicatrization, then we have *lupus hypertrophicus.* These forms are degrees of one and the same thing. The general health is often apparently good, and the disease *seems* to be local: as Dr. Jones remarks, "the peculiar tissue-change which ensues upon the inflammation is the essential thing." It has some unequivocal affinities with scrofulous caries of bone, scrofulous disease of the skin, and tuberculous ulceration of the lungs, as before stated, and for these reasons I have classed lupus with strumous affections.

Erythematous lupus, which may be associated with other varieties, consists of roundish patches of a deep red colour and shining aspect, without sensible elevation; indeed, the skin looks just as though it had wasted somewhat, or become dry and shrunken from being "seared," though it is reddened; the diseased process creeps over the healthy skin (erythema centrifugum of Biett), and the surface of the disease gets covered over with thin adherent scales, which on removal expose a dry yet raw-looking surface of gelatinous aspect, and this may bleed. Erythematous lupus has been described in its slightest form as an obstinate erythema, with slight loss of substance. The central part often thins without ulceration, or is covered over by whitish scales; the disease now spreads from its boundary-edge, and may then exhibit some slight tendency to form crusts. Its usual seat is the face, cheek, nose, or even scalp; general symptoms are absent, and so is local pain. It may ulcerate. This is noticed when the subjects attacked are scrofulous, which is not always the case, at least to the appreciation of the physician. The disease mostly attacks children, and especially those of the lower orders. There are then various degrees of this erythematous form. It may be represented only by an erythema of dull red colour and great obstinacy, leaving behind a slight cicatrix. In other cases there is more induration or elevation of the patch, and the loss of substance is somewhat greater; the skin is thin, smooth, red, and shining; lastly, this form may be somewhat modified by slight crusting, the scales being large and the cicatrix deeper.

It must not be forgotten that patches of this disease may occur on the scalp, and on the fingers, hands, and toes, resembling chilblains, but occurring throughout the summer, and accompanied by slight loss of substance, thus differing from chilblains. The sebaceous glands are sometimes found to be specially involved

when the face is attacked, and pour out a somewhat more than ordinary amount of fatty matter.

Lupus non-exedens has as its basis the form first described; but, in addition, little nodular elevations, which are soltish, round, of a dull red, or reddish-yellow colour, often quasi-gelatinous-looking, stud the part, and by their aggregation or even fusion form a patch of greater or less extent, generally of circular or serpentine form: these tubercles are covered by little scales, presently quasi-scabs, and little vessels are seen to run over and through the tubercules: this is very characteristic. The disease is seen in the face, especially about the nose, the lips, and chin. The central part of the patch may clear and cicatrize: this is the result of an absorptive process without true ulceration. The outer part is tubercular: there may be a semicircle of flattened tubercles at the edge, the central portion of the affected skin being tense and puckered. If the scales be removed from any portion, the part beneath is red, dry, shining, or even raw; the upper layer next the cuticle presents an appearance which has been termed "cornified:" it is of transparent glue aspect. The papillary layer of the skin is mostly affected. The process of healing is always attended by more or less loss of substance and sensibility; the cicatrix is below the level of the adjacent surface; there may be some discharge of a thin nature. This form is not unusually associated with the erythematous variety, and may be coexistent with ulceration of the mucous surfaces near. The loss of substance is rather by instertitial absorption than ulceration, as before observed; in some instances there is a general hypertrophy of the skin, with cicatrization. This is Biett's lupus with hypertrophy.

Lupus exedens.—Ulceration is marked in this species of lupus, which commences in the usual manner by the aggregation of tubercles: and then slight discharge, crusting, and subsequent ulceration set in. The tubercles

in this variety are harder, and lack the transparency of those in L. non-exedens. The ulceration varies in depth, being in some cases comparatively superficial and extensive, or, on the other hand, deep and circumscribed.

In the first case there is the usual attempt at repair, especially by scabbing; but the ulceration is active and marked: hence, though the surface crusts over, and the loss of substance is decided: there is a thin ichor poured out by the diseased surface. In the second case the ulceration eats deeply into the tissues, the surface is "mammillated," red, quasi-gelatinous, ragged, covered by a whitish exudation, and the edges are thick and red. Cicatrization may then, and generally does, take place to some extent. The nose, its mucous membrane, bones, and, indeed, the whole organ, may be rapidly lost. In the cicatrix white bands of condensed tissue are seen running in all directions. The disease is very chronic, and is accompanied by some local heat and tenderness, with puffiness of the surrounding tissues, and often pain of a gnawing character.

The peculiar destruction of tissue affects all the structures; even the glands and hair-forming apparatus are destroyed.

The disease may attack the vulva, and then occurs between the ages of 20 and 50.

Etiology of Scrofuloderma and Lupus.—The former occurs, according to Mr. Wilson, in the better classes of society, in 21, and lupus in 77 instances out of 5000 consecutive cases.

Lupus is a rare disease after 35, and not common after 30 years of age. Devergie noticed that in 45 cases, 28 possessed the lymphatic and 12 a combined lymphatic and sanguineous temperament. In many of the cases it occurs in phthisical subjects. It is more common in the country than in town, and rather more in the female than the male sex; 25 out of 47 cases were females (Devergie); 46 out of 74 (Hutchinson). It is

most common between 15 and 25; 16 years was the average in Hutchinson's 74 cases. Its selective seat is the face; in 41 of 44 cases (Devergie) this was the case; the nose was affected in 16 cases; the nose and other parts of the face together, in 26 cases; the lips, 4 times, &c. Lupus also affects the hands, arms, legs, &c. It is a disease of the poor rather than the rich.

Prognosis.—The erythematous and non-exedens forms are remediable, but require great attention and care. The other forms often lead to hideous deformity, and are intractable to a high degree.

Diagnosis.—Lupus occurs in young people, runs an indolent course without pain, is seated mostly on the face, possesses softish vascular tubercles, slight scaly adherent crusts, and a gelatinous aspect; there is no true ulceration, the edge is dull red, inflammatory; there are attempts at repair in the shape of cicatrices; the glands are unaffected and the general health is not cachectic, though not good: the patient may be florid. The so-called serpiginous lupus is often syphilitic ulceration. In some cases of acne, the sebaceous glands may atrophy, and depressed cicatrices are left; but the seat of the disease, and the absence of tubercles, suffice for the diagnosis.

Cancer affects especially the lower lip; does not occur before thirty; is painful; its ulcer possesses everted, undermined edges; its surface is fungoid; there are no attempted cicatrices; the glands are diseased; there are no crusts over the ulcer, but an offensive discharge; the general health is bad. In *syphilis* there is the earthy hue and the general cachexia different from the clear skin of a lupus patient; the tubercles are larger, round, hard, and copper-coloured; they have no great tendency to desquamate or to ulcerate, and are found on other parts of the body; those of lupus are flatter, softer, and covered by thin scales. Syphilitic ulceration is foul, dirty, sloughy, and presents a copper-coloured areola; crusts are greenish; the edges are

sharply cut and everted; in lupus with ulceration, the edge is dull red, inflammatory, and non-everted; the surface is not foul. Syphilis has also a special history and special concomitants.

Rodent Ulcer.—Here the tubercle is large; the disease occurs in old age; there is no tendency to healing; the course is very chronic; there is pain.

Pathology.—The essential feature of lupus is the presence in the substance of the cutis of new granulation-tissue (as Virchow calls it), very soft, and more or less vascular, made up of an intercellular substance, in which are imbedded round cells, with nuclei and nucleoli—a new form of connective-tissue—a form of cell proliferation which may extend to any depth, replacing and invading the healthy structures, decaying and being absorbed. Additional supplies of cell material are produced, and these go through the same changes as those which preceded. Some of the cells give rise to pus corpuscles when the disease is marked. The cells also undergo a fatty change.

Treatment.—In the majority of cases the *real* treatment consists in the destruction of the lupoid tissue by caustics. But general remedies are needed, and these must first be noticed. Lupus patients, especially the young, are often flabby, pale, anæmiated, and perhaps unable to get proper food. In a fair proportion they are phthisical, and this seems to indicate what turns out to be successful—the use of cod-liver oil and iron in full doses. But then there is first of all frequently a weak digestion present, and this needs to be remedied by mineral acids and bitters. If possible, change of air should be secured the patient, who should sleep in a lofty and well-ventilated room, and take a large quantity of animal food, with more or less milk. A moderate amount of stimulants is also beneficial. In adults, general debility oftentimes allows a strumous or a phthisical tendency to have its way; and in these cases we find deficient assimilation exists. In such in-

stances I have seen the best results from large doses of nitric acid, with bitters, and nux vomica. If there be loss of flesh and pallor, the syrup of iodide of iron or the superphosphate with cod-liver oil, does good. In florid subjects, the mineral acids act best, but these, to do any real good, must be given largely. Where the disease assumes the non-exedent form, and the tubercles are well formed, the patient does not exhibit any debility, and has not been living on scanty diet, a short course of bicyanide of mercury (gr. $\frac{1}{16}$ to $\frac{1}{12}$ for a dose) with bark is useful. Mr. Wilson speaks well of the iodide of ammonium in two or three grain doses three times a day. In the ulcerating form, Donovan's solution will be found useful in connexion with cod-liver oil. Constitutional remedies may be alone relied upon if the disease is not extending. Then as regards the local treatment. The erythematous variety of lupus wants ordinary stimulation, with such an ointment as the pyroligneous oil of juniper (two drachms to an ounce of adeps), or one part of carbolic acid to twelve of glycerine—the former used every night, the latter once a day, if it will be borne, and then the use of dilute citrine ointment; or, if there be much heat, a paste made of calamine powder, oxide of zinc, and glycerine, and perhaps a little lead lotion. The application of collodion when the disease is disappearing helps on the cure very much. However, if these measures do not seem to be successful, the use of potassa fusa, with an equal quantity of water, first to a limited part of the edge, and gradually, at intervals of several days, to other parts, will, with general remedies, cure the disease. The acid nitrate of mercury is almost as useful. But I think that when the application of caustics is followed by much discomfort, heat, and swelling, then the stimulating plan is the best; and, indeed, if a patient comes to me with an irritated and painful patch of lupus, I soothe for some time, using simple lead or opiate lotions, or an oxide of zinc paste.

In the non-exedent form the potassa fusa, acid nitrate of mercury, Dupuytren's arsenical powder, iodide of starch paste (painless), the solid nitrate of silver stick, the actual cautery and the galvano-caustic, may be employed to destroy the tubercles. I prefer the acid nitrate of mercury, biniodide of mercury and glycerine (gr. x. to xx. to ℥j), or equal parts of potassa fusa and water. The repetition of the caustic depends upon the quiescence of the diseased patch. The exclusion of the air by a layer of zinc ointment is advisable. In the exedent form the solid silver caustic is the best. It must be deliberately and freely applied, and chloroform should be given if necessary. The chloride of zinc is preferred by some. Others again commend nitric acid, mixed into a paste with sulphur, and laid on with a spatula. After caustic applications a poultice should be applied, and the surface dressed with a soothing ointment—elder-flower and liquor plumbi.

In all cases where the disease has been arrested, and tends to heal, any mild stimulant or astringent application may be used, or such as glyceral tannin, or nitrate of silver dissolved in nitrous ether (gr. xx—xxx to ℥j). It must be remembered that local remedies act in efficiency in proportion to any improvement in the general health which we bring about by our internal remedies. I think it important to avoid the use of local remedies when these produce persistent heat and swelling, for under such circumstances the local applications only tend to the spread of the lupus, by interfering too much with the healthy action of the contiguous unaffected skin, and therefore the local reparative process. The disease *can* be made much worse by caustics. For other remedies, see Formulæ 10, 12, 13, 16, 104, 124 *et seq.*, 139, &c.

CHAPTER XIV.

CANCEROUS AFFECTIONS.

UNDER this head I have to describe Epithelial cancer and a disease allied to it called Rodent ulcer.

EPITHELIAL CANCER, OR EPITHELIOMA.

This disease affects the face, especially the lower lip, the scrotum (constituting chimney-sweeper's cancer), the vulva, prepuce, the glands of the groin, and rarely the anus. The earliest sign is a little hard lump under the skin, say the lip; it is flattish, hard, somewhat tender, and increases in size, so that the lip "pouts;" its surface may be somewhat pale or dusky, and soon becomes slightly moist; at other times it is covered by a dryish scab, or an attempt is made at "papillation;" it may be also fissured; the tissues around the swelling become more or less indurated, though they do not exhibit any evidence of change upon the surface; ulceration now sets in in the shape of a little central excoriation or abrasion, and this runs on to distinct loss of substance until an ulcer is produced, which has an eaten-out appearance: it is roundish, and bounded by hard, indurated, sinuous edges, which in an advanced stage are everted and undermined, in consequence of the extension of morbid action; the base of the ulcer is dirty or greyish, more or less papillated; it may be reddish and inclined to discharge a thin fluid, or be disposed to scab over. In cancer of the *scrotum* the development of the papillæ is peculiarly marked. The disease in this situation commences as a small pimple or nodule, or warty excrescence, which remains in a

quiescent state without undergoing much change for some little time; it then becomes irritable, red, tender, excoriated, and gives exit to a slight moisture, perhaps slightly scabbed over; the moisture increases, sometimes to such a degree that it is "a thin acrimonious ichor, which excoriates the surrounding skin." Very often other nodules appear and coalesce with the primary ones; ulceration now sets in in reality, the edges of the ulcer become everted, and throw out a luxuriant growth with scirrhous hardness, which discharges a very fœtid, irritating matter. The progress of the disease is accompanied by the development of the papillæ, so that by-and-by, very early sometimes, the disease looks like a "fungous cauliflower excrescence;" and this sprouting ulceration after a while extends deeply into the tissue.

On section, in an early stage, the mass of an epithelial cancer looks of a greyish aspect, tinged occasionally with yellow: at the circumference, the boundary of the disease is well defined; there appears to be no stroma, or at least the stroma is formed by the tissues of the part; beneath the papillary layer the surface is uniform, grey, shining, and close-textured; generally, the mass yields a slightly milky juice, and sometimes a semi-fluid cheesy material may be scraped from off it. In speaking of a diseased gland removed from beneath the jaw, which Mr. Paget examined, Mr. Hutchinson observes, "Its cut surface presented a nearly uniform greyish substance with a diffused tinge of ochre-yellow here and there, with no trace of granular or fibrous structure; it was all compact, smooth, shining. It yielded on scraping a yellowish, putrid, gruel-like thick fluid." In the ulcers, the papillary layer is made up especially of the cancerous cell elements, and the fibrous appearance above described is visible beneath.

The microscopic features of epithelial cancer are briefly as follows, after Paget:—(*a*) Epithelial cancer-cells, which are nucleated, flattened, round, or ovalish,

seldom regular, often angular in outline, and with processes: with granules clustering around the nucleus which exhibits occasionally nucleoli, but generally granules; the cells range in size from $\frac{1}{200}$ to $\frac{1}{2000}$ inch, the nucleus on an average is $\frac{1}{3500}$ inch in size; (*b*) nuclei about $\frac{1}{3000}$ inch, free or imbedded in a homogeneous blastema; (*c*) brood or mother-cells, containing a varying number of nuclei in different degrees of development; the brood-cell is said to present a concentric arrangement, this being brought about by the continuous enlargement of the nucleus until its outer wall comes into contact with that of the parent cell; (*d*) what are called globes épidermiques or laminated epithelial capsules, said to be diagnostic: they vary in size from $\frac{1}{100}$ to $\frac{1}{500}$ inch; they are produced by the aggregation of successive layers of epithelial scales, curled one around the other like a ball; hence they look like fibrous tissue having a concentric arrangement: they contain granular matter, and nuclei are tolerably visible. Some say they are derived from the brood-cells, others by the aggregation of cells. All these elements are to be found in the juice expressed from epithelial cancers.

Etiology of Epithelial Cancer.—In 90 per cent. the disease attacks men, and in about 90 per cent. of cases the lower lip; the disease is not common till after thirty, and its most usual time of occurrence is about the age of sixty. Of 222 cases collected by Paget and Hutchinson, 207 were those of men, 25 women, and three of the latter are known to have been smokers. The average duration of life in epithelial cancer is somewhere about four years, when it attacks the cutaneous surface. It may originate in a sebaceous gland about the nose or cheek.

The Diagnosis.—Epithelial cancer is likely to be confounded, when seated in the face, with lupus, syphilitic ulceration, rodent ulcer, and unhealthy sores about the mouth.

Its occurrence in late life, its seat on the lower lip, the papillary ulcer, with everted, hardened, undermined edges, and the implication of the glands, are guides which prevent our being misled, as a general rule, as regards the similarity to syphilis. In *cancer*, the "sore is attended by more induration than are syphilitic sores; it is usually single, while the latter are mostly multiple; it causes enlargement of the glands, which tertiary syphilitic affections rarely do." In *syphilis* the history of the disease, the absence of the peculiar edges of the cancerous sore, the early age oftentimes of the patient, signs of syphilis elsewhere, and the seat away from the lower lip, will generally guide correctly. *Lupus* is a disease of young life, and can scarcely be mistaken for cancer. *Rodent ulcer* occurs between the ages of fifty and sixty, but has never yet been seen to attack the lower lip; it occurs somewhere about the upper part of the face, near the eye, it is slow in progress, has no tendency to affect the glands, possesses no everted and no undermined edges; its surface is not foul, papillary, but clean, and does not give exit to any ichor. It contains no true epithelial cancer elements, but is simply fibrous degeneration.

The *Treatment* of epithelial cancer is summed up in one word—removal, and the employment of a thoroughly tonic plan of general treatment. See Formulæ 12, 13, &c.

RODENT ULCER.

Rodent ulcer has been called cancerous ulcer of the face, cancroid ulcer, ulcus exedens, *noli me tangere*. It has been confounded with cancer and lupus; and has been pretty generally regarded of late as essentially a fibroid ulcer, but there are those who believe it to be cancer. Sir Benjamin Brodie, in reference to it, in his "Lectures on Pathology and Surgery," p. 333, says—"A man has a small tubercle upon the face covered by a smooth skin; he may call it a wart, but it is quite

a different thing. On cutting into it, you find it consists of a brown solid substance, not very highly organized. A tumour of this kind may remain on the face unaltered for years, and then, when the patient gets old, it may begin to ulcerate. The ulcer spreads slowly but constantly, and if it be left alone it may destroy the whole of the cheek, the bones of the face, and ultimately the patient's life; but it may take some years to run this course. So far, these tumours in the face and these ulcers are to be considered malignant. Nevertheless, they are not like fungus hæmatodes or cancer, and for this reason, that the disease is entirely local. It does not affect the lymphatic glands, nor do similar tumours appear on other parts of the body." The disease usually attacks some part near the eyelids; it is of slow progress; there is little pain. The disease has been described as commencing as a "pimple," "a blind boil," "a small hard pale tubercle," "a little long cut;" which tends to scab after a small central crack makes its appearance. There is in fact a small pimple followed by a minute ulcer. The disease extends gradually in all directions, but very slowly. When an ulcer forms, the edge is indurated and raised, but not undermined and everted; and there is no infiltration of the surrounding healthy structures. The surface of the ulcer is dry, clean, glossy, and does not give exit to any foul secretion; it is irregular in form, more or less oval however. Mr. Paget says it is not warty nor granulated, and there is no upgrowth as in cancer. If a section be made, it is firm, pale grey, and fibrous.

Mr. Moore notices an important point in regard to the extension of disease. In rodent ulcer it is equal in all directions; in epithelioma the growth tends downwards, and in two ways, partly, we are told, by transfer of morbid material to the glands in the cervical region, and partly by its more rapid growth on the side nearest the central organs of the circulation—that is, the line of transit to the heart. This Mr. Moore

illustrates by the results of operations where, in removing a tumour, he cut through the œdematous tissues on the distal side, and the apparently healthy structures on the proximal side; and the disease returned in the latter and not in the former spot (suffering from impeded circulation). This is of importance in relation to operations.

The disease differs from the ordinary progress of cancer by its greater slowness, the little pain, little hæmorrhage, the absence of any attempt at the formation of a fungoid growth, of fœtor, whilst the glands are not affected. The ulcer may cicatrize, but the ulceration again breaks out in the locality of fresh deposits. The advances of the deposit and ulceration are unequal, hence the eaten-out or rodent appearance. The ulceration advances in depth also, the cartilages resisting the most of all the tissues. The growth is always in one mass, not in distinct centres. To Mr Jonathan Hutchinson and Mr. Moore we are specially indebted for a complete summary of all that is known of the disease. The microscopic characters are as follows:— An excessive growth of the fibro-cellular structure, well defined, firm, and greyish, mingled with fatty tissue, free fat, epidermic structures, exudation-cells, some of which are flattened and curled together somewhat similar to the globes épidermiques of epithelial cancer. Mr. Paget states that no true cancerous elements are present. Mr. Moore states that he has found elements like those of epithelial cancer present.

There is one peculiar difference in the behaviour of the deposit in scirrhus and rodent ulcer. That of the former possesses contractility by which the relation of the surrounding parts is altered. That of the latter does not, so that the yet undestroyed parts keep their position. This same writer remarks that though there is no true implication of the lymphatic glands, they may occasionally acutely inflame or suppurate, but are never permanently indurated.

Rodent ulcer then occurs on the face, has an indurated edge, a tendency to spread without respect to kind of tissue, is of slow progress, painless, is not related to any cachexia, never causes enlargement of glands, and microscopically is seen to be "fibrous degeneration;" it is allied to cancer, being probably the least expressed form of the cancerous cachexia. It is most common between fifty and sixty, does not occur before thirty; generally has its seat about the eyelids of either sex equally, and never attacks the lower lip.

Pathology.—I have mentioned several important points in the above description bearing upon the nature of the disease, especially as regards its alliance with cancer. Mr. Moore, to whom I refer so much, has written an admirable book lately on the subject, and he inclines to the belief that rodent ulcer is not a fibrous degeneration, but a form of epithelial cancer, believing that as compared together, rodent ulcer is composed "of a more feebly vital material," and, therefore, "the occasions are rare in which it imitates the cancerous character, by passing on to a subordinate lymphatic gland." Indications are found, he holds, in its microscopic history of the presence of cancerous (epithelioma) elements. This is, however, not the experience of other observers up to the present time. The comparative facility of extirpation is not regarded as an essential difference between rodent disease and cancer. The infiltration, too, of parts around the seat, or recognisable seat, of disease, is looked upon as a matter of degree; and so is the usual exemption of glands, upon which those who deny the cancerous nature of rodent ulcer lay the greatest stress, for we are told that "to look upon the power of infecting glands as essential to cancer, would be to confound it with enchondroma or tubercle, which do the same, or even with skin tattooed with gunpowder." Mr. Moore suggests an explanation for the non-infection of the glands in rodent disease—that it is to be found in the nature of the diseased material

itself, which is incapable of growing when transplanted, and the attenuation of the natural textures; so that their absorbent activity is lessened, or there remains little material ready to pass to the glands.

"The rodent cancer is an exquisite instance of a local ailment, being almost uninterruptedly continuous in its growth, from the solitary pimple in which it originates, over an area of half the face. At the same time, however, that it has every local quality of cancer, it is so meagre a growth that it has no superfluous material for circulation in the blood to distant parts, and very little for the lymphatics and the textures nearest to it."

However, as I said before, most persons regard the disease as a fibrous degeneration.

Diagnosis.—"An ulcer with hard sinuous edges, situated on some part of the upper two-thirds of the face, of several or perhaps many years' duration, almost painless, and occurring in a middle-aged or elderly person of fair health and without enlarged glands. Such a sore is almost certain to be of the rodent type." (Hutchinson.) It may be confounded with *lupus*, *epithelioma*, *syphilis*. Now, lupus occurs before the age of thirty, never after middle life, and always tends to heal.

"*Lupus* begins as a pink, low, tuberculous elevation of the skin; rodent cancer has a firm, uncoloured nodule in it. In lupus there may be more than one tubercle, and the intervening skin may be healthy, or pink, or scaly, or œdematous; the pimple of rodent cancer is solitary. The surface of lupus first scales or peels before it breaks; the rodent cancer excoriates, and then scales or bleeds. Both ulcerate; the lupus at one or at several of its tubercles, the rodent cancer by the mere deepening of its central scabbed excoriation. Lupus may cicatrize and cease at any time; rodent cancer proceeds with at most but a temporary and partial healing near its edge. When both are far advanced, the lupus has a superficial appearance, though it have destroyed the

whole nose; rodent is precipitous and excavated. Lupus possesses, rodent cancer is without any, contractility. The margin of lupus, though thickened, is low, and bevelled both outwards by œdema and inwards towards the shallow ulceration; that of rodent cancer is firm, and is commonly, in both directions, abrupt. The ulceration of lupus is smooth, and may be multiple, being divided by scars; that of rodent is single and rugged. In the vicinity of lupus there are separate, rather soft tubercles, and an area of pink scaly integument; around the rodent disease the skin is healthy; and if a separate nodule do exist, it is compact, firm, and in great part subcutaneous. Lupus is not invariably limited to the face, but may at the same time appear on the hands or elsewhere; rodent cancer is eminently local and centrifugal." (Moore.)

Cancer occurs generally about the lower lip, rodent ulcer never; in cancer the glands are affected, the general health is bad, the ulcer is moist and gives out an ichor, is warty more or less, its edges are everted and undermined, and the parts around are infiltrated by cancerous material, and it is of more rapid progress. *Syphilitic* ulceration is more acute, there is no indurated solid edge, there is pus formation, the ulcer occurs often at an early age, the origin is not from a "pimple," and the concomitants of syphilis exist elsewhere about the body.

Treatment.—The treatment is simple and satisfactory. Experience teaches us that extirpation by the knife, save in the earliest stages, is the only successful mode of treatment, and it is effectual. Mr. Moore has lately shown that even in advanced and extensive cases the free use of caustics after as much of the disease as possible has been removed, is attended apparently with complete success. But I must refer to his work on rodent cancer for fuller surgical details. When once the diagnosis is made, the line of procedure is easy, and it is extirpation. General remedies are of no avail.

CHAPTER XV.

SYPHILODERMATA, OR SYPHILITIC ERUPTIONS.

The remarks under this head will apply mainly to the effects of syphilis upon the skin. The result of the introduction of the syphilitic poison into the system is to derange more or less the whole of the nutritive processes of the body; as a consequence, we have a pyrexial condition similar to that seen in every zymotic disease, only more deliberate and chronic, and which has been termed "syphilitic fever." In some cases the infection of the system is so insidious that this febrile state is not marked or scarcely at all recognisable. "The blood is charged with a poisonous principle, and all the organs and structures supplied with that blood suffer to a greater or less extent. The brain evinces its suffering by mental dejection; the nerves by a general feeling of prostration and debility . . . . there is often neuralgia (nocturnal) . . . . the pulse is quickened . . . . the tongue coated, white, broad, and indented by the teeth. The fauces are more or less congested, the tonsils and soft palate being frequently swollen; there is irritation of the larynx, producing a mucous cough and often nausea . . . . the conjunctiva is congested and muddy, and the whole skin remarkable for its yellowish and dirty appearance, looking as if saturated with impure and discoloured humours." (Wilson.) The muddiness of the complexion is very characteristic. Dr. Brodrick has called attention to what he believes a diagnostic sign of the existence of an acquired syphilitic taint—viz., *sub-sternal tenderness;* it was noticed by Ricord. Various diseased states of internal organs, of the special senses, and fibro-cellular struc-

tures also result from the poison of syphilis, especially in hereditary instances. Syphilodermata exhibit the same elementary lesions as ordinary eruptions; they are erythematous, papulous, squamous more especially, but also bullous, tuberculous, vesicular, pustular, &c. But they possess certain modifications of features as to colour, shape, &c., to be immediately noticed. Syphilitic taint giving rise to eruptions may be hereditary or acquired.

Hereditary syphilis is practically synonymous with congenital or infantile syphilis. The child, however, may be tainted through the medium of the milk of a syphilitic nurse. Congenital syphilis may be derived (*a*) from the mother contaminated before or after conception; (*b*) from the father (the mother being healthy); (*c*) when the parents are both syphilized, in double degree. It is uncommon before the end of the second or beginning of the third week, rare after the sixth month; the usual period of occurrence is when the child is about three weeks or a month old. No one can mistake the tainted infant. The general aspect is more or less marasmic, shrivelled "old man" like. The skin is dirty, muddy, it has lost its elasticity, and hangs in loose folds; it is dry, often exfoliating, and erythematous about the buttocks. The cry of the child is harsh, cracked (characteristic), and "the snuffles;" the presence of mucous tubercles about the anus and the mouth; the fissures at the angles of the mouth; ulcerations of mucous surfaces; the high arched palate; the inflammation of the thymus gland; various eruptions over the body, especially about the feet and hands (perhaps bullous); a subacute onychia possibly present; and a family history of syphilis—are diagnostic.

With regard, however, to the eruption, it is generally in the form of a dull red erythema of the hands, feet, and peri-anal region, with more or less tubercular formations.

Acquired Syphilis.—An adult may exhibit hereditary syphilis, *pur et simple.* Acquired syphilis is more common, and has three groups of symptoms.

Primary, which is simply *chancre*, with which I have here nothing to do; *secondary* and *tertiary* symptoms, made up of eruptions, diseases of the bony parts, and ulcerations, which follow as the consequence of the introduction of poison into the system, mostly by way of primary disease. The secondary forms of eruption are—roseola and maculæ, lichen, psoriasis, tubercula, pustulæ (ecthyma, acne), rupia, onychia, and alopecia; accompanying these, are enlargement of the cervical and inguinal glands, mucous tubercles, nocturnal rheumatism, loss of hair, and anæmia, more or less marked. The tertiary are—erythema and psoriasis of the hands and feet, the ulcerating tubercular forms, mucous tubercles, and syphilitic ulcers. These latter are generally accompanied by cachexia, nodes, periostitis, laryngitis, and deeply-seated mischief—ex., in internal organs.

The syphilodermata have certain peculiarities:—

1. There is *a history of syphilitic inoculation*, which tells its tale by the numerous symptoms (due to the circulation of the poison), noticed at the opening of this chapter; and, in addition, by the presence of cicatrices, indurations, scars, and stains about the penis and groin.

2. *Their colour.*—It is described as copper-coloured; in reality "*a reddish yellow brown*" (Wilson). It is dull red at first, and becomes coppery after a while, and as the eruptions vanish a dull red or yellowish dirty stain remains for a varying length of time. In the early stages of disease the tint may be violet, but this soon becomes replaced by the coppery hue. It is well marked in the tubercular forms, and at the circumference of ulcers and pustules.

3. *Their form*, which is peculiarly circular. This feature is not perhaps of much moment, *per se*, but in

conjunction with other points is of some aid in a diagnostic sense. It may be destroyed or prevented by the confluence of other patches, but even then the typical form can be recognised in the component parts of the patch of disease. During the progress of syphilis there is a tendency on the part of the eruptions to assume the aspect of several forms at different times—a papule becoming a pustule, and so on.

Syphilitic *scaly* eruptions are composed usually of small circular spots. Scales or squamæ are thin, oftentimes very fine, grey, and few in number; fewer and lighter than in non-syphilitic cases.

Crusts are thick, greenish, or black, and firmly adherent. Vesicles are flattish and do not readily rupture. Ulceration is a common feature; the ulcerated surface is ashy grey, covered with a pultaceous substance, and bounded by sharply cut edges. Cicatrices are whitish and reticulated, or dull and brownish, leaving in their place on disappearance a yellowish stain. Fissuring is marked in the squamous forms. The horse-shoe form of pustulation or ulcer is very characteristic. The serpiginous is suspicious.

4. *The Absence of Pain or Itching.*—With the exception of mucous tubercles and some forms (moist) of infantile syphilis, syphilodermata are said to be generally unaccompanied by heat or pruritus during their existence. I cannot subscribe to this. In syphilitic lichen, even erythema (roseola), the pruritus may be distressing. In the tubercular forms, just prior to ulceration, the process of softening renders the tubercles sometimes painful and tender.

5. *Polymorphism.*—This is very characteristic of syphilitic disease. Several different kinds of eruptions may co-exist, and this is a rule of general applicability. It is no unusual thing to see papules, pustules, and squamæ co-existent in the same syphilitic subject, and, as before remarked, one form may assume the characters of another.

I shall give the salient features of the various syphilitic eruptions.

PIGMENTARY STAINS, OR MACULÆ SYPHILITICÆ,

Are generally a remnant of other forms of syphilis, mostly of roseola. They generally commence by slight pyrexia, pain in the limbs, anorexia, headache, and malaise, followed by the development of little roseolous spots, which soon fade, take a dirty-brown aspect, and subsequently a rather lighter hue. These maculæ are neither elevated, itchy, nor hot; they are circular, in size ranging between that of a fourpenny-piece and that of a florin, scattered over a pretty large area, usually isolated, but occasionally confluent, forming sometimes bands (annulose); they do not disappear on pressure, and their especial seats are the neck, the breast, the face, especially the forehead, and the arms. In children the maculation is so complete that the whole surface has an earthy look. In acquired syphilis, in adults, there is oftentimes a significant staining, particularly well seen about the forehead. Maculæ syphiliticæ are unattended by pruritus or desquamation, and sometimes occur in conjunction with other forms of eruption. It has been said that they constitute a primary form of disease, but it is the rule that they commence as roseolous spots, though the red blush may be very ephemeral and escape detection. They can only be confounded with pityriasis, but in the latter there is desquamation, itching, elevation, and absence of the copperish hue, and a want of circular form. *Chloasma* is attended with itching; the colour is fawn, without any shade of copper tint; the surface is elevated, rough, and desquamative, and the microscope detects parasitic elements; chloasma, too, is peculiar in its seat. Syphilis never produces such staining as chloasma.

EXANTHEMATOUS SYPHILIDE, OR SYPHILITIC ROSEOLA.

This is one of the earliest secondary symptoms, occurring generally between the sixth and ninth week after the reception of the primary mischief. It is preceded by pyrexia of mild character, prostration, and very frequently more or less irritation of the mucous surfaces—*e g.*, redness of the fauces, sore throat, &c. The eruption commences as little round spots of a pale-red colour, with very well-defined edges, which may appear very suddenly, often in the course of a single night, acquiring in a little while a perfectly pale-rose tint; the spots are unattended by itching, and observed usually most perfectly and abundantly on those parts which are well covered and kept warm by clothing, especially flannel; hence particularly on the trunk, The little patches may be slightly elevated, isolated, and round; they fade, but do not disappear on pressure. Sometimes they are scattered pretty freely over the trunk, the upper part of the chest (especially the lateral parts), and on the back. When the rash fades, it always leaves behind a branny-like or more deeply-coloured stain; the epidermis desquamates in largish but thin scales. This latter condition becomes more decided in a few more days. What strikes one is this: that there is evidently a large scattered amount of eruption without apparent cause, without local irritation, and only the slightest febrile disturbance, the eruption leaving behind a dirty staining. The coppery hue is evolved out of a roseola, which is somewhat dusky on its first appearance. In ordinary roseola the tint is vivid, and quickly disappears. The stains left by syphilitic roseola, when the congestion has disappeared, constitute the so-called *Maculæ Syphiliticæ*, before noticed. In syphilitic roseola there is usually not only redness of the fauces and tonsils, but ulceration.

PAPULAR SYPHILODERM

Assumes the form of lichen, and all authors agree in describing two forms, the acute and the chronic.

The acute consists in the development of small, hard, pointed papules, which are packed closely together, each being attended at the outset with a red areola, affected by pressure. The papules are seated upon the face especially, and also the trunk (on both aspects), the neck, and less frequently the limbs; they become covered over with fine greyish scales, and occasionally become pustular or ulcerate. The eruption is scarcely successive, for it arrives at its full extent within a couple of days or so. Slight febrile disturbance precedes the development of this state. When the acute stage is passed, the disease appears to be constituted by little dark points or papules seated upon a somewhat dull-red base; in a few more days this dark hue is replaced by a well-marked copper-colour, and more or less desquamation. The disease lasts a month or so, leaves behind more or less staining, and little cicatrices or pits, which are very characteristic. This form of syphiloderma then commences with congestion and subsequent deposition in the form of papular elevations; the peculiar coppery tint is masked at the outset by the congestive redness, and only shows out markedly when the latter disappears.

The chronic form of lichen possesses a slower and more indolent course, simply. The papules are larger, numerous, flat and broad, copper-coloured, without distinct areolæ, local itching, pain or heat; they are seated on the outer sides of the limbs, the forehead, the trunk, and even the scalp. The papules are successive in mode of appearance, and on their subsidence leave behind coppery stains. The papules often become pustular.

The *Diagnosis* of syphilitic lichen is generally easily made. A prior history of syphilitic inoculation; the

seat of the eruption on the face especially, its general distribution, coppery hue, and tendency to become tubercular; the absence of pruritus and pain; the general cachexia of the patient, and the evidence of concomitants—*e.g.*, mucous tubercles, roseola, nodes, sore throat, &c., suffice.

VESICULAR SYPHILODERM

Is very rare. The vesicles are grouped together, and possess a copper-coloured base; the disease is indolent, and usually possesses a very well-defined edge: there is an entire absence of the ordinary local symptoms of vesicular disease—viz., itching and heat; the vesicles too are often abortive, and may quickly dry up, thin scales take their place, but a dark stain remains. Slight pyrexia is not an unfrequent antecedent, and significant concomitants are generally present. Hardy describes three aspects: they are, eczematous syphilide, varioliform syphilide, and herpetiform syphilide. The vesicular syphiloderma, or syphilide, occurs mostly in the form of herpes, or a modification of the bullous form of disease, in which the vesicles are varicellous or depressed more or less in their centre (varioliform).

When there is slight vesiculation over a largish area, we have the *eczematous* form, if much crusting or pustulation, it is called *impetiginous;* in other cases there are largish distinct vesicles seated upon a dull red base; the vesicles do not easily rupture, but desiccate, and are replaced by dark-coloured scaly scabs. This is the *herpetiform* syphilide of books. In all cases a copper-coloured stain is left behind. This herpetic syphilide is noticed on the face, limbs, trunk, and penis, often associated with other syphilodermata, and generally within six months or so after primary disease. In the varioliform variety, the vesicles are about the size of lentil-seeds, disseminated and intermingled with little bullæ, which are pointed, and now

and then umbilicated. They possess the characteristic areola, crust over in a short time, beneath which a copper stain exists. The herpetiform syphilide may occur in the form of a ring with a clear centre.

The *Diagnosis* is based upon the absence of fever, the persistent state of the vesicles, the coppery tint, the brown or dark colour of the crusts, the staining, the history of the patient, and concomitant conditions.

BULLOUS SYPHILODERM.

Under this head are ranked rupia and pemphigus. Dr. M'Call Anderson informs me that he has seen a second case of syphilitic pemphigus in the adult.

Rupia is known by the development of small flattish bullæ (surrounded by a faintish areola, perhaps by none at all), few in number, containing at the very outset transparent serosity, but very speedily a mixture of blood and pus, giving place by desiccation to thick scabs, beneath which is more or less unhealthy ulceration, yielding a nasty, dirty, fœtid discharge. The crusts are diagnostic; they are dark, stratified in such a way as to be conical, like an oyster-shell. There are three forms: *R. simplex*, *R. escharotica*, *R. prominens*.

Erasmus Wilson considers the first and last to be syphilitic, and R. escharotica to be the same as pemphigus gangrænosum, or cachecticum. R. simplex is very like pemphigus; the contents, however, are thick, bloody, offensive; and the scab is dark, thicker in the middle somewhat, and therefore slightly conical: the scabs are often successive; in process of cure, it leaves a red stain behind; it affects especially the legs, loins, and thighs, never the face or head. R. escharotica, or pemphigus cachecticum, has been described. The general symptoms are those of irritation and deficient nutrition, with more or less hectic. The disease commences by bullæ, which fill with

sanies, and break forth into unhealthy ulcers: it has no thick crusts, and hence is really pemphigus. It attacks the lower limbs, the trunk, the neck, and scrotum.

R. prominens attacks the upper and lower limbs, and the trunk; the bullæ are few, but large; the secretion is free and thick: therefore the crusts are large and particularly well-marked, conical, and prominent: hence the name. There is usually an areola around the bleb; the scabs augment by accretion, and cover over deep ulcerations. The scabs are dirty and blackish; they are sometimes almost an inch in height in the middle or apex of the cone.

Etiology.—The cachexia of syphilis.

Diagnosis.—In rupia the bullæ are small and flat; their contents are bloody and thick, and the scabs are dark, thick, and conical. In pemphigus the bullæ are larger and full; the contents are clear, not dark; ulceration is slight, and the scabs are thin. In ecthyma there are pustules; the areola is well marked, the base is indurated, the scabs are adherent; there are no conical crusts, and the ulceration is not so deep.

There is little difference apparently between pemphigus and rupia, except in the degree of crusting that occurs; rupia differing from pemphigus in the fact that the ulcerated base of the bullæ gives out a peculiar secretion which dries into thick, dark-coloured, and more or less conical crusts.

Pemphigus in the very young may or may not be syphilitic. It may be epidemic, attacking robust healthy children, running the course of ordinary pemphigus, and wanting the concomitances of syphilis; in this aspect it is met with among the infants of lying-in hospitals, and appears to be much of the nature of, and produced by the same causes as, erysipelas. Non-syphilitic and non-epidemic pemphigus is not usually seen in children before the seventh or eighth month of age; the contents of the bullæ (which are discrete in

this species) are serous, and there is little tendency to ulceration.

Syphilitic Pemphigus is now regarded as a positive existence. It occurs in those children in whom we can trace an hereditary tendency to syphilis, in those who exhibit signs of constitutional tainting (earthy hue of skin, snuffles, wasting, mucous tubercles, lepra, &c.); about the hands and feet especially; the bullæ are abundant, their contents puriform, and they possess a great tendency to ulcerate more or less deeply, the ulcers having a copper-coloured areola, and a nasty, dirty, foul surface, with thinly cut edges. It is sometimes congenital, and is seen most frequently before the end of the first fortnight of existence. Sometimes the bullæ may be not well marked, and scabbing may be extensive in degree, the disease exhibiting a close relation to rupia; indeed herein we see the link as it were between rupia and pemphigus. The ulcerative tendency displayed by syphilitic pemphigus is no doubt dependent upon the cachectic state of nutrition brought about by the syphilitic poison.

PUSTULAR SYPHILODERM.

There are three forms: (*a*) pustulating lichen or pustulating tubercules; (*b*) that in which the pustules are primary, small, and resembling acne, often called tubercular syphilis—the syphilide pustuleuse acniforme of Hardy; (*c*) in which the pustules are larger, and assume the aspect of ecthyma (phlyzacious). Rupia was described under the head of bullous syphilide; it is not truly pustular.

1. *The first*, or *pustular lichen* of Wilson, is seen about the forehead and face, and on the trunk; the pustules are successive, numerous, isolated, and scattered; soon acquire a coppery hue, and are indolent. Sometimes they are flattened, at other times conical, the points or summits being purulent; a thick greenish crust forms

beneath which is an ulcer, depressed in its centre, and leaving behind a more or less marked cicatrix and copper-coloured stain; this is often associated with other forms of syphiloderma, and preceded by febrile disturbance. It often remains in one condition for weeks, being remarkably indolent, the crusts adhering very closely and persistently.

2. *The second* is the *acniform* variety. In this disease, the pustules are the size of small seeds, and the seat of disease is seen to be the sebaceous follicles. The pustules develope and change slowly; there is a coppery base, and dark or dull yellowish adherent crusts form, and there is pitting left behind after cure. Other forms of syphilis are mostly present.

Dr. Tarturri believes there are two forms—(*a*) the glandular; (*b*) the follicular.

a. In glandular syphilitic acne, the parts attacked are the epithelium, the proper wall of the sebaceous gland, and the neighbouring connective tissue. It is distinct from impetigo in the fact that the epithelial layer alone is involved in that disease, whilst yellow crusts form which contain a large amount of nucleated epithelium, like that which is normally present in glands, granular epithelial cells, pus cells, and fatty matter. These elements are in small quantity in syphilitic acne, but the deeper parts are chiefly involved. Simple impetigo is catarrhal, syphilitic acne parenchymatous.

The *diagnostic characters* of this glandular acne, according to Tarturri, are in the earliest stages the occurrence of spots on the trunk and limbs, the acuminated pustules, their hard base, central suppuration, and the tendency to desiccation. In the suppurative stage, the hard base, central depression, the hard dry adherent crust of small size. In the latest stage the marked indurations, with central suppuration and desquamation at the circumference; and lastly, the superficial cicatrices, the presence of pigment and

fine scales. With regard to chronic syphilitic acne, the parts affected are the face, neck, trunk, and limbs; the pustules have slightly projecting bases, they are slowly developed, and suppurate only at their centre.

b. Follicular acne Dr. Tarturri believes to be catarrhal; the part affected is that lying just above the openings of the sebaceous glands, the epidermic portion—not the *dermic*—therefore it is not parenchymatous; it may occur in syphilis, of which it is an early symptom; its progress is slow, and it is of long duration. It is marked by a large development of epidermic cells, and may leave behind a sort of ichthyosis, with desquamation. It appears on any part of body save the face, and in all cases there are pustules with a projecting base, a rose-coloured areola, a yellowish centre, traversed by a hair.

3. *The third* or ecthymatous form (ecthyma syphiliticum) is seen about the trunk, but especially the limbs, the lower more than the upper, and occasionally the head. The pustules are phlyzacious, scattered, with a coppery base, and indolent, flattened, scabbed over with dirty brown or blackish scabs, covering ulcers with indurated and dark edges, which on healing leave behind cicatrices and characteristic stains. It may commence as a quasi-vesicular (bullous) disease, each vesicle having a red base, quickly enlarging, pustulating, and breaking out into obstinate ulcers; the crusts are peculiarly thick, and very adherent.

The relation of ecthyma, pemphigus, and rupia, of syphilitic origin, is very close indeed.

The Diagnosis.—When lichen, or even tubercular syphilis pustulates and assumes the aspect of ecthyma, no difficulty can arise in diagnosis. Syphilitic ecthyma is distinguished from *simple* ecthyma by the special history of the case, the concomitance of other syphilitic lesions, the coppery hue, the thick black crusts, the foul ulcers, the depressed scar, and the absence of

a livid areola; syphilitic from simple *acne*, by the ulceration at the apices of the pustules, and the cicatrices left on healing, the absence of pain, the indolent, non-inflammatory aspect, the antecedent and concomitant histories.

SQUAMOUS SYPHILODERM

Commences after puberty as described by Biett: the presence of a little white rim around the base of each patch is peculiar; it does not attack the elbows and knees by special predilection. A special form, *lepra syphilitica nigricans*, has been described; in it the colour of the patch is black, especially in its middle, the form circular, the margin more raised than the centre, the squamæ very fine and dry, the surface beneath shining, and there is a general earthiness of the surface; the disease sometimes has the appearance of darkish livid stains. In other instances, the squamous syphiloderma assumes the aspect of what is generally regarded as psoriasis, particularly the variety *guttata*. There is a disposition to a circular form; solitary isolated spots are seen, the size of a pea, a shilling, or less; these are generally covered by thin squamæ, which are hard, adherent, and grey, and seated upon a copper-tinted basis, which is smooth and shining, not elevated, not papular, not red, as in simple alphos; a white rim surrounds each patch, and this is formed by the loosening of the cuticle around the circumference. These spots are scattered over the arms, breast, face, and trunk generally; and when the palms of the hands or soles of the feet are diseased, the skin is dirty, harsh, scaly, cracked, and fissured. On the palm of the hand is exhibited a reddish spot, over which the cuticle becomes hardened and yellowish; the surface then cracks, and the diseased action tends to spread, producing a "red, inflamed, hot, cracked, exfoliating surface," and assumes an annulate, serpiginous, or tubercular form. If the central part heals

(lepra), it is called E. palmare annulatum : these palmar and plantar diseases are tertiary symptoms. Hardy has described a syphilide cornée ; it is merely plantar or palmar psoriasis, in which the epidermis hardens very much, and the coppery areola is well marked. Devergie thinks that the psoriasis palmaris, when it affects the palm of the hand rapidly, and the palmar aspect of the fingers as well, with pretty free desquamation, is pityriasis rubra, and not psoriasis at all. Syphilitic lepra is often intermingled with the papular and tubercular varieties of eruption.

Diagnosis.—There are seven leading features which, taken together, are positively diagnostic of syphilitic alphos. (1) Alphos limited to the palms of the hands and soles of the feet, is in the majority of cases syphilitic. (2) The disease does not attack the elbows and knees by predilection as in the simple forms. (3) It is generally displayed in little circular patches, which are isolated and not confluent. (4) The patches have a peculiar whitish line circumscribing them, due to the elevation and detachment of the cuticle. (5) The squamæ are thin, small, grey, and repose upon a coppery base. (6) There are generally significant coexistences of specific infection. (7) Copper-coloured maculæ follow in the wake of the disease.

TUBERCULAR SYPHILODERM

Is decidedly a common form of secondary syphilis, the tubercles for practical purposes being regarded as an exaggerated condition of papules: they vary a good deal in size (from that of a pea to that of a nut) and form, but are always indolent, and mostly occur about the face, especially the nose, forehead, and side of the head. They possess a coppery tint, and are flat and hard; when they ulcerate, which they do when large, they become covered over by thick and black adherent crusts. The tubercles may be aggre-

gated and in groups. The patches increase by the centrifugal growth of tubercles, and in the disease as now described, the edge is generally bounded by distinct tubercular elevations; the surface is muddy and cachectic. When the central part clears, as it were, the disease closely resembes lepra; and when the tubercles disappear, the derma often appears to be atrophied, so that cicatrices are left in connexion with a considerable degree of maculation. The tubercles may at other times be disseminated. This may be regarded as papular syphilis in a marked degree; the tubercles, rather larger in size than that of peas, are not arranged in any particular order, but are seen scattered over the trunk, the back, and the face; they are very indolent, do not ulcerate, and are only covered by squamæ to a very slight extent. Several tubercles may collect, so that a ring is formed, the enclosed central area being tolerably healthy.

The difference in the grouping of the tubercles has given rise to the division of the disease into tubercula circumscripta, disseminata, annulata. In these no ulceration occurs, but in other instances the tubercles do ulcerate, and this form is called—

Ulcerating tubercular syphilide.—The ulceration in one instance may be deep, in the other superficial; the first condition is the syphilide tuberculeuse perforante (perforating or deeply ulcerating tubercular syphilide). In it the tubercles are large, few, livid red, with a copper-coloured areola, having a tendency to ulcerate deeply, with accompanying pain and discomfort; the ashy-coloured and foul ulcers, which may become confluent, crust over, the ulceration meanwhile eating more deeply, the crusts being repeatedly shed and reproduced. In this way the nose may be destroyed and lost, the disease resembling lupus: it is most common about the face. Severe ulceration is generally a symptom of tertiary syphilis, and accompanies marked cachexia, indurations of the periosteum, syphilitic

caries, &c. When the ulceration is superficial it creeps along the surface, and then we get what is called the serpiginous syphilide. It differs from the perforating variety chiefly in the fact that the ulceration takes place in a superficial manner, creeping over the surface; the form varies somewhat—it may be in bands or circles; the surface of the ulcer becomes covered over with blackish crusts, which fall and are reproduced from time to time; the tubercles themselves are large, and, if the ulcers heal, distinct livid cicatrices remain behind; if the tubercles become confluent, the ulceration is more marked. Another condition is the fissured tubercle; it is smallish, and is noticed to be the seat of a linear ulcer, or a fissure in its centre; there is a good deal of pain; and a thinnish ichor is exuded; it is seen about the side of the nose, lip, scrotum, and anus.

There are then two distinct aspects of tubercular syphilodermata,—*the ulcerating and the non-ulcerating;* but even these are not absolutely separated the one from the other. The *non-ulcerating* may be subdivided into disseminated and aggregated. The tubercles mostly disappear by resorption. The *ulcerating* form may be likewise subdivided into perforating and serpiginous; but even a mixed condition of these two may exist. A syphilitic lupus or lupiform syphilis has been described. The characteristic of lupus is the attempt at repair, which is so far successful that it gives rise to peculiar indelible cicatrices, and when tubercular elevations are accompanied by a dull-red tint and succeeded by deep ulceration, with more or less scabbing, sanious discharge, and attempts at repair, ending in partial cicatrization, the disease is termed syphilitic lupus; but it is a bad one, as likely to confuse between lupus and syphilis.

Diagnosis.—Syphilitic ulcers are likely to be mistaken for lupus; the former have sharply-cut edges, tubercles around which are *hard*, smooth, dryish,

dense, shining, and copper-coloured. They occur in people of *middle age*, are accompanied by concomitants of syphilis, and the ulcers are *foul, dirty, ashy, exuding an ichor*, and the tissues around are infiltrated and indurated; in the lupus ulcer the edges are not sharply cut, but thickened and rounded; there is no copper colour; the tubercles are *soft*, red, *quasi*-gelatinous; the parts around are painful and œdematous; it often occurs about the face alone *in young people;* there is an entire absence of syphilis, and the ulcers are *clean and dry.*

Sometimes a syphilitic ulcer originates in *subcutaneous indurations;* these are observed in very old-standing cases. They are called tumores gummati, or tubercula gummata; they are hard and about the size of nuts or walnuts. Presently the surface over them becomes red and tender, and ulceration commences; but it is very indolent, indeed it has no tendency to heal; gives exit to a little fluid, scabs somewhat, and is not painful.

Just as we have growths and eruptions of the cutaneous, so have we similar affections of the mucous, surface: it is only needful to refer now to those changes which are observable to the eye, and which are seated especially at the junction of the skin and mucous membrane; hence particularly at the orifices of the natural outlets: but not only here, for any part of the surface which is habitually bathed in secretion, and acted upon by heat, is liable to the same kind of disease. This form of syphiloderma has been called vegetative syphilis, and is noticed mostly in the female about the vulva; in the child about the mouth, buttocks, and arms; and the penis in the adult. There are two species—mucous tubercles and condylomata (warts). Mucous tubercles (see Elementary Lesions) are circular flat elevations, of soft look and feel, and may be described curtly as warts formed out of mucous membrane; they become more or less irritated, the

parts around being also inflamed, at the same time that they give exit to a faint, pale, viscid secretion: they may ulcerate, or become pedunculated, when they are to all intents and purposes condylomata; they frequently spring up in the seat of an old sore, and always cause considerable local discomfort. Condylomata are simply pedunculated little warts, occasionally sessile, differing from mucous tubercles in the fact of being firmer and not giving rise to ulceration or secretion.

Syphilitic Alopecia is pretty common; the hair may thin out, if the cachexia be marked; or it may fall off in patchy form. The diagnosis is made by a process of exclusion, and the positive existence of latent or developed signs of syphilis.

Syphilitic Onychia may attack the structure of the nail itself, or the matrix especially. In early infancy (under a year), subacute onychia attacks several fingers at one time in conjunction with iritis, otitis, snuffles, &c.; it ends in exfoliation of the nail, and is not unfrequently attended by a papular rash, &c., over the surface of the body. The local symptoms are pain, redness, swelling around the base of the nail, followed by suppuration and ulceration of the matrix, with loss of the nail. This state is sometimes a secondary symptom in the adult, but usually the matrix escapes; there is no pain and no exfoliation, but the superficial layers of the nail become affected. As Mr. Hutchinson described it to the Pathological Society, it begins at the root, where a "semilunar furrow is seen extending across it; the outermost layer is destroyed over the entire lunula, and a ragged border overhanging that part is presented by the distal portion; by degrees, as the nail grows, the diseased margin is pushed further and further on. The nails appear dry and brittle in texture, as is shown by the fissured and broken condition of the free edge." Several nails are attacked at the same time and that symmetrically; the progress is very indolent indeed.

The so-called tertiary symptoms are psoriasis and erythema, palmaris and plantaris (erythematous, Wilson), mucous tubercles, ulcerating tubercles, tumores gummati, and the large syphilitic ulcers which occur in cachectic subjects who have long been impregnated by the virus.

Erythema and Psoriasis of the palm of the hand or sole of the foot.—In cases where we can trace the history of syphilis and its cachexia, these two forms of disease are seen. A red spot appears about the centre of the palm of the hand, it remains dry and cracks, and assumes the form of psoriasis (lepra). It creeps farther and farther over the surface, sometimes in the form of rings, the central part clearing as regards the redness, but remaining dry and discoloured. Often the affection assumes the aspect of a tubercular eruption. An erythemato-squamous eruption, somewhat like lupus, but not so "vascular" and copper-coloured, occurs in old syphilitic subjects about the forehead and other parts. The diagnosis from simple eczema palmare is sometimes difficult, but the exfoliation, earthy staining, tubercular aspect, and especially the "ringed" character, if it be present, aid effectually in connexion with other special concomitants.

TREATMENT OF SYPHILODERMATA.

This consists in the first place in subduing the feverish symptoms which accompany the eruption—in other words, the syphilitic fever; secondly, in toning up the system to help us counteract the mal-action of the poison, and to favour if possible its elimination or annihilation. Our treatment varies considerably according as the cutaneous eruption takes the aspect of a secondary or tertiary syphilis, and also if it be hereditary; and the first, or only a recurrent attack. In secondary syphilis the remedy is *mercury;* in tertiary disease *iodide of potassium.*

Now I discard the bichloride, blue pill, and all other

preparations of mercury, save the bicyanide, and I now use the bicyanide exclusively. It is given in $\frac{1}{12}$ grain doses, in pill, with extract of gentian, quinine, or opium, as the case may be, twice a day; whilst iodide of potassium, in five-grain dose, at first twice and soon thrice a day, with spirits of ammonia, is given internally. Where the disease is extensive, the calomel vapour bath twice a week may be added. This is my treatment, and I am quite satisfied with it, especially with the bicyanide, which is a more soluble compound than the bichloride, and has none of the irritating qualities of the iodides. I never have salivation, nor other serious "mercurial" sequences; and, given alone in the slighter forms, it acts most effectually. The iodide of potassium is given with it at once when the disease is papular, tubercular, or pustular. In all cases I have regard to my patient's constitution, and give remedies calculated to check its ill tendencies; if necessary, the mercurial course may be continued till the disappearance of the eruption, and a course of mineral acids or quinine should be given.

In the squamous and pustular syphilides mercurial treatment is called for. In the ulcerating forms, if the patient be well nourished and pretty strong, there is no objection to a mercurial course; but where cachexia is marked, and the patient's condition is one of evident debility, iodide of potassium with cod-liver oil, or iodide of iron and good food, is the best treatment.

In cachectic subjects who are debilitated, restless, and irritable, opium given internally is of much service. In reference to iodide of potassium it must be borne in mind that its use is beneficial in direct proportion to the duration of the disease; hence, when nodes, tubercles, caries, and secondary ulcers are present, when mercury has been fully used, or seems to fail.

In all cases the exhibition of decoctions of various woods is advisable. The compound decoctions of sarza and guaiacum are the best; they keep the skin and

bowels freely acting, and thus very materially help the elimination of the poison. When a patient is under the influence of mercury, he should avoid stimulants, cold, and other sources of irritation and catarrh; the drug itself acts by its effect upon the system at large; the exhibition then should be continuous, and not interrupted. If it do not after awhile seem to produce much beneficial result, then its use should be discarded and the iodide of potassium used with tonics. Local measures are only urgently called for in those instances of tubercular and ulcerative syphilodermata in which destructive action can be thereby checked. Should salivation occur at any time, the mercurials must be omitted, or given cautiously and with attentive watching. In no case should it be our object to induce or push the drug to the point of salivation. In giving a mercurial bath, the patient is seated upon a chair and covered with flannel, and outside this by an oil-silk quasi-coat or bag; beneath the chair is placed a copper bath, containing a pint or somewhat less of water; upon this is placed a tinned iron plate, which holds the mercury to be sublimed; beneath the bath is placed a spirit-lamp; the patient, after the latter is lighted, is "exposed to the influence of three agents—heated air, common steam, and the vapour of mercury; in about five minutes perspiration comes on, and the patient should be subjected to the influence of the bath for some ten or twenty minutes, when the lamp should be removed, the patient allowed to cool gradually, and made to take," as Mr. Parker further observes, "a warm drink of decoction of sarza or guaiacum."

If the preparation employed be the bisulphuret of mercury, about one or two drachms should be used; if calomel, from ten to twenty grains; if the iodide, ten to twenty grains; the oxides and the bisulphuret are the mildest, the iodides the strongest fumigants. The bath may be used once, twice a week, or even more, according to circumstances.

Inunction is another mode of bringing the system under the influence of hydrargyrum. Continental dermatologists advocate a plan, which Wilson briefly defines as "a triple compound of starving, purging, and sweating," and which he mentions with commendation; it is the so-calied Zittman treatment, but is one which compels the patient to give up his usual employment, to take to bed for a fortnight or so, and on this account is almost inapplicable in a general way. The patient who has syphilitic disease wants to get rid of it without entering upon any plan of medicine which would disclose his secret, and take him away from his work; most men could not afford the time; however, the plan is as follows:—first day, a purge (calomel and jalap), and three meals of broth; up to the fifth or sixth day four pints of the Zittman decoction are taken daily; of these four, two pints are made of the strong and two of the weak decoction (*vide* Formulary), with each day two ounces of meat and two of bread; on the sixth day an active purge, with broth as before; the seventh till tenth repeat the drinks, and meat and bread: this continues till the fourteenth day or so, and then the patient is kept on low diet, allowed to get up, but still continues to take a small quantity of the decoction. If convalescence is tardy or insufficient, the same treatment must be recommenced.

It has been a matter of much dispute whether infantile syphilis should be treated upon similar principles as those above described. For my own part, I should be exceedingly sorry to be an infant affected by specific disease and not treated by the drug mercury, in addition to chlorate of potash, and syrup of iodide of iron. The best plan is to rub a little mercurial ointment into the sole of one foot at night, and where the nurse or mother is tainted, to give the iodide to her, and therefore to the child through her milk. The mercurial requires to be used only a few times, and at each rubbing a piece of ointment about the size of half a pea.

The Local Treatment of Syphilodermata.—The erythematous forms require no special application, except they be obstinate, and then a white precipitate ointment may be used; the squamous and papular are relieved by calomel ointment, bichloride lotion, and nitric oxide of mercury ointments. The tubercular and ulcerating forms of disease are those which require special local medication. In the tubercular form the acid nitrate of mercury: biniodide, and other mercurial ointments, are those most especially useful; the former is used to destroy the little indurations, and should be used cautiously; the biniodide in glycerine, applied with a brush, is often most efficacious in obstinate cases. Syphilitic ulcers may be dressed, if painful, with a solution of watery extract of opium, or be dusted over with calomel, or be stimulated with the nitric oxide of mercury ointment, dilute nitric acid, chloride of zinc, and borax lotions, or treated by the local application of mercurial vapour. In the appended Formulary several remedies will be found in reference to the general and local treatment of syphiloderma. See numbers 13, 16, 17, 18, 41, 71–7–8–9, 81, 92, 110, 114, 121, 143–5, &c.

CHAPTER XVI.

LEPROUS DISEASES.

Under this head I include the true leprosy or Elephantiasis Græcorum. The disease of the leg, known as elephant leg or elephantiasis arabum, and now called bucnemia tropica, is not thought to have any relation to true leprosy.

Elephantiasis Græcorum or true leprosy is a disease of which I have seen many cases during the last few years, especially in Syria, in Egypt, and in England. Three or four cases have come under my notice in England, and at the time of penning these lines a man is under my care in Charing-Cross Hospital with the disease exceedingly well marked. Space only allows me to notice the disease briefly. Its geographical distribution I must pass over, and refer for this and other points to the recent Leprosy Report of the College of Physicians. The disease is specially marked by the occurrence of discolorations and tubercular deposits in the skin, accompanied by anæsthesia. In some cases the deposit is well marked; in others it is less; only the anæsthesia is comparatively a more prominent feature—hence we have two forms, tubercular and non-tubercular (or anæsthetic as it is often called). These are merely varieties of one form of disease. Those cases that present themselves to the physician in England (and which are mostly mistaken in the early stage for syphilis) give some such history as the following:—That they have lived a long time in parts of India or elsewhere where the disease is endemic; that they have had repeated attacks of

"ague and fever," which has pulled them down very much; and that some years afterwards brownish stains began to appear in different parts of the body, and upon these small brownish tubercles formed, first of all about the nose and eyebrows, or ears or neck. The next thing noticed was a loss of sensibility about the little finger and corresponding side of the palm of the hand, with wasting of the muscles between the forefinger and thumb.

The first change in the skin has been described by the patient I have had under my personal observation as a dark dull coppery discoloration; one that should never be regarded as syphilitic, for the simple reason that syphilis never induces staining *per se* over an extensive area of surface. The two phases of leprosy must be described in detail apart.

The tubercular form commences with malaise,—an indefinite feeling of something wrong—rheumatic pains—a falling asleep of a limb frequently (generally referred, says Dr. Bowerbank, to some chill or sudden change of temperature), or with pricking sensations about the hands and feet. But some authorities declare that brown patches come first, or that there is a numbness about the hands so that the patient cannot grasp so well as usual. At all events very soon there is a dull red discoloration in patches, then the face begins to flush and swell; it looks over-heated; then the limbs and trunk brown, and little tubercular formations make their appearance, first of all about the face, especially the ears, on the discoloured patches. From this moment the disease steadily progresses. The tubercles vary in size, from that of a pea to that of a walnut; they are soft, smooth, shining, of a dusky-red colour at first, becoming presently brownish-yellow, or bronzed. In the early stage, the sensibility of the part is often rather increased, in consequence of the pressure exerted by the blastematous effusion upon the nerves; but after awhile this morbid sensi-

bility becomes altered in character, and, from the greater degree of morbid change, diminished sensation sets in, and increases until it becomes decided anæsthesia. On stripping a patient after the disease has lasted some time, we notice deep brown staining or patches varying in size from a shilling to the area of the hand over the front and back of the trunk, the arms, all round the neck, and of course all over the face, separated, save on the face, by healthy skin. Upon these patches are the tubercles in little parcels, or collected into one or more flattened elevated masses studded over the surface.

The tubercles are most marked in situations where there is much lax cellular tissue; therefore about the face, nose, lips, eyes, mouth, and ear. The disease may be more or less partial. The sebaceous glands now take on a hyper-action: hence the skin is oily and shining. The increase in the development of the tubercles produces terrible deformity; the surface feels thickened, knotty, or uneven; the face is altered completely; the edge of the mouth and lips, the eyebrows, the alæ of the nose, the eyelids, are all distorted and thickened, the whole integument being dirty and sallow-like, and the various aspects presented by the patient have been described by the terms *leonine*, satyr-like, &c. The sebaceous glands become enlarged. When the lower limbs are affected, the disease is generally most marked about the lower part of the thigh and ankle. Coincidently with these changes anæsthetic points appear in the centres of the oldest patches. In the cases I have seen, the parts supplied by the ulnar nerve were insensible, and this has only been discovered by accidentally burning or scalding, which has not been felt. The ulnar nerve can be felt enlarged and cordy above the elbow; a good deal of pain of a neuralgic character accompanies the anæsthesia. The muscles of the hand waste, the fingers cannot be opposed, nor the hand grasp properly

or pick up small things in consequence, even in an early stage of disease. Not only the cutaneous but the mucous membranes participate in the same change. The mouth, the palate, the fauces, the trachea, the nose, the eye, are all affected by deposition of material in their mucous surfaces. The internal glands —*e. g.* the liver—indeed, all the internal organs, with the exception of the pancreas, are finally affected; the system is generally infiltrated. The patient's general condition all this while is not serious. He is morose, low-spirited, dull, and careless; but now his troubles are commencing in earnest. His voice, his sense of smell, of taste, &c., are affected, and the time has come for ulcerative action to set in: the tumours soften, ulcerate, and pour out an unhealthy, offensive secretion, which crusts over the sore from where it comes; the attempt at healing often fails. The eye is destroyed, the mucous surfaces of the internal parts ulcerate—*e. g.*, the nose and its bones are destroyed. Diarrhœa from intestinal ulceration is a sad complication: the bones become carious, hectic sets in, and the patient dies. Ulceration is not so common in India as in Europe. The duration of tubercular elephantiasis, according to Drs. Danielssen and Böck, is nine and a half years. But twenty or even more is common in other climates.

Elephantiasis Anæsthetica (*Anæsthetic Leprosy*).—In the tubercular form the deposit shows itself in a marked manner, implicating the nerves more or less; but in the anæsthetic variety the disease affects primarily the nervous trunks, and leads to a lowering of nutrition, anæsthesia, and subsequent destructive changes. There *may* be little of the tubercular aspect: anæsthesia is the great sign; the muscular power is deficient, but paralysis is not a marked feature; "in a word," as Mr. Wilson has it, "*insensibility* and *atrophy* are the distinguishing features."

[It is not rare, however, to see anæsthetic leprosy

partaking of the characters of the tubercular form. This is the *mixed form* of disease, and it occurs in India in about 15 per cent. It generally commences with eruption, which is usually of the white (morphœa alba) variety: it also begins in one-third of the cases under 20 and is rare after 40. The face exhibits the tubercles; two-thirds of the subjects attacked are males; and it is a fatal form, hereditary transmission being strongly marked. (Carter.) This is the general character of the anæsthetic variety, as compared with the tubercular.

There are then transitions between the different forms of leprosy. It appears that the blastema effused in the anæsthetic variety is somewhat more transparent, not so opaque as in the other forms.]

The *anæsthetic* variety commences with much the same general symptoms as the tubercular form. It appears to originate, so far as local symptoms are concerned, by many subjective sensations of heat, shooting, burning, pricking sensations about the hands or feet, with more or less weakness, followed by tenderness, pain, and swelling along the course of the chief cutaneous nerves—*e.g.*, the ulnar, the median, the saphenous, &c., ending in numbness and insensibility to irritants. The integuments get parched, dry, shrivelled, perhaps covered by a clammy sweat, and desquamate. Subsequently to this, the eruption makes its appearance: it consists not only of erythematous patches, but especially of bullæ, which are of large size, occurring on parts previously anæsthetic: these break, and their place is supplied by superficial ulcerations, which, after scabbing, leave behind white hard hairless glandless patches of morphœa alba. Dr. Vandyke Carter has specially studied this morphœa, and I therefore append his description, in which I agree, thus:—"Patches or spots of a circular or annular form, three-quarters to three inches or more in diameter; edges raised, of a pinkish hue; free from scales,

slightly cracked or wrinkled; centre depressed, pale, dry, glistening, having a tendency to spread and join so as to cover larger spaces." The central part of these patches is always anæsthetic, completely in cases of some duration, and feels hard to the touch. The patches may vary much by the presence of scales or slight desquamation, or slight ichorous exudation; the hairs of the part are atrophied, and it is said not whitened (Carter), they are subsequently lost. The glands also suffer in like manner. This typical form of eruption is the *baras* of the Arabs, the *leuce* of the Greeks. The result of careful inquiry seems to show that these patches are the result of changes in the nervous supply, that they run the one into the other, and vary in aspect from simple white atrophied circles to large "isolated but blended patches," with or without red vascular margins, passing through the stages in which the centre is first red, then brown or pale, and surrounded by a distinct pink border of vessels. The centre of every patch gradually becomes more and more anæsthetic. The chief seats are the back of the hip, the front of the shoulder, about the elbows, and on the forepart of the knee, over the temples, cheeks, trunks, and limbs. The eruption is symmetrical, and often precedes the anæsthetic form. It existed alone in 14 of 186 cases (Carter), and in 48 of 186 cases of anæsthetic leprosy.

Coincidently with the changes above described, the body generally wastes, especially its muscular system: hence the fingers become distorted, and in a peculiar manner, the first phalanx is bent backwards by the extensor; the others are flexed: not only does this happen in the hand, but the feet and other joints also are distorted and rendered prominent. The bullæ may give rise to deep, ragged, foul-edged ulceration, the base of which may be sensitive, proving the superficial character of the disease. The face is now much disfigured; it looks haggard, shrivelled; the skin is what

is termed "mummified," or lax and loose. The mucous surfaces are exposed, in consequence of the "sclerotic" or hardened and contracted state of skin. The deeper parts now become affected; a joint is seized with acute pain, a sinus forms, a piece of bone is discharged, and the sore heals. Dr. Carter thinks this is an unusual mode (by necrosis); he believes that the deep parts are removed by "interstitial absorption," without pain or reactionary activity of any kind: the terminal phalanges are the first bones to suffer, and the disease, by steady progression, removes bone after bone. The mucous surfaces become involved; they are infiltrated with "blastema," but not to the same extent as in the tubercular form: hence there is not so much diarrhœa or suppuration as in the latter disease; the patients live, on an average, about as long again—eighteen to twenty years. The ulcers of the surface are supposed to be due to irritants acting from without upon devitalized (anæsthetic) parts: hence they are seen in those accustomed to hard manual labour. In the later stages, the general health suffers very materially, but not to the same degree as in the other form of leprosy. The patient may die, worn out by exhaustion, bodily and mental, or be cut off by some intercurrent disease.

The Pathology of the Disease.—Elephantiasis is a blood disease of malarial origin it is now generally thought, which shows itself by the effusion into the tissues of an hyperplastic material. There is this difference, that whereas in the tubercular form the deposit, besides being more opaque, is deposited chiefly in the fibro-cellular structures, in the anæsthetic form it is more transparent, and is deposited, *par excellence*, in and outside the nerve-tissue. In the tubercular form, the fibro-cellular coats and structures of all the organs except the pancreas are found infiltrated by the peculiar deposit; in the anæsthetic, there is often an absence of this feature in the internal viscera, and their

coats. In reference more particularly to the anæsthetic variety, Dr. Carter's observations may be briefly summed up here. He found the brain, spinal cord, and the roots of the nerves healthy. Dr. Fabre, who studied the disease in Brazil, noticed the brain to be atrophied, its ventricles to contain fluid, the glandulæ Pacchioni numerous, and oftentimes a circumscribed suppuration in the membranes. Drs. Danielssen and Böeck differ from Dr. Carter: they state that the spinal cord and its membranes are altered; the latter being infiltrated with an albuminous deposit, a layer being found between the arachnoid and the pia mater; the cord itself being indurated, its grey matter discoloured, yellowish, and devoid of vessels: the sheaths of the nerves and the various ganglia being similarly affected. They think the primary seat of the disease is the spinal cord. Dr. Carter, on the other hand, contends that the disease commences in the superficial nerves, and travels towards, but does not reach, the spinal cord. The sympathetic nerves are healthy; the heart, lungs, and intestinal canal healthy (Carter); the liver and kidneys fatty—in which all agree. The muscles generally are wasted and "fibrous," but not fatty, as the rule. The blood contains a more than ordinary quantum of albumen. The most important changes are observable in the nerves themselves. Dr. Carter says the nerve is swollen, dull-red, or grey, or semi-translucent, rounded, and firm. The funiculi, not the connective coat, is the seat of disease; the nerve is evidently very tense. The place of "the clusters of nerve-tubules" is supplied by the albumino-gelatinous infiltration which has pressed upon them; the deposit surrounds the nerve-tubules, "mapping out, as it were, the area into polygonal or rounded spaces, in each of which lie the remains of one or two altered nerve-tubules." Hence the chief features are *firmness*, *opacity*, and *enlargement*, from foreign deposition. This is chiefly marked in the compound

trunks which are situate most superficially, and in the "cutaneous nerves just after perforating the deep fascia:" those chiefly diseased are the ulnar, radial, and musculo-cutaneous; and they may exhibit these changes over the space of an inch or more; sometimes, indeed, a greater distance along the parent trunk towards the spinal canal. Dr. Carter sums up the microscopic appearances thus:—The funiculus is "unchanged or slightly thickened, and marked by fusiform granular masses, or more distinct oval granular nuclei of full size;" from its inner aspect "septa pass, which map out so curiously the area of the diseased funiculus. These are composed of a nucleated fibrous tissue, very distinct and clear: the nuclei, varying in size, are granular; they have occasionally appeared to be free, and, when small, resembled at first sight the ends of the wasted nerve tubules in a transverse section. The space inclosed by the septa is polygonal in shape, and from $\frac{1}{400}$ to $\frac{1}{1500}$ in. in diameter. It is occupied by a clear homogeneous, refractile substance, in which the altered nerve-tubules are imbedded; the latter are usually much changed, their medullary sheath corrugated, and their contents granular, uniform (?), and firm:" there may be simply empty walls, or "no trace at all." The Paccinian contain the same deposit, and the tactile corpuscles are atrophied. The skin is infiltrated by the same blastematous fluid, forming after a while a delicate network of fibres, in the interstices of which lie whitish granular and fatty matter; after a while the fibres go, and the foreign material is wholly cellular, the cells being oblong, with a very large nucleus, nearly filling the parent cell, and containing several distinct granules. The vessels and sweat-glands are after a while destroyed. G. Simon believes that the skin, the hair, sweat, and sebaceous follicles hypertrophy at the same time that there is a deposit of corpuscles, containing granules scattered throughout the meshes of the fibrous tissue. The bones are

"rarefied" by "molecular destruction." As to the origin of the nerve disease, "it appears that, first of all, a clear material, probably albuminous, is deposited between the nerve-tubules, and in this nuclei, and subsequently fibres, are developed, and the deposit itself may become fibrillated. The nuclei are often large, $\frac{1}{2000}$, $\frac{1}{1600}$ in. in length, and $\frac{1}{8000}$ in. in diameter, clear, round, and very numerous."

The *Causes of Elephantiasis* are not well made out. The disease, according to Dr. Carter, appears in India to be most prevalent, as regards social standing, in the following classes:—Native Christians, Marathas or low-caste Hindoos, Mussulmans and Parsees, vegetable-feeding Hindoos, &c.; Europeans are generally exempt. There is some little difficulty in ascertaining the influence of sex. The seclusive life of the females in countries where the disease abounds may explain in some degree the fact of its being more frequently *seen* in males. "In some of the leper asylums of the West Indies the number of the two sexes is about the same." The general opinion, however, is that males are much more usually leprous than females. Of 543 deaths in Bombay during twelve years 409 occurred in males, and yet of 906 leprous patients treated in St. George's Hospital at Bergen, Norway, from 1841–6, 461 were males, 445 females. It is common in Norway as in India, in the fish districts, where the folk eat quantities of foul fish; and Dr. Carter further observes, with regard to occupation, that many of the lepers "are fishermen, many ryots, all of whom lived more or less on rice and dried or salt fish;" but then it is common where these conditions are not fulfilled. It is generally now regarded as having a malarial origin.

Hereditary tendency is certainly an efficient cause, and is most marked when it is on the male side, and if children are begotten by lepers far advanced in the disease. Of 623 cases to which reference is made in the Leprosy Report of the College of Physicians, in-

cluding those of Dr. Day, Dr. Porteus, those reported from Pooree, Nagpore, and Böeck's, in 287 cases an hereditary taint could be established, and many, it is well known, deny its existence in families where it is afterwards discovered.

Age has some influence; the baras generally appears before the age of twenty, the tubercular sooner perhaps than the anæsthetic form, which generally commences before the age of thirty. Damp and humidity, uncleanly habits, filth, and poverty, are conditions favouring the occurrence of elephantiasis. The anæsthetic disease is most common in India. Of 186 cases (Carter), 67 were anæsthetic, 40 mixed, 17 tuberculous, 14 exhibited the "baras" only, and 48 were cases of anæsthesia complicated with baras. There is no reason to think that syphilis has any relation to elephantiasis. In 64 of the 90 reports of Indian medical officers on leprosy, this connexion is absolutely denied. Leprosy is not contagious, it is believed. If it be so, it is held only to be so when the discharge from a leprous sore is inoculated. The cause is probably a mixed one: it is a compound especially of bad hygiene, exhibited in the bad damp dwellings, the putrid and innutritious food, and the pernicious action of a malarial climate. There is, and always has been, a very wide-spread belief that the fish-eating population is peculiarly prone to the disease.

Treatment.—This is preventive and curative. I only indicate the principles here. We must prevent the inter-marrying of actual lepers; remove them from humid malarial localities; alter and correct bad modes of living in every particular; secure good exercise and a dry air; if possible, a change of climate. In the actual disease, repeated venesection, counter-irritation of the course of the nerves, various baths, arsenic, mercury, cantharides, &c., have been tried, but with no avail. Hydrocotyle Asiatica, Ginocardia odorata, or chaulmoogra (used by Dr. Mouat), the Asclepias

gigantea or mudar, are looked upon as specifics; lately Veronica quinquefolia has been praised: but all have failed. The local treatment by arsenic is recommended: an ointment, gr. x—xxx of arsenious acid to ℥j of lard, is rubbed into a patch about six inches large, for a fortnight, so as to produce *pustulation*. This is often followed by great relief, and the disease is treated bit by bit until it disappears—so it is said. I have seen much benefit produced by aperients and subsequently large and continued doses of quinine.

The leper is an outcast who is thought to deserve no comfort and very little attention; hence the treatment is of the most unsatisfactory kind. The whole gist of the latter part of the Leprosy Report is to show the decided benefit to be derived from the adoption of means to improve the physical and moral condition of the leprous poor. There is no cure for leprosy; medicine must therefore aim at its prevention. "It seems indisputable that as the agricultural and horticultural condition of Britain advanced and the diet of the working classes was bettered . . . . leprosy became less common," &c. And in reference to India, the committee observe that, "with its 150,000,000 of inhabitants, the question of the food of the people, in its probable relations to the wide-spread prevalence of leprosy and other endemic disorders, is a matter of the highest interest in an economical as well as in a scientific point of view. That a marked change in the habits of the native population will ensue upon the increase of divers industries, the improved cultivation of the land, the less frequent recurrence of famines, and the consequent amelioration of their general condition from year to year; and that better food, better clothing, and better housing, with greater personal cleanliness, will lead to the abatement of leprosy—may be confidently anticipated."—p. lxxv.

NGERENGERE.

Ngerengere of the New Zealanders has been de-

scribed by Dr. Thomson, and is clearly elephantiasis. Dr. Thomson's description is briefly as follows:—"It commences with a cutaneous eruption on the extremities, which extends over the trunk of the body. The eruption presents in some parts the oval patches and the copious exfoliation of a brown scaly morbid cuticle observed in lepra vulgaris (?); the irregular patches of psoriasis, and occasionally the innumerable fissures, the elongated and extensive cracks intersecting each other, of ichthyosis." There is frequently severe pruritus. The aspect of the disease is chronic, with a capricious course; the hair is gradually lost from the eyebrows, eyelashes, whiskers, beard—not the head, axillæ, nor pubes, however. "The tattoo-marks are not affected." The mucous surfaces suffer, the voice alters, the eye becomes inflamed, the general surface livid; "the face, nose, lips, forehead, eyebrows, become swollen and shining; but there are no tubercular deposits in them;" the skin is *not* anæsthetic to any degree. In about a year the distal bones of the extremities (fingers and toes) are removed one by one by molecular or interstitial absorption; "a small boil or blister, or dry crack, appears in the direction of the flexures . . . . the soft parts ulcerate by a dry process; the phalanx falls off, and the part heals." This is repeated year by year, the fingers generally being "dry, shining, and scabby-like." Death ends the scene before the wrist is reached, by diarrhœa, bronchitis, &c. The general health is not materially affected in the early stages. The disease attacks people under thirty years of age, generally after twenty; and the great majority (five out of six) are males. It may attack several of the same family. The fingers are affected to a greater degree than the toes; its duration ranges five or six years. From this outline we readily see that the disease is true leprosy.

The Cacubay of Jamaica is probably leprosy.

Now there are several other diseases in which the

main feature is the deposit of fibrinous lymph in the derma and subjacent areolar tissue, either separately or both together, and these have some features therefore in common with elephantiasis. They however partake, it is believed, more of the character of a local hypertrophy of the fibrous tissue of the attacked part, and I shall describe them under the head of atrophies and hypertrophies. The apparently connecting link between them and elephantiasis will be found in morphœa, which I have already noticed as a part of leprosy, but will describe more fully in the next chapter as a separate disease.

CHAPTER XVII.

HYPERTROPHIC AND ATROPHIC AFFECTIONS.

I NEED not explain the terms hypertrophy and atrophy. Under these terms may be included all cases of wasting of normal tissues on the one hand, and unusual development on the other, and in the group, hypertrophy and atrophy are primary. Now the forms of disease ranking here are—

A. *Hypertrophic Diseases.*—1. Epithelial, including pityriasis, ichthyosis, and xeroderma; hitherto classed with squamous diseases. 2. Papillary: warts and the like. 3. Dermic, in which the fibrous tissue of the skin is primarily hypertrophied: including scleroderma, keloid, fibroma, bucnemia tropica, or elephantiasis arabum, and dermatolysis. 4. Vascular growths, such as nævi. The two diseases ichthyosis and xeroderma will be described under the sub-head of Developmental Diseases, at the end of this chapter.

B. *Atrophic:* including general wasting, to which I need not particularly allude; and linear atrophy, which will be incidentally noticed together with morphœa.

I only deal then in detail with hypertrophic affections. It will be understood that no reference is made to secondary or accidental hypertrophy—the consequence of congestion or inflammatory conditions; but to those diseases in which hypertrophy is the prominent or only condition.

I. HYPERTROPHY OF THE EPITHELIUM.

I have been in a difficulty as to placing pityriasis,

in which, as a rule, there is simply hyperformation of epithelial scales. I think it best to place it under the head of hypertrophies for the present.

PITYRIASIS.

This common form of disease may be discussed in a very few words. It is a primary form of disease—"a superficial cutaneous affection, sometimes accompanied by a slight rosy discoloration of the skin, or even a discoloration of another kind, but always exempt from those alterations of tissue which have been observed in the other elementary forms which we have described; and which scarcely presents any other characteristic phenomenon than a desquamation of the epidermis; this latter is detached in small whitish lamellæ, or falls off in a fine, and, as it is called (from its analogy with wheaten flour bran—*furfur*), furfuraceous or branny powder."

There is no exudation into the skin in ordinary pityriasis. The local symptoms are itching and heat. The redness varies much. Authors have made four main species: P. versicolor, which is a parasitic disease, and will be found under the head of tinea versicolor, P. rubra, P. simplex, and P. nigra. The only varieties we need make are P. simplex and P. rubra, which is an inflammatory form.

Pityriasis simplex, according as it occurs in different situations, has received the appellations capitis, palpebrarum, pudendalis, oris, labialis, plantaris, pilaris. The history in all these cases is the same, a slight itching red patch appears, and then white scales form thereon, which are constantly detached, sometimes a slightly red zone circumscribes the scaly spot; the scales are continually shed and reproduced; there are no other changes. The disease is met with on the bodies of delicate women and children, especially the head, where it constitutes one of the varieties of

"dandriff." Pityriasis simplex is mostly a disease of early life.

Pityriasis Rubra.—This is a form of disease in which the skin is acutely inflamed, with free scaliness and exfoliation of branny lamellar scales, but in which no "discharge" of any sort occurs. Instead of being local it is usually general, and as far as I have seen, the general symptoms are comparatively slight. Hebra shall speak for himself. He gives the characters of the disease as follows:—"An intense redness of the entire skin, disappearing on pressure with the fingers, and displaying a yellowish ground; a constant exfoliation of fine, white, loosely-attached scales; persistent deep redness, without infiltration; papulæ, fissures, moisture, or vesicles; scarcely any itching, and no excoriation. The disease begins suddenly, quickly spreads over the whole body, is rarely local; and undergoes scarcely any variation of appearance throughout its course, which may be prolonged for years . . . . After death it leaves no trace of its existence beyond the squamous state of the epidermis. In the early part of the disease the patient experiences no inconvenience whatever beyond the strange appearance; he pursues his ordinary avocations, and believes himself well; he feels by degrees a sense of weakness and incapacity for exertion; his appetite fails, his muscular power drags; he becomes emaciated, and finally sinks from exhaustion." I have such a case under my care now, and I have seen it in children, in whom it produces also thickened plates, as it were, in the skin, that feel like a piece of dried bladder, and look yellowish; it is the dermatitis of Dr. Wilks. There was a possibility of its being syphilitic in some cases. In children it has seemed to me to be less severe than in adults, and to affect a large portion but not the whole of the cutaneous surface. It has disappeared in the course of a few weeks in children, under the exhibition of tonics, diuretics, and the use of local emollients. The distinction between pityriasis

rubra and general psoriasis, is by no means clear in some cases. Pityriasis nigra is merely a patch of pityriasis, with pigmentation, and occurs perhaps in those who have visited hot climates.

A word may be said in regard to one of the local varieties—pityriasis pilaris. In this disease the epithelial lining of the hair follicles is the seat of the disease, and in consequence of the collection of the thrown off scales in the follicles, the latter stand out as it were from the surface like little white hard dry knots (something like the surface of a nutmeg-grater), and from the summit of each a hair escapes. The knots are produced by an excessive collection of cells (epidermic), which distend the follicle also, and are very adherent. This is apparent on microscopic examination; of course the follicles are distended, and this is well seen in removing one of the little knots. It is seen after pityriasis rubra especially, and, according to others, after psoriasis of pretty general diffusion. According to Devergie, it occurs in little ovoid patches on the outer aspect of the forearm, the legs, the backs of the fingers, and occasionally all parts of the body except the head. There is a great resemblance between this disease and lichen scrofulosus of Hebra, if not an absolute identity. The reader should refer to the account of that variety of lichen.

In cachectic and phthisical subjects pityriasis pilaris sometimes occurs. The shedding of the epidermis is due to the general disorder of nutrition.

The Pathology and Cause.—The seat of the disease is no doubt the deep layer of the epidermis, and the nature of the disease an excess in the cell formation of the cuticle. This cell proliferation is an evidence of a somewhat lower type of vitality, and implies nutritive debility. This may be the result of hereditary peculiarity, and it is certainly evoked by irritants of all kinds acting upon a debilitated system; in some cases, deficient sebaceous secretion seems to account for the

malformation of epidermis. The use of strong soap may also be a cause.

Diagnosis.—This is always easy. There is an entire absence of the phenomena of "discharge." In the simpler cases there is a little redness, and scales are formed from the outset of the disease; they are thin, white, and shining—branny. Pityriasis may be confounded with (1) *Seborrhœa.* The scales are dull white, and dirty; they stick to the surface, and are made up of epithelial scales, with a large amount of fatty matter; whilst the sebaceous glands are often distended. (2) *Tinea circinata* (parasitic) should be known by its circular character, its "frayed" aspect, its clearing in the centre and extension at the edge by quasi-vesiculation, and the presence of the parasite detectable by the microscope. (3) Pityriasis rubra may imitate *eczema* and psoriasis; but it differs from eczema by the fact that, though the skin is sharply inflamed, there is no "discharge," and the scales are epithelial and not "blastematous" or "corpuscular." There is also little infiltration, no vesicles, pustules, and the like, and little pruritus. Eczema, too, in the chronic "scaly" stage, is known by its history, and the cracked and uneven fissuring of its infiltrated surface. *Psoriasis* differs in the fact that the skin is involved to a greater extent than in pityriasis rubra, by the thickening therefore of the derma, the hypertrophy of the papillæ of the skin, the larger and thicker scales, the cracks and fissures that are sometimes present, the well-developed patches about the knees and elbows. In all cases of scaly disease I hold that a microscopic examination should be made, for by it we determine the epithelial, the fatty (seborrhœa) or the blastematous nature (eczema, herpes) &c., of the scaliness.

Treatment.—In the case of pityriasis simplex, local measures will often suffice. Where there are symptoms of local irritation, redness, and itching, an ointment made of two drachms of liquor plumbi, a scruple

of borax, and an ounce of lard will suffice. The principal object, as in so many other affections of the skin, is to soothe and slightly constringe. When the disease has become chronic, stimulating applications may be used—the white precipitate ointment, the ung. hydr. nitrico-oxyd., or an ointment made of two drachms of ung. hydr. nitratis, to an ounce of lard, are serviceable. But when the disease is more extensive, and the scaliness free, it is necessary to adopt general remedies. In this case I use a liniment of equal parts of olive oil and lime water freely, and subsequently nitric acid ointment (mx—mxx to ℥j adeps), and commence with tonics—iron, quinine, nitro-hydrochloric acid, cod-liver oil, or arsenic, in case there be anæmia, dyspepsia, loss of flesh, nervous debility, &c. There must always be perfect cleanliness, thick greasy hair should be well and repeatedly washed, the food should be unstimulating, spirits and beer avoided if there be any "heating" with them. The bowels should be made to act regularly and freely. In chronic indolent cases, the following will be of use :—ammonio-chloride of mercury, and nitric oxide finely powdered, of each fifteen grains, olive oil and adeps, each an ounce, with some scent to make the embrocation pleasant. Another form empirically successful, is liq. ammon. fort. ℥ij, sp. rosmarini ℥ss, glycerinæ ℥ss, aquæ ℥viij, to be used twice a day, a little borax ointment being used after each application of the lotion. The mineral waters of St. Gervais, Aix-la-Chapelle, Pyrenees, Barèges, and Luchon are recommended.

In pityriasis rubra, the treatment hitherto adopted has been found most unsatisfactory. In children I have given usually diuretics—calomel gr. ½ to 1, nitrate of potash gr. iij, and Jacob's fever powder half a grain night and morning for a few days, slight aperients, then cod-liver oil and quina, with alkaline and bran baths. Lead and calamine lotion freely applied, without any irritating application, has seemed to help

the cure in the course of a few weeks. In adults, matters are different. At this moment, a case is under my care at Charing Cross Hospital, which has been saturated with arsenic. The patient took it for two years and a half, with calomel during a portion of the time. He got much worse, emaciated, suffered from colic, diarrhœa, and sweating, without any relief. With a course of nitric acid his health improved, the heat and painful feeling in his skin went, and he moved about with comfort; the redness and the shedding of the scales lessened; a course of acetate of potash and the use of plenty of grease, and some iodide of potassium ointment, have certainly improved his whole condition very much. I now purpose to exhibit phosphorus internally, and to employ nitro-muriatic acid baths two or three times a day, and if this fail, to give bicyanide of mercury and iodide of potash. See Formulæ 34, 80, 81, 91, 95, 111, &c.

II. HYPERTROPHY OF THE PAPILLARY LAYER OF THE SKIN.

There are four diseases which fall under this head; but they require very brief notice. They are Verrucæ or warts, Clavus or corns, Callosities, and a state called by Mr. Wilson Pachulosis. In all, the papillæ of the skin are hypertrophied, often elongated so as to form pendulous tumours, whilst the epithelial cells are likewise produced in greater quantity than usual.

Verrucæ, or warts, are little raised tumours, sessile or pedunculated, hard, generally round, rugose, and mammillated. They are made up of coherent and enlarged papillæ, each containing a loop of blood-vessels, and more or less nerve-tissue, especially at their base. I have seen them cover the face and present the appearance of disseminated lichen. In other cases they have been large and in mass. The pedunculated warts, the so-called *acrochordon*, are often the emptied sacs of sebaceous glandular enlargements—

e.g., molluscum. The sessile warts, or the true hypertrophous papillæ, are seen mostly on the hands in children; they may be multiple, solitary, or aggregated in clusters, forming a flat mass or digitate. Warts are often the result of syphilis about the anus, vulva, penis, but may also arise from simple irritation. *Verruca necrogenica* is the name given by Dr. Wilks to the warty growths which occur on the back of the finger-joints of those who are much engaged in making post-mortem examinations. "They are brown circular raised patches of morbid epithelium, giving the appearance somewhat of epithelial cancer," and curiously enough, if removed, they grow again; they are caused by the acridity of the fluids of the dead body. I have seen one or two very curious examples of warts. On the little finger (at its outside) of a woman, for instance, a mass of warts packed closely together, and forming a patch $1\frac{3}{4}$ inch long and $\frac{1}{2}$ inch in breadth; around the base it was hard, elevated, reddened, something like lupus; it might be called *verruca granulata*. .

The causes of warts are unknown; they appear sometimes to be contagious. The treatment consists in destroying the abnormal growth by caustics—the acid nitrate of mercury, caustic potash, arsenical paste, perchloride of iron, or chromic acid; the best is potassa fusa.

Corns are simply a like condition to warts, only that the epithelium is peculiarly affected: they are brought about by pressure and friction; they are of three kinds—laminated (tylosis), fibrous (clavus), and soft corns.—(Wilson.) The laminated are the ordinary, the fibrous the well-marked old-standing, corns; the soft occur between the toes, and being saturated with the secretion of the part, are moist and soft; generally there is some serosity effused under the upper layers, and this is discharged from a little central aperture. Mr. Wilson gives the name of pachulosis to the thickened state of skin which follows the healing

in elderly people of ulcers of the legs; the skin is harsh, thick, and dry, &c. The treatment of these minor affections need not be detailed. The papillæ of the skin may sometimes enlarge so extensively as to produce horns—this is uncommon, however. Horns are usually sebaceous in origin. Mr. Edwards says that the microscopical appearances denote them to be an hypertrophied condition of the papillæ, each containing one or more vessels and being covered by epidermis; on section they have a "granular texture pierced with small orifices, and when dry, numerous concentric cracks." The orifices on further inquiry are found to be the sections of little bloodvessels; "a clear amber-coloured circular area surrounded each of the vessels, which were separated by the general granular structure of the mass, incapable in the compact part of the horn of being reduced to its ultimate original elements." The structure appears to be best seen at the edge of the horn, where "the vessels are seen occupying the axis of the papillæ, which are indicated by the clear cylinder area surrounding the vessels, the limit of the clear cylinder appearing to be the basement-membrane of the papillæ, and presenting on an oblique section a somewhat jagged outline. The central parts of the horn are more compact and less vascular than the outside."

I have seen several cases in which the individual papillæ of the skin, especially in the face, have become enlarged, their vascular part being involved, yet not sufficiently (in excess) to make the disease nævus; it was a general equable hypertrophy of the structures composing the papillæ. Condylomata are hypertrophied papillæ moistened by secretion, and containing rather more fibrous and elastic tissue than usual. Formulæ will be found for caustic applications elsewhere.

Callosities are merely hardened conditions of the skin produced by pressure, differing from corns rather in the fact that they are on a larger scale than any-

thing else. I have seen them very large and hard on the front of both shins: blistering and iodine paint caused their absorption.

We come now to

III. HYPERTROPHIC DISEASES OF THE DERMA.

Under this head are included all those diseases in which the fibrous tissue of the skin is in excess, and in which the disease extends to or involves the subjacent cellular tissue. They are (1) morphœa; (2) sclero-derma; (3) keloid; (4) fibroma; (5) bucnemia tropica; and (6) dermatolysis. My reason for placing morphœa in the group has been given. I repeat that it occurs in connexion with veritable fibrous hypertrophy of the derma.

MORPHŒA.

This disease sometimes complicates anæsthetic leprosy, but may exist as a separate disease. It involves the whole thickness of the skin in all its parts. The disease occurs in non-elevated patches, in size from half-a-crown to several inches, which, originally red, quickly becomes white, hard, dense, and anæsthetic in the centre. They are often edged round with a network of vessels in the form of a lilac ring. The disease is caused by a deposit in the skin of a substance like lard, which presses on and obliterates the vessels, hairs, glands, and nerves. When it is very white it is called morphœa alba; sometimes pigment is deposited and then we have morphœa nigra. The whiteness is, however, generally very decided; the patches look waxy, or like alabaster. Though there is no elevation the skin is evidently thickened by the dense white deposit. The deposit is followed by considerable condensation. The epidermis is horny and sometimes yellowish, rarely desquamating. Once seen the disease is never forgotten. In some cases the deposit of material is not so marked

as in others, but there is atrophy together with condensation; still, however, the erythematous circle. This is called *morphœa atrophica.* The skin is not polished, but white, dry, shrunken, parchment-like, anæsthetic, hairless. This variety is seen about the neck and the inner side of the legs. When it occurs in bands or lines it constitutes the "*linear atrophy*" of authors, which is seen about the forehead, arms, legs, or even body. Of twenty-five cases collected by Wilson, "ten were atrophic, seven tuberous, five mixed, three melasmic;" eleven were unilateral, fourteen bilateral; the trunk of the body was affected in eleven, the legs and thighs in seven, the arms in six, and the submammary region in three. When it occurs on the forehead it takes the course of the supra-orbital nerve. In the last case I saw, separate grooves, the one in which I could lodge my little finger, the other a piece of ordinary stick pencil an inch long, were formed; the edges of the spots were red, the centres sunken, white, dense, and insensible.

The nature of the disease is clearly a retrograde metamorphosis of the texture of the skin; a fibro-cellular degeneration. Where the deposit is well marked it might be called lardaceous disease. Morphœa occurs in elephantiasis, but also as a separate disease, and in connexion with scleroderma. In some cases it is found to be associated with, fibrous hypertrophy of the skin taking the form of large bands or masses, and this associated form was clearly what Addison described as keloid. An examination of the models in Guy's Hospital has satisfied me on this point. In morphœa there is no elevation. We now come, however, to a disease in which the fibrous deposit produces distinct elevation—viz.,

SCLERIASIS, OR SCLERODERMA.

In some cases it is associated with the morphœa I have just described, and in others it exists alone as

a separate disease. We find extensive deposit in the skin in bands or lines, with condensation, and subsequent contraction. This scleroderma is also called "hide-bound" disease. The hardness and stiffness may come on suddenly over a large extent of surface—from groin to knee, for instance. The disease generally commences by an induration or horny plate, and subsequently spreads in the form of bands; these are raised, dense, often yellowish in the centre, fading away through a white colour at the borders, into the hue of the surrounding skin. Pain may accompany this stage. There may be a partial border of vessels at the outside: much distortion of contiguous parts, with puckering of the tissues, results from the contractile nature of the deposit; this is very well marked about the face and joints. The sensation of parts is impaired. The disease affects several parts of the body successively. After a while the skin becomes hard, shrivelled, parchment-like, the sensibility being distinctly diminished. The disease is more frequent in the female than the male, in thirty-seven out of forty recorded cases; it may attack infants, especially about the hips, thighs, back, buttocks, and elbows. In adults it occurs at a tolerably early age. A very good description of a case runs thus in the *Lancet*, 1855, vol. i. p. 239:—

"The induration and cicatrix-looking condition of the left arm and forearm peculiar to the disease. The appearance is not that of a tumour, but rather as if the arm had been burnt, and had left a leather-like hardness, which required surgical operation, as after a burn, to remove it; or it seems as if a bad erysipelas had become turned into cartilage and bone."

Morbid Anatomy.—More information is needed on this point.

The following is a description of a case given by Förster, and quoted by Fagge:—

"The affected parts are described as being of a yellowish or brownish colour. The thickness of the

skin was at least 3‴ over the sternum and the clavicles, 1—1½‴ on the abdomen, and 2—3‴ on the anterior surfaces of the thighs, legs, and feet.

"The state of the skin was essentially the same in all the affected parts. It could not be raised into folds, and was not in the least degree moveable on the subjacent parts. It could be cut only with great difficulty, being in fact almost as hard as the sole of a boot. On the cut surface the first thing observable was that the distinction between corium and subjacent tissue seemed to be obliterated, a homogeneous, white, shining surface presenting itself. On closer examination, however, an upper layer of more uniform texture could be distinguished from a lower stratum, in which the fibres were arranged in meshes. It might have been supposed that the subcutaneous tissue had entirely disappeared, but investigation showed that, besides the proliferation of the connective tissue of the corium itself, the areolar stratum beneath also had undergone a similar process by which it was converted into a substance resembling corium. The fat, however, had really completely vanished, a few rows of fat cells only being seen here and there in the microscopic sections. The elastic fibres seemed to have multiplied in the same ratio as those of the connective tissue, for they were present in due proportion. Except in the cicatrices, the papillæ were normal; the cutaneous glands and hairs were unaltered, but seemed decidedly fewer than usual. The capillaries appeared not to have increased with the tissue in which they lay, but on the contrary, to be fewer than natural; but they had not undergone any morbid changes. Very few nerves were seen, but it is probable that they were merely hidden by the increase in the connective tissue. The insensibility of the affected parts during life was most likely due to the nerves being so closely enveloped in this substance, for when the thickening had subsided at any spot, the sensibility had returned. The sclerosed connective

tissue was firmly bound to the muscles, fasciæ, and tendons, the normal loose intervening tissue being entirely absent."

Recently Dr. Rasmussen has written an admirable essay upon the subject, and in the post-mortem of one case affecting the chest he found the epidermis thick, and beneath it a dense whitish fibrous substance, extending down in some places to the ribs; the glandular tissue of the left breast and some of the intercostal muscles were replaced by fibrous tissue. The pleura costalis opposite the locality of the changed skin, the diaphragm, and the capsule of the liver, were indurated in little tubercular masses. On microscopic examination, the epidermis was found to be of the ordinary thickness, the papillæ normal, the corium rather broader than normal, the connective tissue below much hypertrophied, and studded with spindle-shaped cells; the small arteries were surrounded by closely aggregated cells, like lymph corpuscles; the peripheral oblong, the outermost spindle-shaped and separated by a homogeneous or slightly fibrillating membrane. Indeed, the vessels were ensheathed in this lymphatic tissue. The hair ducts and nerves appeared to be unchanged. It is clear that the seat of the disease is the connective tissue and the corium. The disease, too, is an hyperplasia of the areolar tissue, invading the normal structures, and gradually obliterating them—ex., papillæ, nerves, vessels, hair-sacs, &c.

But what is the origin of the hyperplasia? Rasmussen thinks the disease commences by infiltration from the lymphatic vessels (lymphatic œdema of Virchow) into the connective tissue, the hardness being produced by the free development of cells in the fluid effused. This second stage, he thinks, is the only one generally mentioned, the first, or erysipelatous inflammation of the lymphatics, being overlooked.

Rasmussen declares that the changes in scleroderma are the same in kind as those seen in the bucnemia

tropica, or elephantiasis arabum, and he thinks the seat of the disease is in the lymphatic system. The small arteries are surrounded by a sheath of lymphatic vessels, which furnish the lymph out of which cells are formed in the connective tissue at a very prodigious rate. He has accordingly proposed to call the disease elephantiasis sclerosa.

But what of the relation of "morphœa," which is common apparently to true leprosy and to scleroderma? Is it simply *lardaceous* disease? Is it that the deposit affects especially the nerves, and sensibility goes as a consequence; or is it that the deposit is the consequence of disorder primarily in the nerves? I incline to the former of these two opinions.

The cause of scleroderma is not understood.

The *Diagnosis* offers no difficulty; the indurated hard, tense, contractile bands are sufficiently distinct.

It is certain that the morphœa may be the early stage of scleroderma.

Treatment is not promising. The opportunities of seeing scleroderma are so few that no definite principle of treatment is laid down. The preparations of iodine with iron, cod-liver oil, nitric acid in large doses, change of air, chalybeate baths, and inunction with black oxide of copper, gr. ij ad ℥j (Rasmussen), are those most usually employed.

In regard to morphœa, tonics, especially the mineral acids and iron, by improving the health, help its removal, and as the general condition improves so does the local.

Exception may be taken to the position which I have assigned to morphœa and scleroderma, but I regard it as a tentative one for the present.

KELIS AND KELOID.

There is another hypertrophic growth of the fibrous tissue of the surface having a close resemblance to

scleroderma, and called kelis or keloid. The kelis of Addison is the morphœa I have described. The difference between keloid (as I shall continue to call it) and scleroderma consists in the fact that in keloid the corium, and not the cutaneous areolar tissue, is the seat of the disease, the hypertrophy forms a distinct circumscribed raised tumour; the disease is more limited, and it is more vascular. It was described by Alibert as cancroide. It is not cancerous; it is rare; does not ulcerate; does not implicate the glands; and is not destructive to life. The name keloid was given to it from the resemblance of offshoots to the claws of a crab. It is characterized by the occurrence at first of flattened swellings, generally oval in shape, palish, or deep rose in colour, and shining; the central parts generally become depressed, and processes (claw-like) run away from the edge of the patch into the surrounding part. Sometimes at other parts small, flat, pale, red, or sand-coloured elevations, the size of split-peas, or a small nut, make their appearance. It is usual to describe two forms—the keloid of cicatrices, or false keloid, developed in old scars, burns, wounds, &c., and the true keloid, or kelis, a form of disease which is primary, and very frequently possesses many distinct localities of disease (it is described above). It is often seen on the chest. The false or spurious keloid—viz., that which follows scars—ex., those of burns, scalds, rupia, boils, or even the use of acids, is the commoner variety.

The keloid of cicatrices usually begins as "very hard, small, shining, tubercular-looking elevations, of a roundish or oval shape, somewhat firmly set, of a dusky or deep red colour, and generally attended with itching and pricking, shooting or dragging pain in the part," which is the seat of a scar. These tubercles increase in size and grow pale, flatten out and become depressed in their centre, which is marked by white traversing lines or bands, and a few straggling vessels. The increase takes place by means of offshooting lines, which run

away from the edge of the tumour, claw-like processes; they are ½ to 1 line broad by 1¼ to 1 inch long; the growth is slow, and may affect the whole area of the burn or scald, the site of which, in fact, becomes hard, leathery, and raised.

Dr. Longmore describes it thus, in a case which occurred after flogging:—A small round tubercle, which became a flat mass nearly as large as a man's hand, without pain; there was some irritability, and it was tender where pressed upon by the cross-belt and the weight of the knapsack: on the front of the chest several small tumours, evidently of the same nature, were observed. So that we get in this form a result which is admirably described in a case of keloid following a burn, under Mr. Curling's care, as follows:—"The whole has assumed a keloid state; it is thick, bossy, indurated, looking remarkably as if very luxuriant and elevated granulations had healed over, and then, instead of shrinking, had undergone consolidation and some increase." As Mr. Wilson has it, "false kelis appears to be the joint result of hypertrophy, condensation, and concentration of the white fibrous tissue of the skin, and by a special power of contraction would seem to draw the rest of the cicatrix to itself, and produce a puckering of the adjacent surface." In fact, the keloid of cicatrices is but the hypertrophied fibrous tissue of the scar.

Morbid Anatomy.—Keloid is merely hypertrophy of the white fibrous tissue of corium. The growth is made up of closely-packed fibres with many nuclei, but few vessels. The fibres of the areolar tissue do not "constitute curly bundles but thick trunks, the firmly compressed fibres of which run at first in an almost straight direction, gradually separate from one another, and finally fall into several distinct bundles, which vibrating in curls, after repeated subdivisions, are at last in nothing distinguishable from normal areolar tissue:" the trunks are closely compressed and

interlace. "The tumour is supposed to be formed by a few vessels passing through a capsule of areolar tissue, supplying the plasma from which the fibres are developed." (Dr. Benjamin.)

Diagnosis.—The elevated tuberculous tumour, with the claw-like processes, the puckered state of the skin, the absence of ill-health, of glandular enlargement and ulceration, are diagnostic. The false keloid of cicatrices and true keloid, or kelis, only differ in the fact that one is idiopathic and the other secondary to cicatrization following lesions of the skin. Some observers have noticed yellowish points at the apices of the tubercles—a commencing fatty change.

The *Treatment* of keloid consists in improving the general health, and then a course of liquor potassæ, or the iodide of ammonium or arsenic. Locally, the use of steady and continued pressure, iodine frictions, the passage of electric currents through the tumour, and iodide of lead ointment. It is useless to remove the tumour by caustics or the knife; the less interference the better.

BUCNEMIA TROPICA.

Elephantiasis, as I have before noted, in its widest signification, includes two very different diseases; the one E. Arabum or Arabica, or Barbadoes leg, properly Bucnemia tropica; the other, E. Græcorum, the true tubercular and anæsthetic leprosy. The former (bucnemia) is essentially a hypertrophy of the cellular structures: it attacks the lower limb particularly, and is said to have no relation to true leprosy.

Bucnemia tropica, Spargosis, or *Barbadoes leg,* probably sporadic everywhere, as its name expresses, is common at Barbadoes; and especially in Cochin China, West Indies, Egypt, Malabar, some parts of South America, Abyssinia, and the Polynesian Islands. The disease usually attacks the legs, and is mostly confined

to one; but it may affect the face, neck, belly, breast, pudendum, the arms, and scrotum—in Egypt it is called sarcocele. It lasts a variable time, possibly a lifetime; attacks all classes, and is non-contagious. It is marked, when fully developed, by three features:—(1) Hypertrophic growth of the cellular tissue; (2) alteration in the aspect of the skin; (3) more or less deformity. And these are brought about as the result of intermitting and repeated attacks of inflammation of the lymphatics. In well-marked cases the disease is ushered in by distinct febrile symptoms, vomiting and headache at times, and locally, redness, pain, and tension over the course of the lymphatics, which presently feel knotty and corded; the glands are swollen and tender. The constitutional symptoms soon vanish—in a few days; but the limb does not resume its natural size; the glands especially remain enlarged. A repetition of fever occurs at uncertain intervals, and after each attack the enlargement is permanently greater; and it has been ascertained, from careful observation, that the size of the affected part bears a direct relation to the frequency of the acute attacks of fever and local inflammation. The pain, in the first febrile attack severe, is slight in subsequent ones. During the progress of the disease, deposit and thickening have been going on in the skin and subcutaneous tissue—hence the sensibility of the part is somewhat lowered; but, unlike that, in the true form of elephantiasis, is never annihilated, nor, indeed, *seriously* lessened. The swelling in the disease may be pretty uniform or partial; sometimes it is enormous, as when the disease attacks the scrotum, then it has been known to produce a pendulous tumour of sixty pounds weight. The skin undergoes distinct change; it is tawny, hard, dark, livid, thickened; often scaly and fissured or greyish; presenting warty projections, especially about the joints; the veins are varicose, the surface then closely resembles the skin of an elephant. The subsequent

changes are ulceration, with sprouting granulations (fungous), suppuration, and foul discharge. The glands participate in this action. The disease may carry off the patient by hectic. Frequently its progress becomes stationary, and the patient gets about as best he can with his unsightly deformity. The palms of the hands and the soles of the feet generally escape. In this country a similar condition follows chronic ulcers of the leg; the limb enlarges, and its fibrous element hypertrophies so that it is nearly twice its usual size. The average size of 340 cases, round the ankle, Mr. Waring found $11\frac{7}{2}$ inches. Here are the particulars of a scrotal tumour removed successfully by Dr. Thebaud. It reached to within five inches of the ground; it was 28 inches long, 20 inches in its bilateral diameter, its widest circumference 48 inches; and it weighed $63\frac{1}{2}$ lb. when removed, and the opening of the penis was 18 inches from the surface.

The *Pathology* of the disease appears to be well made out. It is, as shown by actual observation, a hypertrophy of the derma and subcutaneous tissue, with the effusion of a blastema, of homogeneous aspect, mixed up with a large number of molecules, granules, free nuclei, and nucleated cells. The epidermis is more or less affected—thickened; but this varies in many cases. The cutis is thickened, the papillæ are distinct and prominent, the subcutaneous cellular tissue (areolar, fatty, and elastic elements) is present in excess, and infiltrated by the blastema just spoken of. The veins are distended, the lymphatics obliterated; the muscles often pale and fatty. The internal organs also are frequently in a state of fatty degeneration. The blastema, when first effused, is slightly milky, and contains albumen, some fibrine, &c. The primary seat of the disease is the blood; *locally* the lymphatics are primarily affected.

Causes.—The disease is not hereditary, and not contagious. It attacks males more than females; accord-

ing to Mr. Waring's observations 75 per cent. of cases were males and 25 females. It is most frequent between the ages of twenty-five and fifty. Of 945 cases collected by Mr. Waring, 729 occurred in people whose ages ranged between twenty-six and sixty; 139 between five and twenty-five; and 77 after the age of sixty. In 5·65 per cent. true leprosy is conjoined.

The date of its first appearance is noted also: existing since childhood in 16 cases; appearing before the fifth year, 7 cases; between six and ten, 33 cases; between eleven and fifteen, 111 cases; between sixteen and twenty, 222 cases. As to the part affected, it was the right leg alone, or with other parts, in 307 cases, or 32 per cent.; the leg alone, or with other parts, in 287, or 30 per cent.; both limbs, &c., 344, or 36 per cent.; other parts alone in seven cases; the upper limb in four cases. This agrees with Mr. Day's researches in Cochin China. He found that the disease attacked the lower limb in 93 per cent. In 224 out of 226 cases, in which the point was examined, Mr. Waring found the febrile attack *primary*. Europeans are less liable than natives to be affected. Among the causes, hot climate and malarial emanations are supposed to have some influence. Mr. Waring thinks that the character of the water used by the inhabitants has much to do with the disease: "the sea-water, penetrating through the porous sand, renders the water saltish and brackish, and as the generality of these pools are surrounded by trees, it in addition soon becomes loaded with dead vegetable matter, which undergoing decomposition, renders the water dark (almost black) and highly offensive to the taste and smell, which even boiling and filtering fail to deprive of its unwholesomeness."

Prognosis.—The disease is chronic. Mr. Waring found, in 218 cases, the duration of the disease range between twenty-six and fifty-five years. If the disease is rapid,

the febrile paroxysms severe and quickly recurrent, if there be much suppuration, and the general health be indifferent or bad, the prognosis is grave.

Treatment.—In the acute state, venesection, leeches to the lymphatic vessels, fomentations, rest, position, cold lotions. Internally, salines, mercurials. In the chronic state, friction, pressure (continuous), bandaging, blistering; and, internally, iodide of potassium, liquor potassæ, bromide of potassium: and, as a last resort, ligature of the main artery running to the limb or tumour; pressure; and rest. Mr. Waring recommends quinine. Dr. Vanzetti has successfully employed compression of the arterial trunk supplying the affected part. Dr. Buchanan explains the action of this procedure thus:—Tying the main artery does not reduce the size of a normal leg, but does that of an elephantiasic one, because the organs of absorption act differently upon normal and abnormal tissues. The activity of absorption, as a general rule, is in inverse ratio of that of circulation. When the force of circulation is weakened, the process of absorption is unusually energetic. This applies particularly to non-malignant deposits; and absorption being once started will often go on of itself. Thus, when a blister starts the absorption of an old effusion, that absorption will sometimes continue on unaided, and this is why in elephantiasis, after the operation, collateral circulation being soon established, absorption of the morbid material goes on.

FIBROMA (MOLLUSCUM SIMPLEX).

As in keloid we saw that as compared with scleroderma, there was a tendency to greater prominence of tumour and less condensation, so in fibroma another stage is reached, for the outgrowth of fibrous tissue is freer, and there is little condensation. This form of cutaneous hypertrophy has generally been classed with sebaceous disease, but wrongly so, it is

not due to dilatation of a sebaceous gland, but is simply an hypertrophic growth of fibrous tissue, which becomes more or less pedunculated—it is in fact a polypus of the skin. In the early stage there is a softish tubercle of the same colour and consistence as the natural skin; it may be sessile, but soon gets pedunculated, and then gradually increases in size until it may at last assume the bulk of an orange. There may be one or several tumours. Professor Ebert records the case of a man in whom there were 107. I saw a case of Hebra's, at Vienna, in which the whole body was covered by these tumours (of all sizes), one was nearly as large as a fist. The tumours are seen especially on the neck and chest, more uncommonly on the legs. The disease occurs in elderly people, and is not attended with any special danger. When small the tumours resemble warts.

Pathology.—Dr. Beale, some twelve or thirteen years since, gave a description of one of these small tumours, and nothing could indicate more clearly the nature of the disease—viz., an hypertrophic growth of the fibro-cellular element of the skin. He found that the gland-ducts could be traced independently of the tumour, being, however, often pushed aside or otherwise interfered with. A section of the tumour exhibited spaces left by the separation of fibres, and these were filled with cells. Dr. Beale concludes, that neither the sebaceous nor sweat glands, nor their ducts, were concerned in the formation of the tumours;—that the disease is really a morbid alteration of the structures concerned in the formation of the hair, particularly the deep cells of the follicle. Dr. Beale also noticed that the subcutaneous areolar tissue was hypertrophied. I should add that the hair-follicles and hair are only altered by the pressure of the tumour.

The main characteristics, as compared with keloid and scleroderma, are, the free outgrowths and the absence of any condensation—the new tissue is lax and open.

The *Diagnosis* must be made from sebaceous cysts especially: in a cyst the origin from a fat gland: the central aperture or entrance to it, and the fatty contents which can be squeezed out, determine the nature of the disease.

The *Treatment* is simple: when small remove. In elderly men they are sometimes small, flat, and numerous, especially about the back, over the shoulders, and on the chest. I have never had the least trouble in getting rid of them all by the use of acid nitrate of mercury caustic to the smaller, and the joint use of that remedy and the ligature to the larger ones. I generally, after applying the acid, give an oxide of zinc paste to be used, to prevent too much irritation.

There is yet another form of fibrous hypertrophy, in which greater laxity of tissue is observed. It is called—

DERMATOLYSIS.

In this affection the skin hangs in loose folds. Its fibro-cellular element is greatly increased. The affection really includes all pendulous conditions, from obesity, parturition, the state of skin in lax and enlarged mammæ and the like.

Valentine Mott has called it pachydermatocele. In the uncomplicated form of disease, the hypertrophic growth arranges itself in layers like the folds of a tippet; there is little vascularity; the sensibility of the part is diminished. Five chief seats of disease are mentioned by Alibert, the eyebrows, the face, the neck, the abdomen, and the labia. Mr. Furneaux Jordan has described what appears to be the same disease, occurring in a collar-like mass around the ankle. I saw at the Orthopædic Hospital, some few years since, under the care of Mr. Adams, an instance of this disease affecting the whole leg, and associated with pendulous folds, lax and soft, on different parts of the body.

GENERAL REMARKS ON THE GROUP.

Now the six diseases that I have placed together in this section of the work, are specially characterized by hypertrophy of the fibrous element of the skin; in morphœa there is no elevation, but condensation is specially marked, and the whole derma, and probably the cellular tissues are affected. In scleroderma, the corium and the cellular tissue beneath are affected, whilst the papillary layer remains apparently uninvolved: there is still condensation but more prominence. In keloid the corium is specially affected; there is less condensation, and the papillary layer of the derma is more or less involved, whilst in dermatolysis we have still less condensation and more prominence. The essential nature of the change appears to be the same in each case: the quantity of lymph and its contractile quality varying much.

But what I wish to insist upon is this: that microscopic examination (especially that made by Rasmussen) has shown that the changes in parts other than the fibro-cellular element and the lymphatic system are secondary. For some time the blood-vessels, nerves, and glands are unaltered, and they are only changed by the accumulation and pressure of the foreign deposit. The disease does not commence in them; but then comes the question what is the origin of the change in the fibrous tissue? Does it originate in it? and what is its connexion with disorder in the lymphatic system? Some few years since I attempted to prove, and the papers are published in the "Obstetrical Transactions," that the fibrous deposit observed in phlegmasia dolens is connected with disorder of the lymphatic system, as contrasted with the œdema that arises from venous obstruction simply, and I argued that the lymphatics were specially concerned in the nutrition of the cellular tissue; that there was

a constant flow of lymph from the arterial capillaries to the cellular tissue, to meet any unusual reparative demands (the cellular tissue being the material for the repair of wounds), that the lymphatics seem to regulate the supply, and remove all that is not required; lymphatic obstruction, therefore, means hypertrophy of the fibro-cellular tissue (if suppuration do not occur). To that opinion I hold: the history of bucnemia tropica (which lymphatic inflammation is the first and necessary stage), and the researches of Förster and Rasmussen (showing in scleroderma, alterations in the lymphatics) clearly point in the same direction, and I am convinced that we shall some day connect these hypertrophies of the dermal tissue with some disorder of the lymphatic vessels. In fact, Rasmussen notices that an erysipelatous attack precedes scleroderma. It is thought that the changes in the skin in morphœa, scleroderma, and the like, are the result of primary disorder of the nerves; but I think in that case we should have more evidence of disordered sensation as an antecedent, and more atrophy; and, moreover, we should not have hypertrophy. That is my difficulty in allowing that the mischief is in the nerves primarily; as it is, the anæsthesia or perverted sensation is a late feature, and follows the deposit in the skin. Upon the supposition that the lymphatics are mainly concerned in the regulation of the nutrition of cellular tissue it is easy to see that keloid may very likely arise in cicatrices, the material of which is cellular tissue. However, I am quite convinced of one thing, that lymphatic obstruction means the collection of a large amount of fibrinous lymph in the meshes of the cellular tissue (supplied by the blocked-up vessels), which may be utilized to form the proper fibrous tissue. We see this on a small scale, as the result of the obstruction to the lymphatic circulation that occurs, in cancer. This same theory of the office of the lymphatics accounts for the similarity that exists between the skin changes in bucnemia,

morphœa, scleroderma, and keloid. Some authorities believe that elephantiasis Græcorum is an ally. As a result of those special conditions that generate elephantiasis, deposit may take place in the whole skin, which hypertrophies; the deposit is found around the nerves and the vessels, and morphœa results; atrophy and anæsthesia do not result till the vessels and nerves are seriously involved.

The primary change is in the areolar tissue, rather than the nerves. It will be recollected that Dr. Carter has pointed out that the site at which the nerve-trunks are specially affected is the spot where they perforate the fascia. On the whole, then, we must agree that an examination of the pathologies of elephantiasis, scleroderma, keloid, morphœa, show a close similarity in the seat and character of the changes in the skin, tend to prove that the lymphatics in each case are specially concerned, and that the material of infiltration by its presence and pressure produces anæsthesia, serious disturbances of the nerves (marked in elephantiasis because of the degree of disease), and more or less obliteration of the vessels and ducts. Whether the material deposited is the same in kind in all cases cannot be fairly decided at present.

As I have said, I feel sure some of the diseases, which I have described under this head, will come to be regarded as in great measure diseases of the lymphatic system. I regret that we are so much in the habit of ignoring the influence of the lymphatics in the production of disease.

DISORDERS OF THE VESSELS, OR VASCULAR AFFECTIONS.

This group includes those diseases of the skin which are called nævi, and also varicose veins. A nævus is simply a hypertrophied state of the vessels of the skin, occupying a greater or less extent of surface, from a pin-point to a whole region, or almost limb. They may be *congenital* or *acquired*. When the venous

tissue predominates they are called *venous*, and when the arterial capillaries are most concerned, *arterial* nævi; the colour is brighter in the latter case. In both classes the depth of surface affected varies. When it is superficial and slightly raised, and the venous radicles are affected, we have the port-wine mark or claret stain. Nævi are oftentimes associated with pigment deposit in them, and may be covered with hair. Some undergo little change; some steadily increase by the hypertrophy of old, or the development of new tissue; the latter assume the aspect of what are called erectile tumours. Microscopic examination shows that the coats, calibre, and radicles of the vessels are all hypertrophied and enlarged. Nævus araneus is the name given to a small nævus of accidental origin, in which there is a central prominent red spot—an aneurismal dilatation of an arterial loop—with veins radiating therefrom.

Hypertrophy of the veins proper is frequently seen, and may be caused by obstruction to the onward flow of blood, or a natural want of tone in the vessels. It occurs about the nose very frequently, and in the veins of the leg, as varicose veins.

Treatment.—If small, nævi may be destroyed by caustic. If they show a tendency to enlarge, nitric acid should be applied to the extending edge, and the patch destroyed by degrees. In some instances excision is the most easy and rapid mode of cure. When the nævus is extensive and venous, we may pass threads through various parts of the mass, leave them for twenty-four or forty-eight hours, till some slight irritation is set up; then remove them, so that the growth may be obliterated by inflammation. Or we may inject perchloride of iron; but the silk-thread treatment is much the best. Hence nitric acid, excision, and the use of silk sutures are the chief means of cure. So-called pigmentary nævi are rightly described under the head of Maculæ.

It should not be forgotten that purpura has been shown to be probably connected with special morbid changes in the capillary bloodvessels; this is referred to under the head of Purpura.

Under this head may be noticed another mixed form of tumour, to which the name of nævoid lipoma is given. Mr. Erichsen has described it as follows:—"It is a tumour in which the nævoid structure is conjoined with or deposited in a cellulo-adipose mass. This disease is invariably seated upon the nates, back, or thigh. It occurs as a smooth, doughy, indolent tumour, incompressible; not varying in size or shape; without thrill or pulsation of any kind, possibly having a few veins ramifying over its surface, but no distinct vascular appearance. It is usually congenital, or has been noticed in early life." After removal, it is found to be composed "of a cellulo-adipose base, having a large number of veins ramifying through it, so as to constitute a distinct vascular element communicating with small cysts containing a bloody fluid."

DEVELOPMENTAL DISEASES—VIZ., XERODERMA AND ICHTHYOSIS.

I thought it unnecessary to make a separate group of the two forms of the same disease—xeroderma and ichthyosis—the main feature of which in each case is the free formation and accumulation of epithelial scales, intermingled with more or less fatty matter, and forming branny scales or hard, horny, platy masses. It has been usual to describe a true and false ichthyosis according as the scaliness was made up of epithelial cells mainly, or associated with fatty matter in large amount. I quite agree with Mr. Hutchinson that the distinction is less real than is generally supposed—the difference is one of degree not kind. Now ichthyosis as a primary form of disease, is not inflammatory, but often hereditary, and mostly congenital. In it the perspira-

tory function is arrested, the whole tone of the skin is lowered, and, as before observed, the epithelial cells are not properly though freely formed, and together with the fatty matter of the glands collect into plates or masses. The dry state of skin is remarkable. A caking on the surface may result from sebaceous flux, and this will be described under the head of glandular diseases; it is different from ichthyosis, a congenital disease associated with a generally disordered state of skin, which is not present in sebaceous flux. The least expressed form of the disease is called:—

XERODERMA (DRY SKIN).

In this variety of disease the surface is peculiarly dry, harsh, ill-nourished, and wrinkled, instead of being soft, elastic, and smooth. It seems as if the skin had not been developed so as to keep pace with the growth of other parts. There is less subcutaneous fat than usual, and therefore the natural lines and furrows are mapped out very distinctly. The skin looks dirty, the nails are ill-formed, but, more than this, the surface is covered by thin cuticular scales or plates, free and loose at their circumference, but attached in their centre. The aspect of the scaliness varies somewhat, it is mostly furfuraceous on the head, in plates on the face, farinaceous about the eyelids, the neck, and the trunk, where it is also scaly. When the scaly condition is well-marked, the variety is termed *ichthyosis squamosa, or simplex.* Now the whole skin is involved in this want of development. The glands, therefore, do not secrete properly —the perspiratory, hence the dryness; the sebaceous, hence the collection of altered sebaceous matter with the epithelial scales into large plates or horny masses. The disease when marked constitutes:—

ICHTHYOSIS.

But it will be understood that xeroderma and ichthyosis are degrees of one and the same thing, only in

the former there is chiefly epithelial squamation and less fatty matter secreted; in the latter the sebaceous secretion does not pass away insensibly as usual, but gets incorporated with the epithelial cells into plates, which are hard, dry, and dark-coloured, and vary very considerably in thickness. I have lately had two patients in whom the xerodermal form co-existed with the horny variety of ichthyosis.

Now, ichthyosis may be divided into I. squamosa, I. spinosa, I. cornea, or hystrix. These terms sufficiently explain themselves. The disease may be in large plates, or in spines (porcupine disease), or in extensive patches, dark or black, having the aspect of the bark of a tree. The masses can be picked off, and the skin beneath looks dry and shrivelled, in some cases the openings of the sebaceous follicles are seen to be somewhat dilated, and on the under surface of the detached plate are seen little plugs which have fitted into the ducts of the sebaceous follicles. In other cases, about the ankle, &c., the papillæ of the skin may be considerably hypertrophied. Patients affected by any form of ichthyosis are somewhat thin perhaps, they feel the cold weather terribly, and when this is severe or windy the skin becomes irritable, tender, and often cracks. The parts especially affected are the knees, elbows, and those about the ankles, the wrists, and the axillæ. But the degree of surface over which the disease is marked varies, it may be pretty general or local, but however extensive it is, the skin generally is dry, harsh, mapped into small spaces, and scaly. When the disease is localized, the legs, ankles, and forearms, and parts about the elbows, are specially the seat of the horniness.

Etiology.—Ichthyosis and xeroderma are often congenital, at all events develop very soon after birth. Ichthyosis is frequently hereditary, and affects the same sex through different generations.

Pathology.—The scales are made up of epithelial cells, intermingled with a varying amount of fatty

matter, with or without hypertrophy of the papillæ of the skin. It is the general want of development and arrest of nutrition of the skin, which makes the disease a separate and distinct disease, as contrasted with pityriasis and the like.

Treatment.—I have been pretty successful in getting patients into a continuously comfortable condition. In the first place I am careful to see that patients are cleanly, that they are well fed and clothed. I then give cod-liver oil, and such remedies as quinine. I don't exhibit arsenic. Local remedies are the most important. In xeroderma, any plan which systematically keeps the surface greased and slightly stimulated will benefit. It is immaterial what grease is used, elder-flower ointment is as good as any. In the horny forms of disease, a clean surface may be very readily obtained by careful soaking with glycerine, by poulticing, or fomenting. The best plan is to use an alkaline bath, or, if the disease be too extensive, a warm alkaline (potash ℥ss to ℥viij) lotion, to soften up the masses. After these are removed in part by picking them away, the whole surface can be greased, and an alkaline bath used twice a week, ℥iv to ℥vj of carbonate of soda and bran, to the usual quantity of water. In this way the disease may be controlled so as to prevent it being not only a disfigurement but a discomfort, save with occasional attention in winter.

SPURIOUS ICHTHYOSIS.

I had better repeat that the spurious ichthyosis is that form of disease in which the amount of fatty matter is large as compared with the epithelial.

CHAPTER XVIII.

PARASITIC DISEASES.

These are such as are necessarily connected with the development and growth of parasites, and they may be divided into two classes:—

A. *Dermatozoic*, or those produced by, or associated with, the presence of animal parasites.

B. *Dermatophytic*, or those in which vegetable parasites are concerned.

I do not now refer to disease connected with parasites found in the *interior*, but only the *exterior* of the body.

We are ignorant of the exact kinds of soil which are favourable to the growth of parasites. The attacked surfaces are certainly not those furnished by healthy people. In animal parasitic diseases uncleanliness plays an active part. Vegetable parasitic diseases occur in "lymphatic" subjects.

The parasitic animal or vegetable having found a congenial soil, produces certain results, which are diagnostic. Independently of this, in all instances the parasites act as local irritants in common with a host of other things.

Parasitic disease is really composed of three conditions:—

a. A suitable soil.

b. The parasite.

c. Certain lesions produced by the parasite (whatever it may be which is present) which are characteristic, as the acarian furrow in itch, or the brittleness and dryness of the hairs in ringworm.

In addition there may be secondary or accidental features, such as ecthymatous spots in scabies, chronic lichen sometimes following an attack of itch, suppuration of the sebaceous glands in ringworm, &c.

The characteristic lesions of course will be fully detailed in the description about to be given of the various forms of parasitic disease.

A. The Dermatozoic, Ectozoic, or Animal Parasitic Diseases.

These are as follows:—Scabies or itch: trichinosis (? disease of the skin): phtheiriasis, morbus pedicularis or pedicular disease: those associated with, the development of "bots," the chigoe, the dracunculus, the leptus, the flea, the bug, various gnats, and lastly the steatozoon folliculorum. The latter parasite is referred to under the head of acne.

Some of these require but little notice. The flea (*Pulex irritans*) makes its bite and produces a little circular erythematous spot, with a dark speck in the centre, marking the wound made by the insect: the irritation may extend, but generally quickly subsides, leaving a little dark ecchymosed point smaller than a pin's head behind. The bug (*Cimex lectularius* or Acanthia lectularia) produces a rather more marked condition of things; there is a good deal of swelling, a little infiltration of the subcutaneous cellular tissue, in consequence of which the part or spot feels tumid, hot, and tender: little "bumps" of this kind are noticed oftentimes all over the body. The central point is not dark but light, and exhibits the bite of the insect. It cannot well become the subject of mistake. The best treatment is the application of a little spirit lotion. A form of urticaria may be caused by the impaction upon the surface of the little hairs of some of the larvæ. The attacks of the leptus autumnalis, or harvest bug, are well known as producing erythema and papulation.

Sometimes the skin, especially in the South Americans, is the seat of the development of the œstrus, the "bots," or "gadfly," as it has been variously termed. The larvæ burrow under the skin, giving rise to "circumscribed furunculoid tumours," the size of a nutmeg, which appear to give exit by a small aperture to a sanious discharge. Presently these open and leave ulcers behind. The insect is called the musquito-worm: it bears close resemblance to the œstrus bovis. In a case reported by Dr. Duncan, there was "a little lump at the back of the neck, which slowly changed its position in various directions; then a hole opened over it, and a worm was squeezed out." Two or three similar occurrences took place. It appears that the patient (a girl) had herded some cows in Perthshire. The larvæ were those of œstrus bovis. Dr. Spence has seen people in Shetland attacked by the same thing. "The larvæ occur in exposed parts of the body, and in those who are loosely dressed." The disease is essentially characterized by the presence of little painful lumps, which shift about: a little red ecchymotic line marking the track of the insect. The parasite is the œstrus bovis, order Diptera.

The chigoe (*Pulex* or *Sarcopsylla penetrans*), or chiggre, is a common cause of disease in the West Indies. The chigoe attacks the feet and hands, entering the skin beneath the nails or betwixt the toes, either by a channel made for itself, or by the ducts of the skin: it takes an oblique direction under the epidermis, and its tract is said to be traced as an "elongated brown spot." As the insect gets deeper, this goes. "The hands and feet of the parasite then become hidden beneath its own stomach, which enlarges rapidly, the upper part alone of the insect being perceptible through the epidermis, under the form of a milk-white spot. This spot enlarges considerably daily, until it looks like a large freckle, insensibly

meanwhile changing its milk-white colour to a pearly grey. By the time the animal is ready to deposit its eggs, it has become, says Dr. Guyon, *literally all stomach*, and this period may be known by the ashy-grey colour of the eggs, which are visible through their transparent envelope. The eggs now come forth one by one with astonishing rapidity, following each other through the layer of the epidermis, which re-opens for them the passage previously made by the entrance of the parasite. The departure of the eggs brings to a termination the existence of the insect. It then perishes, attached entire, head, feet, and stomach, to the epiderm which had enveloped it, and with which it is carried finally from the individual in whom it had fixed itself. The best time for extracting the insect is just before the emission of the eggs; if they are left to be hatched beneath the skin, great irritation and painful sores are sure to result." Some curious facts have been further noticed. In some cases of elephantiasis (? which) certain little openings are seen in the skin, and it is said that from thence chigoes make their exit. When the insect reaches the dermis with his proboscis, "it establishes between it and the dermis an intimate circulation, which is demonstrated by the movements of the systole and diastole of the heart of the subject being seen in the whole parasitical body, and by the vascular connexion which is wonderfully perceptible as the vessels are becoming distributed for the nourishment of the eggs." The vascular supply springs from one main trunk, and vessels run off from this; the main supply terminates in the end of the head or sucker, and, curiously enough, the movements exhibited by it are synchronous with those of the heart of whatever animal the chigoe fastens upon. The treatment consists in dilating the original channel of entrance, and carefully removing the chigoe bodily.

THE GUINEA-WORM DISEASE.

This affection is due to the presence and growth subcutaneously of the Dracunculus, or Filaria Medinensis, and is found only in certain tropical parts, chiefly of Asia and Africa; it does not acclimatize itself to cold climates. The chief places where it is found are Senegal, Gaboon, the East Indies, Bombay, Persia, Arabia Petræa, the shores of the Ganges, Upper Egypt, Nubia (especially about Sennaar, Kordofan, Darfur), and Guinea and the Gold Coast. It has also found its way to Grenada and the Island of Curaçoa. It has been met with not only in man, but the dog and the horse. It is much more prevalent at some times than others, especially in wet and rainy seasons, and after inundations, when it gives rise to epidemic disease.

[According to recent observations, it is rendered probable that some of the microscopic filaridæ or tank-worms, as Dr. Carter styles them, gain an access to the skin, and there develop into the Filaria Medinensis. These worms are found in stagnant waters of pools and swamps, where the disease is endemic. At the time of entry into the body, their size is about $\frac{1}{3300}$ of an inch. The bare-footed natives are mostly attacked, and in above four-fifths of all instances the full evidence of the affection shows itself in the legs below the knees. These worms possess a greater or less degree of boring property. After the first entry into the skin, a "latent period," as it is termed, of from six to fourteen months is passed before any perceptible result takes place. The head begins to make its way to the surface, and local irritation is set up, and an abscess threatens; this presently forms, opens, and part of the worm protrudes; the worm is solitary in the sac, though there may be several abscesses or foci of disease. The worm can be drawn out a little way. Its average length is eighteen inches;

it may be much longer—three or four feet in the African species. It is milk-white, cylindrical, slightly flattened laterally, and tapers towards either end. It is about $\frac{1}{10}$th or $\frac{1}{15}$th of an inch in thickness.]

The mode of attack.—When the worm is very minute it finds its way to some part of the surface, generally the bare feet, and "bores" its way deeply into the skin, where it takes up its abode. It grows in six months or so in a perfectly quiescent state, as far as the patient is concerned, till it reaches a length of from six inches to two feet or more, half or two-thirds of a line in thickness, and looks like a bit of whipcord, pointed at either end. When it reaches a largish size, the worm begins to find its way to the surface. A boil appears, this breaks, and the worm protrudes, a good deal of irritation of the general system follows, and the sufferer is disabled for a while. The worms have the power of travelling from place to place over the body. It is generally felt under the skin as a "cord."

The particular part of the body attacked.—In the vast majority of cases the lower extremities are the seat of guinea-worm disease. About 1000 cases have been collected together by a writer from the Indian journals, and in more than 98 per cent. the worm was found in some part of the lower extremities, and in the largest proportion about the feet and the ankles. Kuchenmeister quotes 172 cases of Mr. M'Gregor, and in 124 of these the feet, 33 the lower part, and 11 times the upper part of the thigh, and twice the hands were affected; exceptional conditions are readily explained either by the migration of the worms or other circumstances. The water-carriers, or Bheestees, in India, who carry a "mushuk" or leathern bag suspended from the shoulders, according to Ninian Bruce, are most subject to the guinea-worm in those parts which come in contact with the mushuk. This is presumptive evidence of the strongest kind that the worm is

derived from without, and that it takes up its abode first of all in those parts which come in contact with the ground, or with articles that have been in contact with the ground. Of 300 cases noted by Dr. Horton, in 206 the disease was in the feet.

The immediate cause.—Much difference of opinion has been held in regard to the true cause of guinea-worm disease. Two things are now-a-days accused of the mischief—1. The soil and the pools, and 2. The drinking water of the localities where the disease is found. If the drinking water had any influence the worms should be found in the stomach and adjoining parts, and generally distributed over the body; besides, the disease occurs in persons who drink water of the very best kind, and in those who never take it at all. Küchenmeister relates the case of a friend "of Jacquin who when in Curaçoa, did not drink a drop of water, which, as a lover of spirituous liquors, was not very hard upon him; but he was attacked by the worm, whilst Jacquin, who drank much water, remained free from it. A Dutch general in Angola ate and drank nothing but food and beverages brought with him from Europe, and yet he acquired the worm."

There seems little reason to doubt that the worm finds its way almost invariably—practically always—direct from the ground to any unprotected part which is brought in contact with it, and, in virtue of its boring properties, it effects an entrance. The leg is the part usually unprotected and exposed, and the frequency with which it is affected points to this view as the correct one. Then, where are the worms originally found? They would seem chiefly to abound in stagnant pools and swampy places, for there is a large amount of evidence to show that bathing in ponds and pools where tank-worms and creatures of a similar kind exist is followed by the development of guinea-worm disease. Dr. Carter has given valuable evidence on

this point, and Dr. Balfour, in his health report of the Secunderabad troops. In a very philosophical account of the Structure of Guinea Worms by Dr. Bastion, a case is related which illustrates the way in which the disease is contracted. A surgeon who had been many years in Bombay, and who had drank freely of the waters of the wells without ill, says :—"At last, however, I one day discovered that I had what at first appeared to be varicose veins, but which in a day or two I found to be guinea-worms in my legs. At first I was at a loss to account for the presence of a guinea-worm in my body, till I remembered that one day whilst out shooting one of my boots burst, and being too impatient to wait till another pair was brought, I took off my boots and stockings and went on shooting barefooted over a piece of swampy stubble ; and I believe that the worms entered my feet on this occasion." The entrance of the worm to the backs of water carriers is explained in a similar way. But though the germs of the worms exist in stagnant pools and ponds, there is abundant evidence to show that the worms may be got from damp and swampy places ; so that sleeping on the ground bare-skinned would suffice for the purpose. It has been stated that Europeans are not subject to the attacks of the dracunculus. This is altogether a mistake. The immunity of Europeans is to be ascribed to the fact of their feet and legs being protected by proper coverings. It is the experience of those who have seen much of the disease that where Europeans adopt the habits of natives and go shoeless, they are equally liable to be infested by the dracunculus.

Treatment.—When the worm has lodged itself in the body for several months, as before stated, it makes its way to the surface, and should then be seized and traction gently made ; as much as will come forth readily is bound round a stick, or a piece of card, and fastened over the wound. This operation of "winding" the worm is repeated daily, and at the end of several

weeks the whole is removed, and the wound heals. If the worm be broken, and any portion be left, the seat of disease is attacked by severe inflammation. Dr. Horton states that the use of assafœtida at once determines the cure, it destroys the worm, and prevents inflammation and suppuration. In the case of the leg, amputation may be required to be performed to save life. The secondary results are, according to Dr. Horton, stiff joints, contractions of the muscles, talipes, swellings about the malleolus, mortification of toes, enlargement of the scrotum and testicles, enlargement of the breast, and bucnemia.

Dr. Horton has recently written an admirable essay on the subject containing his experience of the disease on the Gold Coast, and I heartily recommend it to my readers.

THE TRICHINA DISEASE.

This disease, which is attracting so much attention, I have no right to discuss here. I name it for completeness sake.

PEDICULAR DISEASE, MALIS PEDICULI (WILSON), OR PHTHEIRIASIS.

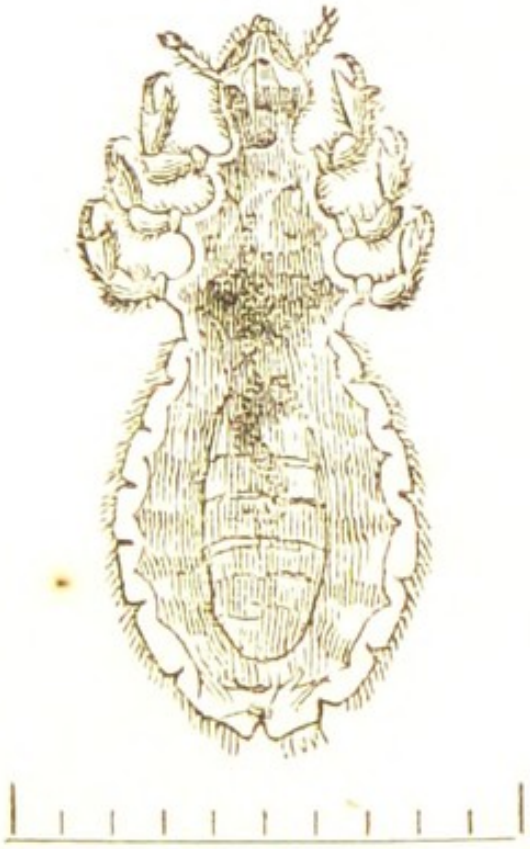
There are three species of pediculi or lice infesting the body,—the *P. capitis*, the *P. corporis vel vestimenti*, and the *P. pubis*, or head, body, and pubic louse. It is a disputed point whether they be the real cause of disease or only a complicating source of irritation. The pathognomonic evidence of the presence and attack upon the skin of pediculi is the louse bite—the flat and reddened papule with the central dark puncture or wound made by the insect. Whatever else occurs (excited, it may be, by the irritation set up, and the consequent scratching) depends in greatest measure upon the special nutritive condition and tendencies of the attacked in each particular case. In one instance

it will be prurigo, in another ecthyma, and in a third, urticaria; or an impetigo in the case of the scalp. Pediculi, beyond the production of louse bites, acts in a precisely similar manner to irritants in general; and the impetigo following or evoked by the presence of pediculi, depends upon the impetiginous tendency, just as much as the urticaria so produced is due really to a hypersensitive condition of the sympathetic nerves of the skin. Some additional remarks will be found under the head of prurigo.

Sometimes lice are produced in great numbers, and, it is said, subcutaneously. This is certainly incorrect.

The *P. corporis* is whitish, and gives rise to eruptions, already described. See fig. 3 (after Anderson).

Fig. 3.



100th parts of an inch.

Pediculus corporis (female).

The *Pediculus capitis* is seen mostly in children, and in association with impetigo. See fig. 4 (after Anderson).

The *P. pubis* grasps the hair, a little way from the surface, and gives rise to pruritus, erythema, and eczema. See fig. 5.

Fig. 4.

Pediculus capitis (female).

Fig. 5.

100th parts of an inch.

Pediculus pubis.

The *Treatment* consists in the use to the head of ammonio-chloride of mercury ointment; the same, indeed, to the body and pubes; or bichloride of mercury lotion, with baths, plenty of soap and water, and, if necessary, sulphur or cinnabar fumigation. I have not thought it necessary to enter more fully into details.

SCABIES, OR ITCH.

This is a most important disease to be well acquainted with. Its frequency is extreme, its features definite, and its facility of cure is certain. But mistakes are very frequently made in its diagnosis. Scabies is a contagious disease, depending essentially on the burrowing of the acarus scabiei: and the female is the burrower. In from ten to thirty minutes after being placed on the surface, she gets beneath the skin, and busies herself with the commencement of a canal, or cuniculus, as it is called, in which she lays her eggs, from about twenty-four (Hebra) to fifty (Gudden). She of course gradually enlarges her canal (which is

arched) until it reaches a quarter to four or five lines in length; it has been observed to be two or three inches long. It is curled or tortuous, and exhibits along its upper border little dark specks, which are regarded by some as "breathing-holes" (Gudden); but by others (Hardy and Bazin) as the excreta of the insect; and by Hebra as dirt. The mere appearance is very characteristic. Fig. 6 represents, after Beale, a portion

Fig. 6.

of one of the furrows with contained ova. The female may live three or four months (?), but the persistence of the disease scabies depends chiefly upon the continuous hatching of the deposited ova. These come to the surface as the epidermis is exfoliated, just about the time the young are ready to be hatched. The young female meets the male, becomes impregnated, and then burrows. The male acari do not burrow, but get under scales and crusts.

Having burrowed, the female ensconces herself at the end of the furrow, scooping out as it were a little circular bed, and we may oftentimes recognise the acarus (and its halting-place) as a minute white speck at the end of the furrow, the borders of its front or head part looking like a little dark curved line; if we open this minute speck, and insert our needle, the acarus will

cling and come away, adhering to it, on removal. This acarian furrow now described is the certain diagnostic mark of scabies.

The effect of the burrowing of the acarus, which is the essential cause of scabies, is to set up more or less local irritation according to the state of the patient's nutrition. On a healthy and clean skin no great amount of mischief follows; the acari, however, delight in dirt, and run riot as it were on unwholesome surfaces. In the first degree, there may be simply those conditions which only necessarily accompany and constitute the mere burrowing of the acarus. The patient complains of itching, having all the characters of that of scabies, but a diagnosis of *pruritus* is erroneously made; the little furrows are so delicate, and unaccompanied by redness, that they are overlooked. These cases are rare. The only way in which the papules can be fairly seen is by a side glance with the eye on the level of the skin; they are fine, delicate, slightly elevated, and transparent, and contain acari—the suspicious symptom is the itching at night.

Under ordinary circumstances the acarus sets up effusive inflammation, which may reach the stage of papulation, or vesiculation, or pustulation, the furrow running away as it were from the vesicles, which are peculiar in so far that they are isolated and acuminated.

The acari prefer the hands of adults and the thin skin between the fingers; that is where the disease is first seen, as solitary vesicles, many of which have the acarian furrow running away from them; then it travels to the front of the forearm, the belly, thighs, and especially the upper line of the penis. Intermingled with the vesicles are papules and often ecthymatous spots, produced as a consequence of the scratchings; linear abrasions and cicatrices are likewise formed.

In marked cases there is oftentimes a little line of scabious vesicles around the lower end of the ulna, at the wrist. In the female, vesicles are often seated

around the nipple. The eruption is noticed also about the seats of pressure—ex., where a truss or a garter presses, above the middle of the thigh, and on the front aspect of the body.

Variations in regard to the seat of scabies are readily explained. Acari are frequently specially conveyed—for instance, by the child's hand, to the mamma, by the hand to the penis, the nurse's arms to the buttocks of the child. Scabies seldom occurs on the face, in consequence of the influence of the external cold, but in children there are exceptions. In children eruption, and especially the characteristic eruption (the vesicle and attached cuniculus), is often absent from the hands. Beginning about the buttocks, the disease is seen over the feet especially, the ankles, and thighs, often the stomach and the well-covered and therefore warm back; when on the face, it is occasionally accompanied by sympathetic eczema about the scalp; in children ecthymatous pustules are present as the rule. It is said by some that the acari are only found about the hands in adults, and that the eruption about the body is entirely sympathetic. Hebra thinks much of the eruption is caused by scratching. No doubt much of the eruption is sympathetic; and although acari are to be found in largest proportion about the hands, yet they are often entirely absent there in the child, and can be detected over other parts of the body.

In *chronic* scabies we notice clinically two important facts:—

1. That the seat of the eruption may shift itself—at one time the hands perhaps may be comparatively well, and then a fresh development of vesicles and papules occurs.

2. The eruption may vary in intensity: it may diminish in severity, and again become exaggerated according to the hygienic conditions surrounding the patient or the state of his health. In the chronic cases we shall find the remains of the furrows occasionally as

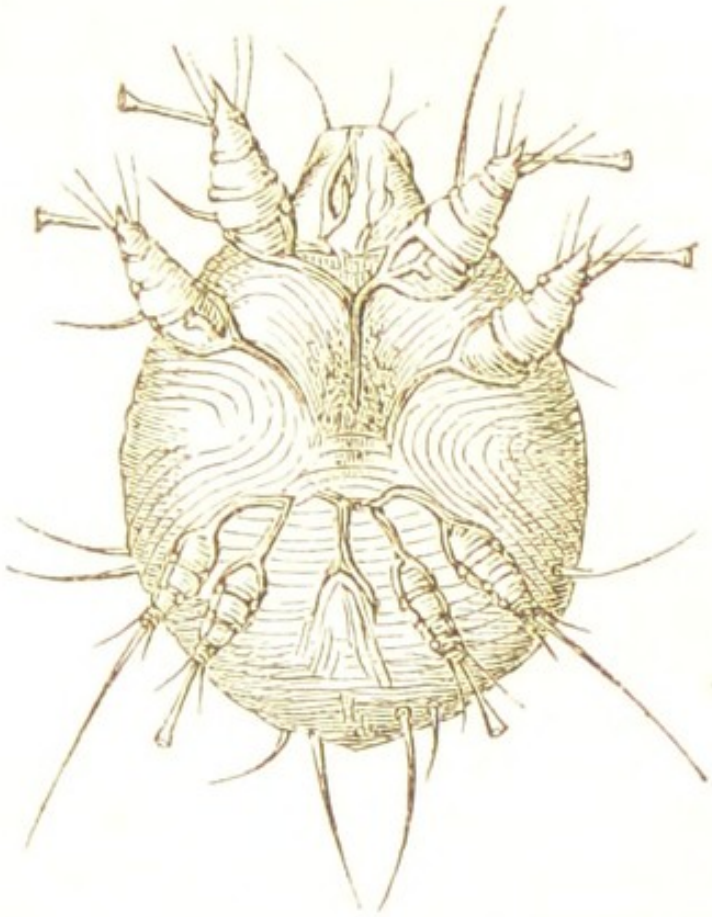
rugged lines formed by the shrivelled and broken walls of the furrows. This is very diagnostic of scabies (chronic). At other times ecthymatous crusts are formed in abundance. Now if we cut off the upper part of the cuniculus, or take the rugged walls of old canals, and place them under the microscope, we frequently see ova, the casts of, or even young six-legged acari, occasionally an acarus; and these diagnostic certainties are also found in abundance in the crusts that form in scabies. These crusts may be softened up by turpentine or caustic soda or potash. (See fig. 8.)

Frequently several members of a family are attacked at the same time. The itching is bad at night, and evoked and intensified by everything that heats the body. Such is the description of scabies itself.

It is necessary to make special reference to the acarus that gives rise to scabies. The female acarus is the most important of the two. (See fig. 8, central acarus.) It is about a sixtieth or an eightieth of an inch long. On the upper surface it is convex, and covered with short spines directed backwards, and by which, when in its furrow, the insect is prevented from retreating along the channel of its entrance. On the opposite or lower surface in the full-grown insect there are eight legs, the four front ones being provided with suckers, the four hindermost with hairs. The head, which is capable of elongation or retraction beneath the dorsal plate, is somewhat pointed at its free end, flat beneath, and widens out at the base where it is implanted into the part between the anterior legs. There are two rows of stiff hairs surmounting the head; the mouth is a long slit on the under surface of the head; it is bounded on either side by two pairs of palpi and mandibles. At the base of the slit is the buccal orifice and the respiratory orifice, as stated by Bourguignon. The male (fig. 7) is smaller than the female. The inner pair of the posterior legs are provided with suckers, and the genital organs are well-

marked. The ova hatch out on the eleventh day, six-legged acari are seen on the eighteenth; the young

Fig. 7.



Male Acarus Scabici (after Anderson).

acari then cast their skin, and are provided with eight legs. Here is Bourguignon's descriptions :—

General Characters.—Tortoise-shaped head; two palpi, adherent, lateral, hooked; false palpi; four mandibles, super-imposed in pairs; bidactyl, the two superior armed with hooklets; *legs*, four anterior, joined with ambulacrum, terminated by a sucker; *respiration* by buccal aperture, not by stigmata or tracheæ.

Female.—Four posterior legs, jointed, each terminating in a long hair; epimeres of posterior legs separated; numerous horny appendages in dorsum; subject to metamorphosis; size, one-third of a millimetre.

Male.—Sexual organs distinct; ambulacrum with sucker, terminating the central part of posterior legs; epimeres of posterior legs united; horny appendages on dorsum in small number; size, one-fifth of a millimetre.

Larvæ.—Hexapod, without distinct sexual organs.

Diagnosis.—The following are the diagnostic points in scabies, but the only really conclusive proof of its existence in ordinary cases is the discovery of the furrow and its acarus:—

1. Absence of febrile disturbance.

2. Absence of rash from the face and head (this is the rule); its absence from the posterior surface of the arm or body.

3. The seat of the eruption: where the cuticle is thin—as for instance, the interdigital spaces, the anterior surface of forearm, front of the body below the nipple-level, about the mamma of women, along the front of the penis in men; in the seats of pressure—as for instance, about the groin when trusses are worn, over the ischia, and about the inner line of the wrist, forming a semicircle; in children—the buttocks, the feet, especially the inner line of the sole of the foot, and the palmar surface of the hands.

4. The isolation of the vesicles, and their pointed shape.

5. The *multiformity* of the eruption—namely, the intermingling of papules, vesicles, pustules, scabs, and even small ulcers.

6. The itching at night, and the peculiar linear scratches made with the nails and fringed with dried blood.

7. The cuniculus or furrow—in pustular scabies few.

8. The evidence of contagion, or the existence of the same sort of disease in one house or family. It is in children that the greatest mistakes are made, simply from the want of knowing that scabies does not prefer their hands and arms, but their feet and their buttocks.

9. The presence of acari amongst crusts, detectable by the microscope.

Scabies may be confounded with :—

Lichen.—But in lichen the eruption is *uniform.* There are no vesicles or pustules. Lichen occurs on the outer aspect of the forearm. The skin generally is dry, thickened, and discoloured. And though the back of the hands is sometimes attacked, the interdigital spaces do not suffer. The itching is different. There are no cuniculi; no acari of course. It does not occur about the seats of pressure especially. There are no rhagades produced by scratching; and the rash is seen frequently about the face, and often over the back.

Prurigo.—In very many cases of scabies the papules become pruriginous, but not to such a marked degree as in prurigo; and this is only in scabies a feature superadded. The prurigo of scabies is seated about the belly and the anterior surface of the forearm; whilst in true prurigo the papules are scattered over the outer aspect of the limbs, over the back, *above* the level of the nipple-line, around the neck, in greatest profusion; and about the legs. Moreover, there are no vesicles, though in old-standing cases ecthymatous pustules may be developed. But here the origin from prurigo, and not scabies, is traceable. Then the skin in prurigo is unhealthy, the areas of skin enclosed by the natural furrows are exaggerated, and a condition of "urtication" results—oftentimes well seen on the back. Pediculi are often present; and the sensation is not itching so much as formication and burning.

Strophulus (or Lichen) Pruriginosus.—This is simply lichen occurring in ill-fed and strumous children, and in consequence, the papules are covered at their apices with little points of coagulated blood. This disease lacks altogether the features of scabies as regards the acarus and its furrow, and the multiform aspect of the secondary eruption; and it is made worse by *the use of sulphur ointment.*

Eczema.—This differs entirely from scabies, in that it is essentially an oozing disease, in which the vesicles are agglomerated (and not isolated and acuminated), forming a patch of greater or less extent; the absence of furrows, &c., of the peculiar itching, of a multiformity in the eruption.

Sulphur Rash.—One of the commonest errors is to mistake the artificial rash set up by the use of that villanous compound—the compound sulphur ointment of the old Pharmacopœia—for a continuance and increase of the disease; this has been referred to in a former place. See Medicinal Rashes, p. 95.

Impetigo contagiosa.—This mostly begins about the face and head, and is transported hither and thither by the fingers in scratching. It looks like ecthymatous scabies, but it is not commonly interdigital; the eruption is *uniform*, commencing as isolated vesicles that quickly enlarge into bullæ, with a depressed centre surrounded by a raised collar of blebbed epidermis, the whole being replaced by a light-yellow, flat scab that looks as if "stuck on" to the part. There are no papules, no furrows, no scratches; it is not interdigital, but attacks the outer aspect of the limbs equally with the inner, the buttocks however in children, and frequently the knees and the feet; the ends of the fingers rather than the palm and interdigits: and this condition is always accompanied by eruption on the head and face. Except just at the outset, there is no special itching at night or day either. It is contagious and often epidemic.

Complicated Scabies.—Almost any other eruption may commingle with that of itch. This is very important to bear forcibly in mind; the more we recognise the fact the more likely we are to prevent ourselves being puzzled. We must manage to recognise the co-assemblage of symptoms. Secondary syphilodermata and scabies are frequently co-existent. Eczema is very often associated as a sequence, and ought

not to offer any difficulty. Scabies in children with congenital syphilis is not unusual. Lichen is sometimes set up and kept a-going by a few acari. *Many cases of lichen urticatus* are dependent upon scabies. Again, purpura and impetigo contagiosa may be associated with scabies. In all these cases we generally have (1) a history of scabies at the outset; (2) multiformity of eruption, and of course intermingling of the characters of the two co-existent diseases; (3) the appearance of contagion given to what we hold to be non-contagious disease. For example, a child may seem to catch lichen from another whom perhaps we know has scabies; the truth being that a few acari have been transplanted, and produced lichen to such an extent as to have masked the primary mischief, which is only slightly expressed. It is a most excellent rule —one that I adopt myself—to search for scabies in all cases in which eruptive disease is extensive, and accompanied by much itching at night.

Treatment.—Scabies never gets well spontaneously. We must treat, 1st, the scabies itself, killing the acari and their ova; 2nd, the secondary effects; and 3rd, the complications. In all cases, *to all papules and vesicles*, the following should be applied: sulphur, half a drachm; ammonio-chloride of mercury, four grains; creasote, four drops; oil of chamomile, ten drops; and an ounce of lard. This is rubbed in night and morning; the same shirt kept on till the third day, when it is changed, and a warm bath given; the ointment to be freely rubbed into the wrists and interdigits especially. In complicated scabies, we should treat the scabies always, scrupulously seeking out every suspicious papule; engrafting upon this the plan best suited to the complicating eruption, whatever it may be. We should always remember that in complicated scabies a small amount of acari may exist with a good deal of eruption. When the scabies itself in severe cases is well, a certain period must necessarily elapse before the

secondary eruptions can be cured. The process of repair takes time. So we must not persist in the sulphur treatment till all eruption has subsided in cases of severity. We judge of the cure of scabies by the decrease and cessation of itching and of the vesicles and papules.

If we push our sulphur treatment too far, we may produce an irritable erythematous state of skin which is often mistaken for the continuance of the disease. The cure is often retarded by the neglect of cleanliness, especially in regard to clothing. On the third day, when fresh linen is put on, it is best simply to destroy that taken off, or at any rate to scald it thoroughly. In some cases the skin is too irritable to bear the sulphur, in that case iodide of potassium ointment, which I prefer in chronic scabies, is best. We may also, with fastidious folk, use a bichloride of mercury lotion (two or three grains to six ounces of fluid). Sulphur baths in the treatment of scabies I never use, they always seem to me to do harm, and I have had cases under my care in which the irritation so produced was excessive, and troublesome to alleviate. If it be necessary to remove crusts, alkaline baths may be used. Chamomile ointment, benzine, stavesacre, lime, and sulphur, and other applications are also recommended. See Formulæ from No. 154.

NORWEGIAN SCABIES.

In certain badly-nourished and dirty subjects, the ecthymatous phase may be very well marked in scabies, in the form of large dirty greenish-grey crusts covering over a red and moist surface: it may be well called scabies crustacea; it is seen in the sites of ordinary scabies: in scanning the crusts under the microscope, a large number of acari, in all stages of development are seen. Acari, too, exist in great numbers in the skin. Dr. McCall Anderson has been good enough to let me copy his representation. See

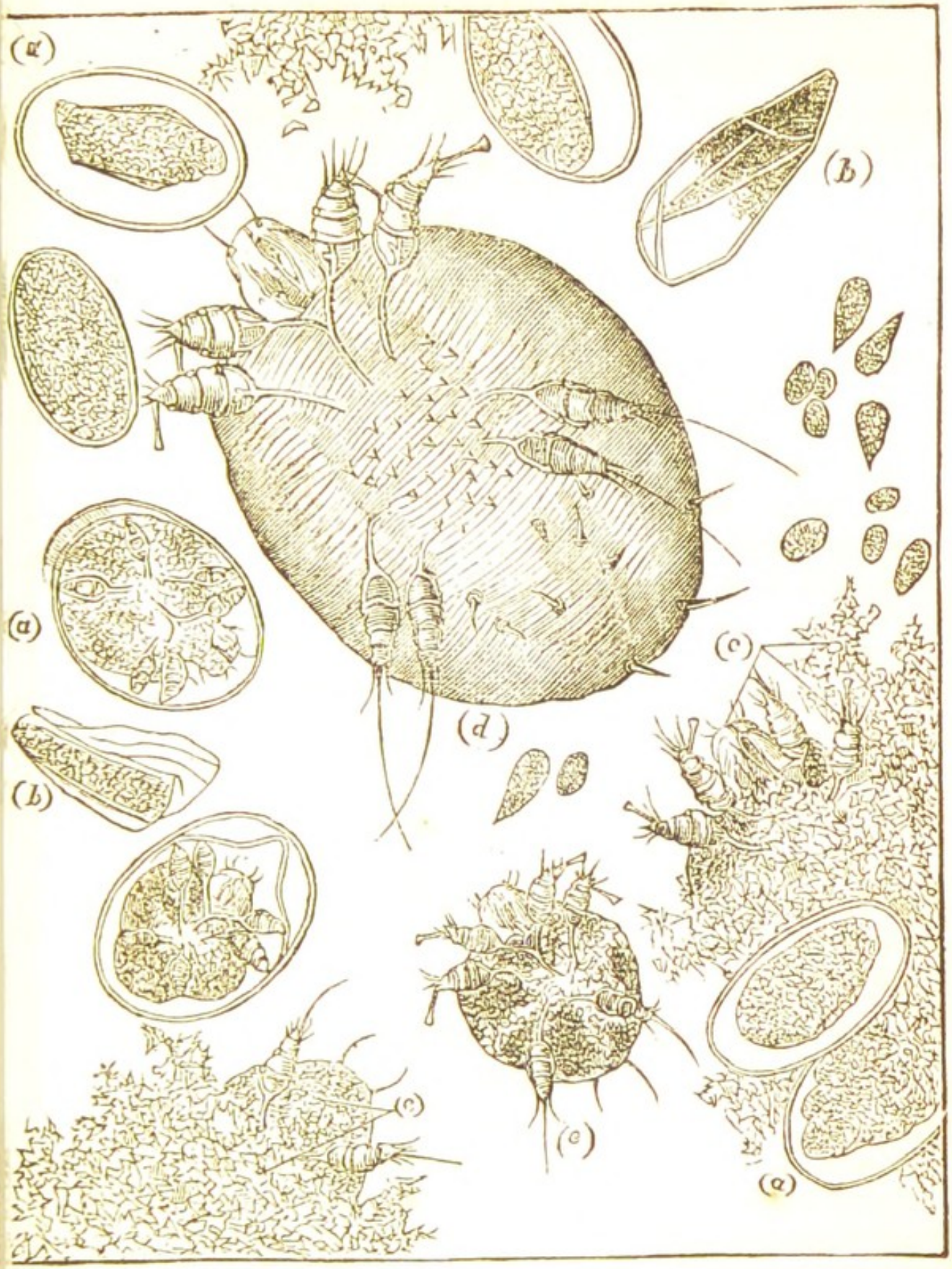


Fig. 8.

Crust from a case of the so-called Scabies Norvegica; *a a a*, eggs of the acarus in various stages of development; *b b*, egg-shells; *c c*, fragments of acari; *d*, female acarus; *e*, larva. The little oval or irregularly-shaped masses are supposed to be excrement.

fig. 8. This disease is often seen in Norway, and hence is called S. Norvegica. The treatment is that of ordinary scabies.

[I have met with a small species of tick in man. Various species of gnats are apt to inflict wounds, especially in the summer-time, which resemble musquito bites. Musquitoes have not been known to exist in England. The so-called musquitoes, whose existence in England and other places has recently been asserted, are all British gnats. The females of the common gnat (*Culex pipiens*), every summer after hatching out from water tanks and open ditches around houses, attack the exposed parts of the body, and there are many other species of the same genus Culex. The musquito of the Riviera is also a Culex. But there are midges, some of which are called sand-flies, which inflict wounds on the body. Such is the opinion of Professor Westwood. The treatment of erythematous "bumps," caused by the bites of gnats, may be relieved by a weak solution of bichloride of mercury or carbonate of ammonia.]

We now come to the second great division of parasitic diseases—viz., those produced by the development of vegetable parasites belonging to the genus fungi, and named,

B. Dermatophytic, Epiphytic, or Vegetable Parasitic Diseases,

Or, as I have called them generically in the group, Tineæ, a plan accepted and adopted in the new nomenclature of the College of Physicians. Now it may be expected that I should give an elaborate account of these diseases, but it would occupy the space of an entire book to do this satisfactorily. I shall therefore content myself with a practical account of the subject. Now fungi getting upon the surface may or may not flourish. When the soil is suited to their growth, they

produce most definite lesions, perfectly characteristic, especially on hairy parts. The same fungi invade the hard structures of a very large number of the lower forms of animal life, and attack parts—the hair, nails, and epidermis—analogically the same as those in man.

Nothing but the ravages of a fungus can produce the peculiar changes which we see in the hairs and epithelial tissue in the tineæ. I do not know the disease in which fungi are absent, and in which the hairs are loosened and rendered dry and brittle, or in which the epithelial cells are affected in such a way as to give rise to such a condition as that observed in chloasma.

Fungi are found accidentally in very many diseases, but the one action they have peculiarly their own is to attack the hair or the nail, luxuriating in it, absorbing to themselves its moisture, rendering it dry and brittle, and by their growth helping to break it up more or less. Where there are few, practically no hairs, then the growth of the fungus acts as a local irritant, invades the epithelial cells however in a characteristic manner, and in consequence of the centrifugal growth of the mycelium, the eruptive patch is generally circular in form. As to the relation, then, of parasite and eruption: the latter is not necessarily a part of parasitic disease (as seen in tinea tonsurans, one of the varieties), but may arise as a consequence of the local irritation set up by the fungi in common with other agents acting from without upon a surface predisposed to erupt. I repeat that the characteristic effects of tinea, the damaged hairs and epithelium, are never produced by an eruption *per se*. Fungi will not flourish on a healthy surface, but grow upon those that are most prone to non-specific eruption; and for this reason vegetable parasitic diseases occur in young life, diminishing rapidly in frequency as adolescence advances; the least expressed form, tinea decalvans, being most common in adult life. We see then, as stated at the opening of the chapter, that parasitic disease consists

of a suitable soil, the fungi growing upon it, and the effects of such growth—*i.e.*, the pathological lesion of the hairs and epithelium.

What are the fungi like? I speak now generally, reserving the description of individual parasites to be included in the several diseases in which they are found. They are often made up of minute cells alone, but as a rule of—

1. *Spores.*—These are round or oval, having an average size of ·006 mm., but vary much: solitary or arranged in rows which are single or many filed, or collected together in groups of varying sizes. The spores often show a dark spot, an actual nucleus, or granular nuclei, in their interior. They are double contoured, often constricted, and the halves may be unequal or equal in size.

2. *Chains of the same spore, which have a more or less beaded appearance.*—There is a real union between the component cells, and the rows are moniliform, or multiple, and branch in various directions. These forms usually receive the name of sporidia, or sporule-bearers. Within them are found, clear contents, or granules, or, if large, sporules.

3. *Threads (mycelium) of very various shapes and sizes.*—The least expressed form is that of a fine transparent filament, and there are stages between this and large doubly-contoured tubes. The contents are usually granules and cells. The tubes are often not uniform in diameter, being more or less constricted, and the interior space is partitioned by septa. The filaments sometimes interlace in a very free manner, and may bear, in rare instances, at their extremities various forms of fructification, either an enlarged terminal solitary cell or a shortly jointed tube, or a clustering of spores, seated upon a receptacle, or a radiate arrangement of spores, &c. These tubes and threads are called thallus-fibrils.

4. *Stroma.*—This consists of an infinite number of

minute cells, and is the early condition or nuclear form of the fully-developed fungus, accompanies all fungi in a state of active growth, and is oftentimes well seen in tinea favosa. It is generally overlooked, and requires a high power for its detection. It is very potent for evil.

The structure of the spore is very simple. It has an outer coat or envelope composed of cellulose, and an inner one, or utricule, enclosing a liquid which contains floating granules, and is coloured blue by iodine.

These spores may be confounded with many other cells. With fat globules, blood discs, corpuscles of various fluids, young epithelial cells, or rather nuclei, pus, and earthy particles. The effect of reagents will, however, prevent error. The spores are unaffected by ether, chloroform, and spirit of wine, which dissolve fatty cells, and render epithelial tissues transparent. Ammonia renders the spores a little more colourless, perhaps, whilst it dissolves pus and the secretion of many eruptive diseases (which contains small granules and cells somewhat resembling large spores) "converting them into a gelatinous mass." Impetiginous crusts, fat, pus globules, hair, and epithelium are dissolved when heated in a hot solution of potash, especially if a little alcohol is added.

The greatest care must be taken on every occasion to distinguish between fatty cells and spores, and diffused molecular fat and sporules or the nuclear form of fungus; indeed this is the important practical point requiring attention clinically, and really it is a difficult thing oftentimes fairly to get rid of the fatty matter. If we suspect the presence of much fat, it is advisable to allow the hair or other object *to soak for some time* in ether if any doubt exists as to the nature of any particles, cells, or granules. The fat-cells always exhibit a wide variation as regards size, and have a duller aspect; the cells of the fungus, on the other hand, are uniform in size in any particular case, refract the light

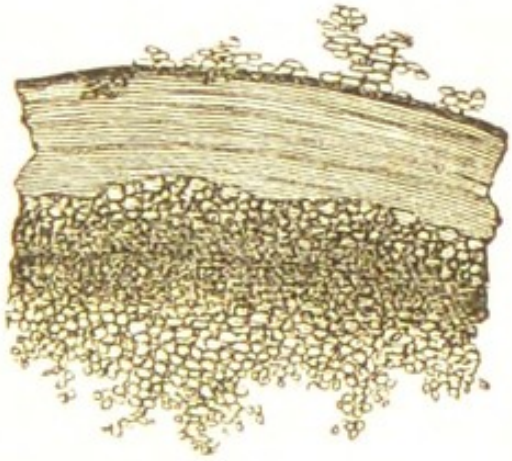
very perfectly, and their outline is more defined and contoured; they are not affected by ether. In old-standing cases of tinea, the epithelial cells take on a kind of fatty degeneration, and look very like cells invaded by sporules. When the *mycelium* is well-developed no mistake can well arise, but there are one or two foreign matters and modifications of normal structure that offer appearances similar in aspect to some of the less flourishing examples of mycelial threads. I have known the fibres from handkerchiefs or towels which have been used to cleanse the object-glass to be recognised as mycelial filaments. Sometimes some of the fibres of the hair will be stripped of the shaft and curl back like mycelium. The edges of cells are dark and never have a clear central line, do not branch, and do not contain granules. The safeguard is to get the mycelium free from surroundings, and then no error can arise. The imbrication of the epithelium is sometimes irregular, and the edges of the scales present exactly the appearance of mycelium running transversely through and across the shaft of the hair, and it is really difficult to imagine that filaments are not present, more especially if there happen to be a few sporules scattered throughout the interior of the hair. By careful observation the outlines of the cells may be traced not only over, but beyond the area of the hair.

In examining for the fungus, extract a hair from a diseased patch, and place it *at once* in a little diluted liquor potassæ (to render the parts transparent), then drop a piece of thin glass over it, without the use of any pressure, and put it under the microscope. Then if it be necessary to examine more minutely, dissect the parts carefully with a needle. As a rule, harm is done by rubbing or squeezing the preparation between the two glasses. To get rid of the fatty matter, it is best to soak the hair in ether, and then to wash it thoroughly before adding liquor potassæ. With regard to the furfuraceous desquamation, those scales which are situated

at the edge of the diseased patch should be selected and treated in like manner without using pressure, and as small an amount as is convenient should be subjected to examination.

The stromal or minute form exists in abundance very frequently, and is not discovered; the fibres of the hair conceal the small cells. If the hair is allowed to soak for a while in alkalies the cells are seen, and in warm weather the minute form of fungus will develop in glycerine and water in a few days to a recognisable size. This stromal form may be mistaken for pigment-granules; but the latter are uniform in size, do not refract, and there is no accompanying damage to the hairs when they are present, and with a high power granules do not appear translucent. When in doubt, I am in the habit of employing artificial germination to assist. The following figure represents the appearance presented by the stromal form of fungus after being "put up" in glycerine. On the first examination, only the faintest trace of the cellules was present.

Fig. 9.



Many persons find the discovery of the fungi in parasitic disease a difficult matter. The reasons for their non-detection are mainly as follows:—

(1.) From having too large a mass under examination. Thin sections or layers of epithelium or hair should be taken. (2.) The non-use of reagents to render

the suspected tissues more or less transparent. (3.) Too much manipulation. In this way spores are sometimes rolled up, as it were, in epithelial layers softened and altered by reagents, and thus concealed. (4.) The presence of pigment in large quantity. (5.) Ill selection of hairs and scales. We may possibly extract for examination a healthy hair which stands in the midst of diseased ones; diseased hairs are loosened in the follicle, and altered in texture, dry, and brittle. (6.) The fungus may be left behind in the follicle, the hair coming away without it. (7.) Secondary changes are often mistaken for the real disease; scales may result from the irritation of a fungus not in them, but in parts near, and its absence from the same scales is no sign that the parasite is not the indirect cause of the scaliness. (8.) The stromal minute form is mostly overlooked.

For some time past the three following topics have been matters of special discussion and interest in regard to this subject:—

1. The vegetable nature of parasites. It has been denied that they are truly vegetable.

2. Opinions differ as to the relation of the several fungi to one another. Some believing that they are all variations in form of the same species; others take an opposite view.

3. As to the influence of fungi in producing disease.

Upon the third point I have already ventured to dogmatize. In regard to the second, I shall only say that as far as my experience goes, and I am fairly entitled to express an opinion, the fungi found on man are of one and the same stock. Hallier's researches tend to the same conclusion. Differences of soil account for the varied aspects. Neither the size nor shape suffices to establish any difference, for these are influenced by the amount of fluid present, the age of the fungus, season, and the like, very readily. I must refer to my other writings for further information on this particular subject.

But students may be asked for proofs of the vegetable nature of fungi. Here they are :—

Firstly, The growth and independent life of the cell structures (fungi) when removed from the presence and influence of all living animal structures. I have over and over again made the elements of these cryptogams to vegetate freely in preparations put up for the purpose, and it has become a familiar experiment with me, although the failures—as one might expect—are in the great majority.

Secondly, The peculiar action of reagents, and especially liquor potassæ. As far as I know there is no animal structure that resists the action of this reagent in the same way that spores, sporules, and mycelia do; they remain practically unchanged, and do not swell up and become indistinct as is the case with the other structures. Iodine, again, detects the presence of the primordial utricle. Other behaviours might be mentioned, but I pass to—

Thirdly, The fact, of the presence of *identical* parasitic forms in the hard structures of animals, and indeed vegetables, where no (epithelial) cell structures of animal nature exist from whence the vegetable elements could spring. In bivalves, in corals, foraminifera, and a host of others, as shown by Müller, Claripede, Rose, Kölliker, and many more. The examples in the vegetable kingdom need not be detailed.

Fourthly, The want of transitional forms. You cannot trace any connecting links between the fungi forms and the normal structures.

Fifthly, The fungus elements are at first visible at the upper part of the hair follicle, and migrate from above downwards towards the papilla and root ; in other words, there is *à priori* evidence that the germs of the parasite are derived *ab externo*, and this is proved to be a fact by clinical observation. If the so-called fungus is a granular degeneration, such degeneration must commence where the nuclei are formed, and be abundant

in the early developmental stages—viz., at the formative point or papilla. Such is not the case. The earliest trace of spore, sporule, or mycelium is sub-epidermic and located just at the upper part of the follicle; from thence the parasite may be traced downwards to the bottom, whence it finds its way to the interior of the hair.

Sixthly, The results of treatment. Remove or destroy every vestige of parasite, in the early stage particularly, and the disease is stopped. To affirm that this could alter such a thing as "granular degeneration" is not conceivable. Pluck out a diseased hair; if no spore is left behind, the hair is healthily formed at once. Besides there is no confirmation in the character of concomitants. The cells at the root of the hair are healthily formed until the spores increase largely or specially invade the papilla. There are no transitions. There are healthy structures in contrast with the fungus elements, until the formative apparatus is attacked. The mere plucking out of a hair could not so alter the whole character of the nutrition as to bring back a disease (granular degeneration) abruptly into a state of health. The cause of the cell alteration is clearly not in the cell formation primarily, but due to some superadded influence which acts from without upon the cell nutrition.

The Mode of Entry of the Fungus into the System.—There is no difficulty in accounting for the access of germs to living bodies, for these germs are freely distributed and disseminated in the air. The best illustration of this fact may be noted in the experiments of M. Bazin (*Gazette Méd. de Paris*, July 30, 1864), which consisted in passing currents of air over the head of a favus patient, and thence over the open mouth of a jar containing ice. The ice cooled the air, causing the deposition of moisture, in the drops of which the achorion sporules were detected. The same thing may be shown by holding a moistened glass slip near the head of a patient, and just rubbing his scalp freely.

Of course, actual contact is much more effectual in the implantation of germs. Let us suppose that the sporular elements find their way to the human surface. How do they get beneath the tissues? Various ways probably. The fungus elements may enter by fissures or natural orifices; for example, in ordinary ringworm the sporules lodge themselves at the opening of the hair follicles, and presently get beneath the epithelial scales. The growing mycelial thread forces itself beneath the layers of the superficial tissues; processes may shoot out from the spores themselves, and enter beneath the epithelium; the spores may be enveloped and carried bodily inwards; or enter by traumatic lesions, as in madura foot. In each and every instance the germs of parasites are derived *ab externo* and not generated *spontaneously*.

There is yet one category of facts that needs a word or two of comment—viz., the comparative pathology or the inter-transmission of parasitic (vegetable) maladies. It is now admitted that the transmission of the common ringworm of the surface from animals to man is very common. I am informed upon good authority that this is of very frequent occurrence in Australia, the milkers of cows especially being largely affected. Professor Gerlach has noticed it in dogs, horses, and oxen, and in man, but the sheep and pig seem to offer exception. Dr. Frazer (*Dub. Quart. Journ. of Med. Science*, May, 1865) contributed a paper, 'Remarks on a Common Herpetic Epizootic Affection, and on its alleged frequent Transmission to the Human Subject,' containing cases. This gentleman quotes Mr. Brady, and Mr. Whitla, in reference to other instances. Dr. Fehr has noticed in Switzerland the transmission from cattle to man. I can confirm by my own experience the truth of these statements. Mice and cats affect man. Mice with favus can communicate the disease to the cat, and the cat may give favus, or even tinea circinata, subsequently to the human subject.

The Principles of Treatment in parasitic diseases.—First as regards the actual disease; secondly, its secondary effects—ex., baldness. The main aim in all cases is to remove or destroy the parasite, and as this is found in and around the hairs, it may be in great measure removed by what is called epilation—that is to say, the extraction of the hair with tweezers *en masse*, but as the hairs are brittle, in the attempt they frequently break off, leaving their stumps behind, loosened, and perhaps filled with spores. This epilation is needed in severe cases, where the disease is deep, and it is desirable that some agent should be at the same time employed to destroy the fungus in and about the follicles, for at the time of epilation greater access to the interior of the follicle may be attained.

In slighter forms of parasitic disease, and in those which are recent—that is to say, where the fungus had made its way into the structures only a short way—the destruction of the fungus may be readily and easily secured, simply by the use of what are called parasiticides; these will be mentioned in detail presently. In certain of the slighter forms, general remedies are scarcely needed, but in other instances, where the disease is extensive, and the fungus luxuriant, the constitutional condition is clearly one that is peculiarly fitted for the growth of parasites, and some evidence of its nature may be gained by enlarged glands, a pale pasty flabby countenance, a certain amount of anæmia, want of flesh, disordered bowels, and such like symptoms, clearly indicating that assimilation is at fault. In such cases the cure is expedited considerably by the use of iron, quinine, and especially cod-liver oil in the upper classes, and the same remedies, with cleanliness, a proper amount of fresh air, and an increase in the meat diet, in those lower in the social scale.

Now we come to the description of the individual vegetable parasitic diseases. They are—

1. Tinea favosa (commonly called favus).
2. Tinea tonsurans (ordinary ringworm of the scalp).
3. Tinea kerion (a modification of tinea tonsurans).
4. Tinea circinata (ordinary ringworm of the body).
5. Tinea sycosis (mentagra, or simply sycosis).
6. Tinea decalvans (area, or one form of alopecia).
7. Tinea versicolor (chloasma, or pityriasis versicolor).
8. Tinea tarsi.
9. Mycetoma, or the madura foot of India.
10. Onychia parasitica, or onychomycosis ; this occurs as the sole disease or part of the other more common forms.

There is one form of disease (myringomycosis) occurring in the ear, caused by a parasitic vegetable growth, and that may as well be appended to complete the list. Eczema marginatum, so-called, I shall describe under the head of Tinea circinata. There is also a state of hair seen in the beard in which the fibres of the shaft are split out, the shaft looking as if two besoms were placed together. This I note under the head of tinea sycosis. It has been usual to add tinea or plica polonica, but this is only a peculiar felting of the hair, the result of neglect and uncleanliness, in which fungi occur accidentally.

TINEA FAVOSA, OR FAVUS.

This is a rare form of disease in England ; it is commoner in Edinburgh. It commences generally at about seven years of age (it may be sooner, it may be later), among the poorer classes of the community. It is characterized by the presence of little straw or sulphur-coloured cupped crusts, called favi, surrounded by more or less redness : these favi coalesce after a while, and give rise to a honeycomb appearance, or remain

separate, hence the varieties favus disseminatus and favus dispersus. The disease commences with the implantation of the spores of a fungus just within the follicle, and all that is noticed in the early stage is an increased production of epithelial scales; presently a little white sub-epidermic speck becomes visible, which quickly develops into a "favus." The favus is nothing more than the developed fungus. As the elements of the latter grow, they collect about and in the hair-follicle; each favus cup is pierced near its centre by a hair. At first the favi are but yellow specks. As the fungus grows downwards into the follicle, the formative apparatus is interfered with; hence the hair loosens, being at the same time invaded by the parasite, and rendered brittle, opaque, and thickened. The epithelial scales are likewise invaded by the fungus when fairly growing. The favi are sometimes separate, at other times they are aggregated; they are roundish (seated upon a depression of the derma), in size about $\frac{1}{25}$ to $\frac{3}{5}$ inch in diameter, and $\frac{1}{25}$ to $\frac{1}{6}$ in depth, concave above, convex below, and sometimes marked by concentric lines on the upper surface; they are composed entirely of fungus elements—*spores*, mycelial *threads*, and granular particles, called *stroma*. If the scalp be entirely freed from them, it is seen to be red and tender, and they soon reform. As the disease advances the mass becomes lighter and more brittle, and baldness sets in. If the disease be severe the hair follicles are destroyed, and the scalp is red, irritable, shining, and thinned. The nails often become invaded by the fungus, and are then thickened, rendered opaque, fibrous, and brittle (see Onychia parasitica). The general health of favus patients is said to be good, but in all cases uncleanliness, bad food, bad living, damp dwellings, &c., have (some or all) exerted their influence; there is always a good deal of local itching. The odour of favus has been described as like cats' urine, mice, &c. The fungus is (see fig. 10) the Achorion Schönleinii

(Link). It consists of—(*a*) spores, generally somewhat oval, $\frac{1}{3500}$ inch in diameter, ·003 to ·01 mm., the largest

Fig. 10.

having a double envelope, being either free, jointed, or even constricted; (*b*) "filaments which are large and branched, more or less tortuous, containing generally granules and sporules in their interior, and on an average $\frac{1}{8000}$ inch in diameter; (*c*) sporophores or fibres, which are short and straight, and bear at their extremities sphores—generally four it is said—these are not often seen; (*d*) stroma, which is made up of a number of free but small cells, exceedingly minute sometimes." Favus affects the scalp chiefly, but it may be seen on the general surface. The fungus invades the epithelial scales as well as the hairs.

I don't know with what other disease favus should be confounded.

Diagnosis.—It might be confounded with a free impetigo; but this has a history of discharge; there are no "cupped crusts;" there is no fungus; and no effects of parasitic growth, such as baldness.

Treatment.—This consists in the exhibition of both general and local remedies. Internally, good food;

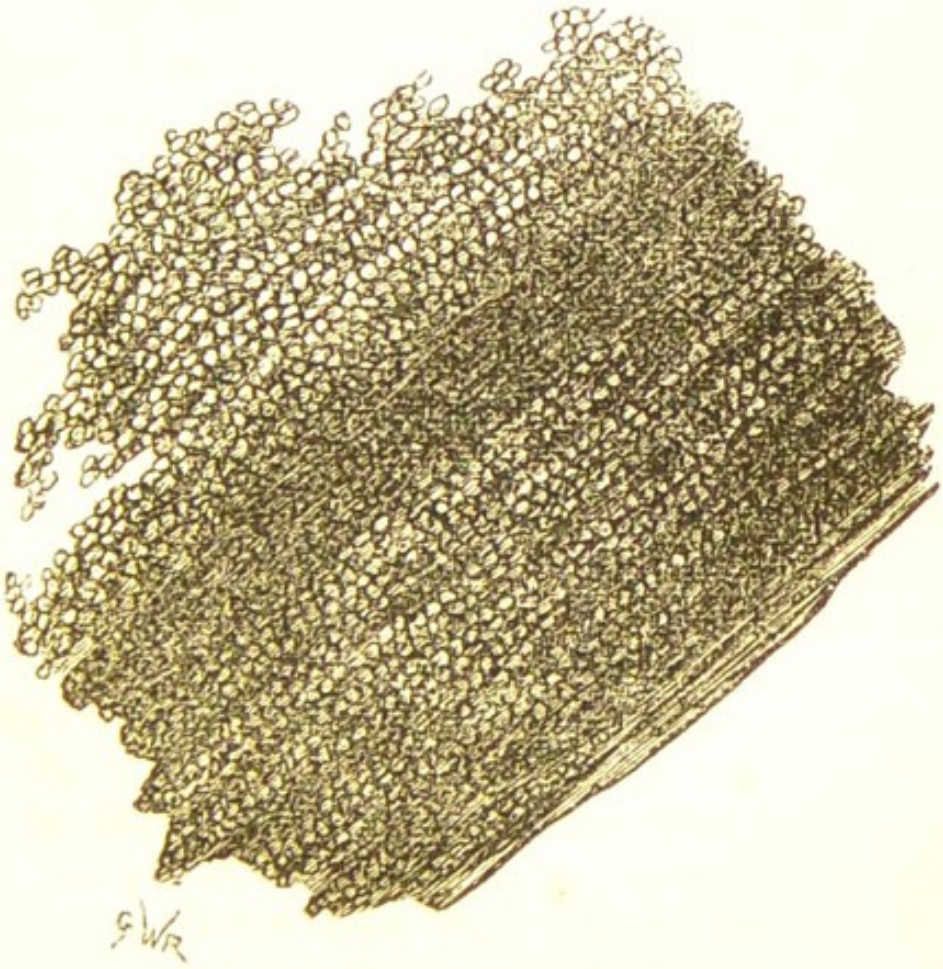
plenty of fat; cod-liver oil, and iron; together with change of air and cleanliness must be prescribed. Locally, the hair should be cut short; the crusts must be removed by soaking with hyposulphite of soda lotion, or, if preferred, sulphurous acid lotion. When the scalp is cleansed, each hair must be extracted one by one, and parasiticides applied at once. I prefer the bichloride of mercury lotion with borax—a drachm of the latter, ten to twenty grains of the former, and two or three ounces of water. A certain portion of surface should be cleared each day, and the whole head meanwhile kept moistened with sulphurous acid lotion. If I want to cure a favus case, I epilate and apply my parasiticide myself. It takes time and is very troublesome. When the amount of parasite has been diminished, as ascertained by the microscope, it is then advisable to exclude the air by the free use of unguents, after a good application of some parasiticide: the after-baldness must be remedied by stimulation. See Formulæ.

TINEA TONSURANS.

This is the ordinary "*ringworm*" of the scalp. It is rarely seen, except in children; it is, like favus, contagious; does not appear to be attended by any marked ill-health, though it is frequent in lymphatic subjects. It generally consists of little circular patches, varying in size from one-half to several inches in diameter, the hairs of which look dry, withered, and as if nibbled off at a distance of a line and a half from the scalp. In the first instance a fungus takes hold of the under surface of the epithelium, just within the follicle, and quickly invades the hair, which becomes, in consequence, changed as described, and brittle. In the early stage the hair is bent or twisted just above the point of its emergence from the follicle, and it is at this place that the hair breaks off, producing the "gnawed" appearance; if an attempt is made to pull

the hairs out they break off; at the same time the orifices of the follicles appear to be fringed round with little "micaceous" scales, and the surface of the diseased patch is the seat of more or less furfuraceous desquamation. The whole patch becomes slightly elevated, and the hair-follicles more prominent. The scalp may be diseased in one spot, in several places, or over its whole extent. Oftentimes a little erythematous ring bounds the circumference of the patch. If the hair be examined, it will be noticed to be bulged, of dark colour, with its fibres more or less separated by collections of spores, which become distinctly visible on the addition of a little liquor potassæ; in other cases the diffusion of sporules is pretty general.

Fig. 11.



As in favus, if any mycelial threads are present, they mostly run parallel to the fibres of the hair, and not

transversely. Baldness often results, but it is temporary as a rule. Itching is frequently troublesome. The follicle is choked with epithelial cells, and more or less effused blastema. Tinea circinata is often a co-existence, and tinea tonsurans may result from a tinea circinata that travels on to the head from contiguous parts. The fungus of tinea tonsurans is the trichophyton tonsurans (Malmsten) or achorion Lebertii; the spores are most numerous; they are round, ·003 to ·007 mm. long, by ·003 to ·004 mm. broad, $\frac{1}{8000}$ to $\frac{1}{3000}$ inch, nucleated, oftentimes constricted, and exhibit a great uniformity in size in the same subject: they are very plentiful in the root of the hair. The filaments are articulated, somewhat undulated, and possess granules in their interior. They are few in number. The fungus invades not only the hair but the epithelial scales. See fig. 11.

Diagnosis.—Tinea tonsurans in an early stage resembles no other disease; over a small circular spot the hairs look dry and withered, and are bent just above their point of emergence from the follicle, and there break off; the broken off hairs are characteristic. No other disease, save a parasitic one, will produce them. Whenever, then, on the scalp, a circular patch of disease occurs, which is somewhat scaly, and there are short broken off hairs, the microscope will give plenty of evidence of the presence of a fungus.

Treatment.—This oftentimes is a very tedious and difficult matter when the disease has lasted any time before coming under treatment: when the fungi get deeply into the follicle, the hair is brittle, and attempts at epilation fail. In the earliest stage free blistering of each patch will suffice, with the free use of white precipitate ointment afterwards. One plan perseveringly followed is the best way to cure the disease. In severe and more chronic forms, cod-liver oil, quinine, good food, and change of air are often needed, and plenty of fat especially should be eaten with the food.

Locally, the object should be to get away all the fragments of the diseased hairs lodged in the follicles and full of the spores. With this end in view, if the hairs do not come away with any readiness we may blister, and we shall then find that they will be the more easily removed. The healthy hair should be cut for a little distance around the circumference of the patches, so that the remedies may be applied freely to prevent extension of the disease. After removing as many of the hairs as possible, I generally shave the patches with a not over sharp razor, and in that way often drag out (without pain) a good many of the hairs still left in: but day by day attempts should be made at extraction. Meanwhile the surface may be blistered with the bichloride of mercury solution. Grease may be applied to exclude air and prevent the dissemination of the spores, and the whole head washed night and morning and well sopped in hyposulphite of soda lotion. This plan of epilation and parasiticide application must be closely pursued if success is to be early and complete. In the medium cases, after clipping the hair off very short, the use of Coster's paste (iodine dissolved in colourless oil of tar), applied once or twice at intervals of four or five days, effects a cure. As matters mend it is only necessary to use some parasiticide ointment, the white precipitate, sulphur, the nitric oxide of mercury, or borax (℥ij ad ℥j). The latter I employ freely with success. As I said before, I do not believe that there is wisdom in the multitude of remedies. But when should the use of the parasiticide be stopped? We must be guided here by the external evidence of the spreading of the disease, the amount and character of secretion, and especially microscopical examination; and these remarks apply in principle to all varieties, but I make them here because they are specially fitting in the case of tinea tonsurans. I caution my readers against the very natural and frequent mistake, that an increased amount of secretion is necessarily a proof of

aggravation of the parasitic disease. It may be the direct effect of the too free employment of irritants, and I have on several occasions seen cases in which this was the case: the actual disease, as estimated by the degree of destruction of parasite, being *nil:* the irritant had destroyed the fungus, but had also produced a new feature; the cure only awaiting a soothing plan of treatment. The external evidence of spreading speaks for itself. Microscopical examination is the chief guide; it must be frequently, carefully, and cautiously made. We are enabled by it to estimate the amount of parasite, how deeply it has penetrated the follicle, to what extent our remedies have destroyed it, how far Nature is recovering herself, and needs any more help in the way of parasiticides. So long as there is any amount of fungus in the root of the hair, so long must we use parasiticides. When the root and follicular linings appear to be healthily forming, and the follicle is filled with blastematous matter (surrounding the hair shaft), free from parasitic elements, a slightly stimulating or soothing plan must be substituted. No one should treat parasitic disease except under the guidance of microscopic examination. See Formulary.

TINEA KERION

Is a disease which generally commences like tinea tonsurans: the fungus is the trichophyton; the glands of the skin become involved with the hair follicles, and pour out a mucoid secretion; and then we have a form of disease to which Celsus gave the term kerion, in his description of it in his fifth book. Mr. Wilson renders Celsus thus:—"Kerion is a genus of ulcer, so named by the Greeks from its resemblance to the honeycomb. There are two species. One is whitish, and like a furuncle in shape, but larger and more painful. When it maturates, it presents a number of foramina through which exudes a glutinous and puru-

lent humour; but it never suppurates thoroughly. When opened, it is found to contain more corrupt matter than a boil, and is also more deeply rooted. It is seldom met with elsewhere than amongst the hair. The other kind is smaller, prominent, hard, broad, greenish, pale, and more ulcerated, since the foramina correspond with every individual hair, and give exit to a glutinous palish humour of the consistence of honey, or resembling the juice of the mistletoe, or sometimes oil. The pain and inflammation are severe, so as in some instances to excite a sharp attack of fever." Mr. Wilson truly observes that there is no difference between these two cases except in *degree*. The disease may, therefore, consist of large or several small patches.

One or two more particulars may be added. The disease may commence suddenly, with more or less loss of hair. The hair breaks off from over a circular area of greater or less extent, when swelling speedily follows. The glands of the neck are sometimes enlarged, and very tender; they may even suppurate. The swellings of this kerion are tender, as I have said; but they also look uneven and feel boggy without there being pus present.

There can be no doubt that Celsus was quite correct and particularly fortunate in the description which he gave of the disease; and that it represents an unusual condition of tinea tonsurans.

The characters of kerion are: (*a*) prominence; (*b*) its perforation with foramina—*i.e.*, the mouths of the hair-follicles; (*c*) the outpouring of a mucoid fluid; (*d*) the non suppuration of the swelling; (*e*) the looseness of the hairs; (*f*) the after-baldness; (*g*) the presence of a fungus.

I have lately met with several most perfect examples of kerion, illustrative of the different stages of the disease, and as the matter is somewhat novel, I may be excused for referring somewhat in detail to it. The

first I saw at the request of a medical friend, who was in doubt as to its nature. It could not be regarded as well-marked kerion, certainly, but it was in its earliest phase. It occurred in a child, who had a patch about the size of a five-shilling-piece on the side of the scalp, from which the hair had suddenly fallen off, the nurse having discovered it only two days before I saw it. The whole patch was remarkably prominent and peculiarly upraised, and this was seen to be due to the distension and enlargement of each individual follicle. On removing some of the hairs from the patch, they were seen to be surrounded and infiltrated with nothing more or less than a mass of sporules of the trichophyton. The swelling of the whole patch in this case was so remarkable as to make the disease appear something quite different from the ordinary dry, flat patch of tinea tonsurans. In July, a boy was brought to me with half a dozen round prominent places on his scalp, apparently, at first sight, subcutaneous abscesses; but the characters of kerion, as described by Celsus, were present. In a third case, the mother remarked that the discharge was so sticky that she could not wash it off. In each of the last two cases there had been constitutional disturbance of slight extent, and the patches which were partially bald, were excessively tender. In the second case they varied in size from that of half a crown to double that size. They looked exactly like uncircumscribed, boggy, subcutaneous abscesses, produced by the application of irritants to the patches of tinea tonsurans. In all these and similar cases the hairs which here and there stud the upraised and swollen patch, and those which edge it round, are broken off close to the surface, and, as in ordinary ringworm, filled with fungous elements unusually luxuriant. The hairs come away very readily; and if they are examined with the microscope their follicular sheath, in a more or less perfect condition, is often found attached; the gum-like material also closely adheres to them. Pus

is not very abundant. The most careful inquiry fails, in most cases, to detect the evidence of the application of irritants as a cause of the unusual swelling and exudation. The peculiar sticky secretion is albuminous lymph. It seems to me that the fungus destroys the follicular sheath, that a large amount of irritation is set up, the glands of the hair-follicles are involved, and fluid is poured out for needed repair. This condition may run on to threatened suppuration. In plica polonica a similar kind of exudation is poured out into the hair-follicle, and infiltrates even the hair-shaft.

I regard the kerion, so accurately depicted as to external features by Celsus, as nothing more or less than tinea tonsurans which has become complicated by irritation, swelling and prominence of the hair-follicles, and the attached glands, detachment of their follicular sheaths, and exudation of albuminous lymph. It is a wonder that this is not a more frequent condition in tinea tonsurans.

"Kerion," says Mr. Wilson, "must be regarded as belonging to the same group as trichosis and favus; representing, in fact, an inflammatory and pustular form of the same disease. . . . . The phytiform disorganization of trichosis and favus has not as yet been discovered in kerion; but we have no doubt of its presence, and that kerion must be added to the group of diseases of which that peculiar morbid phenomenon is the leading character." I am well acquainted with the fungus growth in kerion; and in examining the hair microscopically have been surprised at the amount of the fungus present.

Kerion is only a complicated form of tinea tonsurans; very little, if any, pus is present (were pus present the fungus would not be so luxuriant); the disease usually commences as an exaggerated tinea tonsurans. Mr. Wilson notices "that it was complicated in two out of fourteen cases by tinea circinata, and tinea tonsurans in one; whilst a brother of one of his patients had the

former affection, and a sister of another the latter." In one instance, kerion developed out of tinea tonsurans.

It seems to me very clear that unless we recognise the influence of the fungus which the microscope reveals to us, we cannot treat kerion successfully; we must trust entirely to empiricism for cure, but we may happen by chance to select a parasiticide.

The plan of Treatment that suggests itself to the mind in the first instance would seem to be the employment of decidedly emollient remedies—poultices, and soothing applications—to subdue the inflammation. But this I believe to be unsound; for as in scabies complicated by many and various eruptions, we treat the scabies, and attempt to kill the acarus, so in kerion we should attempt to destroy the vitality of the fungus as the first step towards a cure. The plan is to pull out all the hairs. This will generally remove the greater portion of the fungus, for the hair and follicular lining come away together, and necessarily the spores imbedded therein. Then we may apply mild parasiticides, bichloride of mercury solution, or carbolic acid lotion, and the disease will rapidly mend.

The apparent severe inflammatory action should not deter us from destroying the true cause of mischief —the fungus. These cases are no new acquaintances of mine, and therefore I speak with some confidence. I would just remark that I am glad that it is possible to harmonize the statements of the ancient and modern physicians, to vindicate the accuracy of the former, and to add one little fact against the doctrine of the change of type of disease.

Finally, it is important to add one practical remark. I have seen these cases of kerion mistaken for subcutaneous abscess (nothing more likely and nothing to be more avoided), and accordingly the swelling has been opened by the lancet, not, however, with any

good result: a troublesome sore has remained; suppuration has been induced by the entrance of the air, and pus has burrowed beneath the scalp tissues. Left to itself, kerion appears but rarely to suppurate.

TINEA CIRCINATA.

This is herpes circinatus, or ringworm of the body, and a modification of tinea tonsurans. In the latter the disease occurs when the hair is plentiful, in the former small and scanty; hence, the difference of aspect in the two diseases is readily accounted for. Tinea circinata consists generally of little circular patches of what appears to be ill-developed herpes, which becomes the seat of furfuraceous desquamation, the scales of which are invaded by a fungus. The whole is somewhat elevated. The edge is often distinctly vesicular, and the patch increases in area by centrifugal growth. Itching is a very common and marked symptom. The disease is seen on the face, neck, breast, and upper limbs. It has been seen to travel upwards to the head, and becomes tinea tonsurans. Sometimes the centre is palish or clear, and a ring alone remains, and this ring moreover may be vesicular or papular. It is sometimes epidemic in public institutions, and frequently co-exists with tinea tonsurans of the scalp. It is difficult in some instances, when the scalp is the seat of mischief, to determine whether the disease is tinea tonsurans or tinea circinata: the distinction is impossible sometimes. As I have said, the one disease gives birth to the other sometimes. The fungus invades the hairs (see fig. 12) as well as the epithelial scales (see fig. 13); it is the *trichophyton tonsurans*. In other cases all that exists is a little slight red distinctly scurfy patch: it looks like mild eczema in its scaly stage, but there is no history of discharge. A little red itching spot

appears, of the size, say, of a split pea. This enlarges more or less in a circular form, and becomes faintly

Fig. 12.

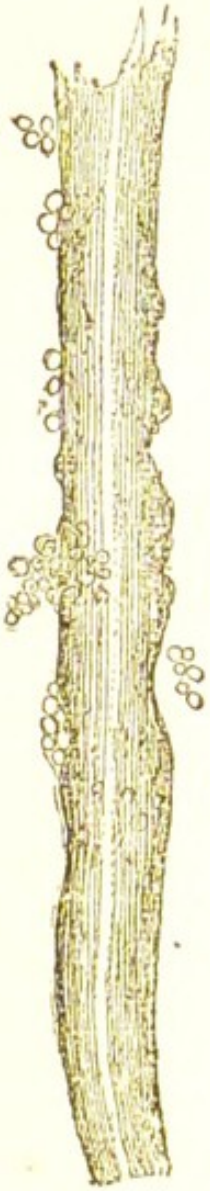


Fig. 13.

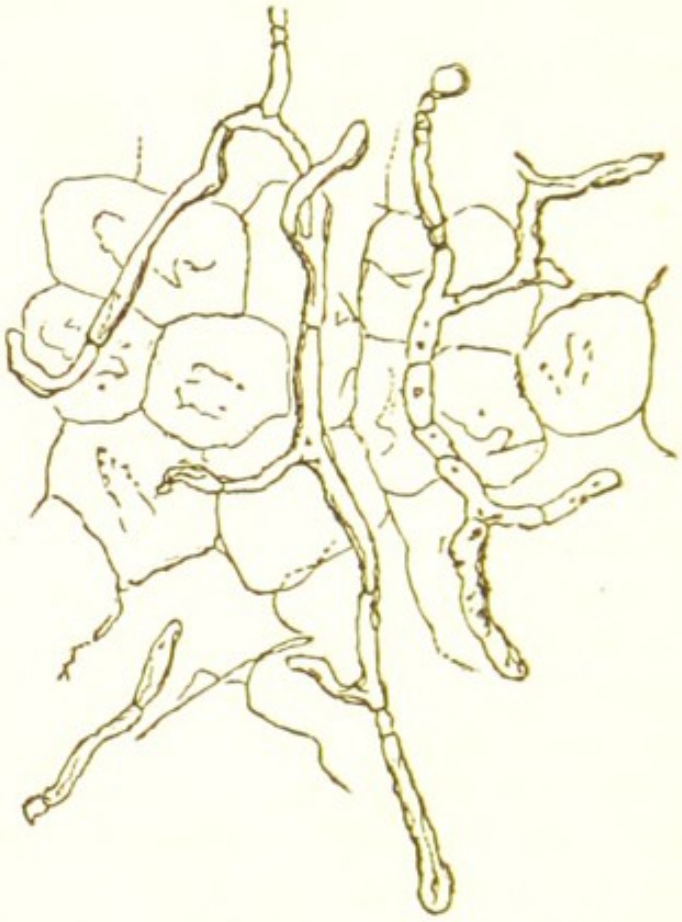


Fig. 12.—Hair from tinea circinata.
Fig. 13.—Mycelial threads seen in the epidermis.

scaly, looking, perhaps, here and there as if it were disposed to be slightly vesicular. All that results, however, is the red, more or less round, itching, slightly scaly, patch. Several patches may occur together, about the neck, shoulders, arms—we see it on the cheek in cases where tinea tonsurans of the scalp exists at the same time. It is mistaken for pityriasis. Wherever a circular erythematous itchy patch appears, it should always be examined for a parasitic cause.

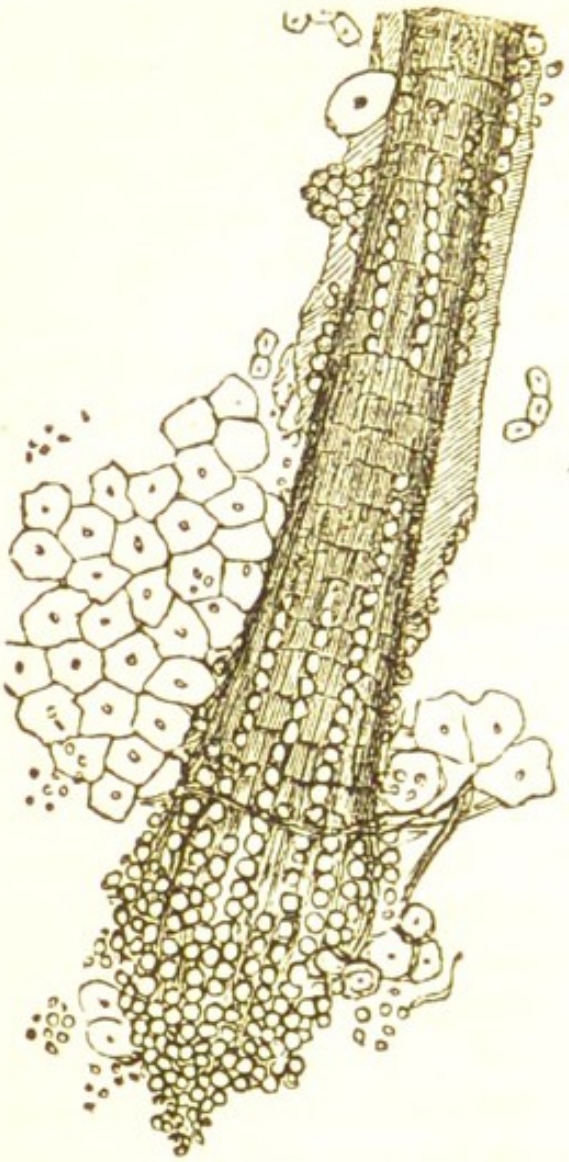
In the fork of the legs an erythematous rash sometimes occurs, with a red scaly centre, and a well-defined edge. It occurs in dragoons and shoemakers especially, and is called eczema marginatum. It is really tinea circinata. Dr. Anderson has figured the fungus in the May number of the *Edinburgh Medical Journal* (1868). The disease clears in the central part, leaving behind some staining: it extends centrifugally; several rings, one within the other, may be present. The disease is known also as Birmese ringworm. The disease has no history of discharge, only redness, itching, scaliness, a clearing of the centre, and a well-defined circular edge, and a centrifugal extension.

In some cases I have seen vesiculation so distinctly marked (ex., over a patch of tinea circinata of the arm) as to give the aspect of an eczema; but in these cases the fungus has been peculiarly well developed and very plentiful, as seen in figs. 14 and 15, which represent the most developed form of fungus I have ever seen in this disease. This variety has been well defined at its edge, clearing, paling, and desquamating at its centre, the minute hairs of the part being quite loose and invaded by the parasite. One word of special advice under this head. In cases of tinea circinata we must examine sufficiently thin sections or layers of epithelium and seek for the minute form of fungus, otherwise we shall very likely miss the parasite. These modifications noticed, depend, then, on the luxuriance of the fungus, and the degree of irritation produced. The disease may be a mere redness, or present distinct vesiculation, or be somewhat papular, but in all cases it is a circular patch.

The Diagnosis.—Tinea circinata may be confounded with eczema, lepra vulgaris, pityriasis, but it has in reality no marked *scaliness*, as those have. Where the vesicular or quasi-herpetic character is not developed, so as to set the diagnosis at rest, it is *always*

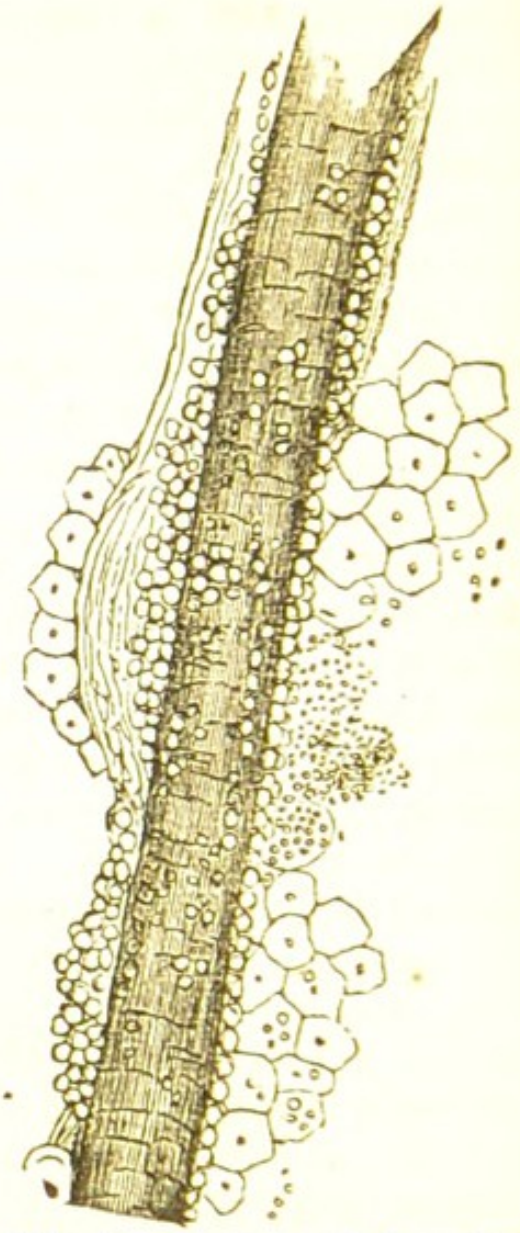
necessary to use the microscope. This I invariably

Fig. 14.



Unusually luxuriant fungus in tinea circinata.

Fig. 15.



Minute or stromal form well seen to the right of the shaft.

practise. Special precautions must be taken to detect the fungus; to this I have before referred.

Treatment.—In the early stage the application of any parasiticide will suffice: solution of nitrate of silver ℈ij to ℥j of spirit of nitric ether; acetic acid; ink, even; strong borax lotion; hyposulphite of soda lotion; bichloride of mercury lotion gr. ij to ℥j; or

ammonio-chloride of mercury ointment. But in some instances the disease crops up here and there over different parts of the surface, and no sooner does one patch fade or go but others appear; evidence is obtained of a condition of system that is favourable to the growth of the fungus, and that is altered by remedies specially adapted to the lymphatic temperament, and the dilute acids and bitters are given, or even arsenic, iron, quinine, cod-liver oil, as the case may be, using (beyond the parasiticides to the specially affected places) alkaline baths and sponging with hyposulphite lotion to the parts of the skin around the affected area. There is no internal specific; local remedies act efficiently when the general health is satisfactory. In eczema marginatum, a solution of bichloride of mercury (two grains of the latter to an ounce of fluid) is recommended by Dr. Anderson. The diagnosis once correctly made, the cure should be easy. Where the disease is obstinate, blistering with ordinary vesicating fluid, or the use of a solution of iodine in colourless oil of tar (℥j ad ℥j) is efficacious. Care must be taken that too much irritation be not produced.

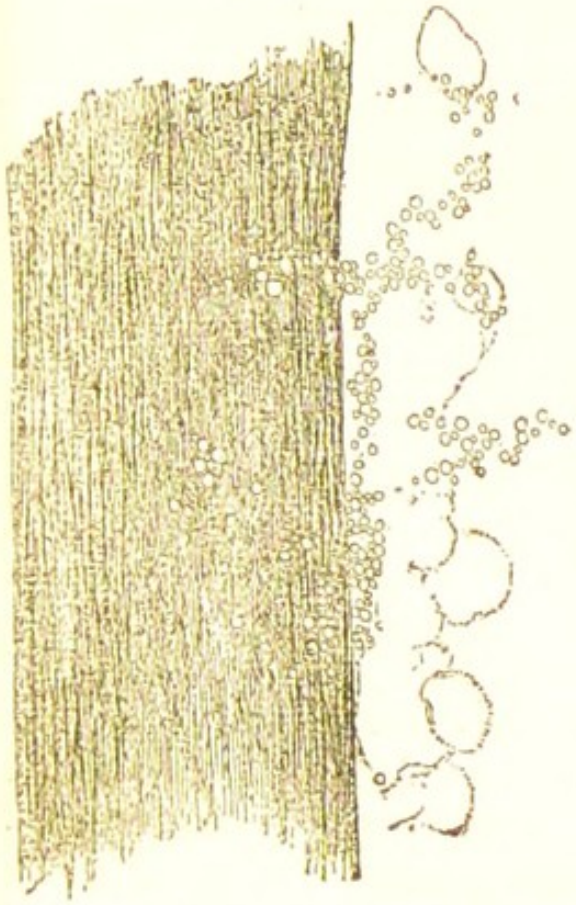
TINEA SYCOSIS.

Tinea sycosis (mentagra, or sycosis menti as it is called) is the next variety of disease to notice. It is a disease of adult life, and what is meant by this disease is an inflammation of the hair-follicles of the beard and whiskers, produced by the presence and growth of a parasite. Many (Wilson, Hebra, Simon, Wedl, and Hutchinson) deny its parasitic nature. However, Dr. M'Call Anderson and I are quite agreed upon the point; we have seen the fungus in abundance present in the diseased subject, under the microscope, in Charing Cross Hospital, where I had the pleasure of meeting Dr. Anderson. I held the parasitic nature in my papers originally in the *Lancet*, in 1857, and I have

seen no reason to alter my opinion. I entirely subscribe to the views propounded by Dr. Anderson in the *Edinburgh Medical Journal* for June, 1868. The truth is, that there is an impetiginous affection of the follicles of the beard that is likely to be, and is, mistaken for the parasitic disease, but the former has an acute onset, and lacks the damaged hairs characteristic of true parasitic sycosis. In typical cases of true sycosis, which, however, are rare, the disease commences quietly, and runs a chronic course; in rare instances I have seen it (in persons suddenly reduced by a bad and insufficient diet) occur pretty acutely, the soil having become very favourable for the growth of the parasite. However, as a rule, the first thing noticed is a red itchy patch, which is really tinea circinata, concealed by the hair. After a while, as the fungus gets into and down the follicles, the latter inflame, enlarge, and pustulate; subsequently induration takes place around the follicles, and shaving is painful; there is also a slight burning sensation present. Successive crops of pustules appear, often grouped together: and crusting to a limited degree occurs. Remissions are noticed in spring and summer. It is clear that the hair-follicles are the seat of the disease, and the hairs themselves become altered, getting dull, brittle, and loosened in the follicle, so that they are removed with ease. A fungus is to be found around and in the hair, but not in all the inflamed follicles, because the original inflammation set up by the parasite in one is propagated to another through continuity of tissue. It must also be remembered that pus is a parasiticide to a certain extent. Tinea circinata sometimes co-exists. The fungus of sycosis (see figs. 16 and 17) is called *Microsporon mentagrophytes*. The spores are ·003 to ·004 mm. round, and more or less nucleated; in fact, they are much the same as the trichophyton. The mycelial threads are said to be branched at an angle of 40° to 80°, and to be

annulated. The fungus is said to have its peculiar seat outside and around the hair. This is not absolutely true.

Fig. 16.



Fungus of sycosis (shaft).

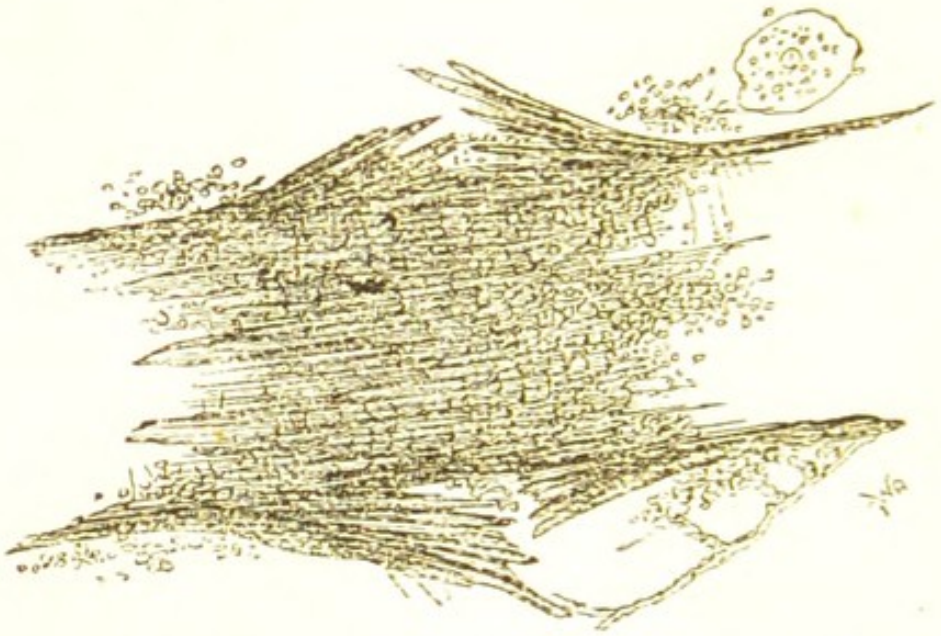
Fig. 17.

Fungus of sycosis (towards root)

But there is a variety of sycosis which I now describe for the first time. The hairs of the beard are noticed to be bent at one or more parts of their shaft, and at these bends what appear to be little white knots are seen. These knots, however, may be seated at any part of the shaft. When the hair is brushed it breaks off. This condition is seen in the beard and whiskers in adolescents and middle-aged men. On placing a "knot" under the microscope, it is seen at once that the fibres of the hair are separated, the fibres forming a little brush-like rim all round the shaft. On careful scrutiny, fungus elements are seen upon and between the frayed out fibres, and in minute form in the shaft itself. The hair can often be split up into

two or three bands, after the addition of an alkali. The figure 18 will readily explain this condition. I

Fig. 18.



have seen the free end of the hair present a brush-like appearance. It is due to a fungus getting into the root and developing in the shaft after being carried some distance along it.

Diagnosis of Parasitic Sycosis.—It can only be confounded with impetigo menti and acne: the first is more superficial, often acute, has more crusting, the hairs in it are not loosened, but cause pain in extraction. In parasitic sycosis, the origin from an itchy, scaly spot, the induration of the separate spots, the absence of free crusting, the looseness of the hairs, and the presence of the fungus, as shown by the microscope, are distinctive. Acne of the beard resembles tinea sycosis. Other acne spots exist on the parts free from hairs or elsewhere, the hairs are not disorganized though they may be somewhat loosened, and there is an entire absence of parasite or its effects on the hair-shaft. Syphilitic disease is known by its concomitants.

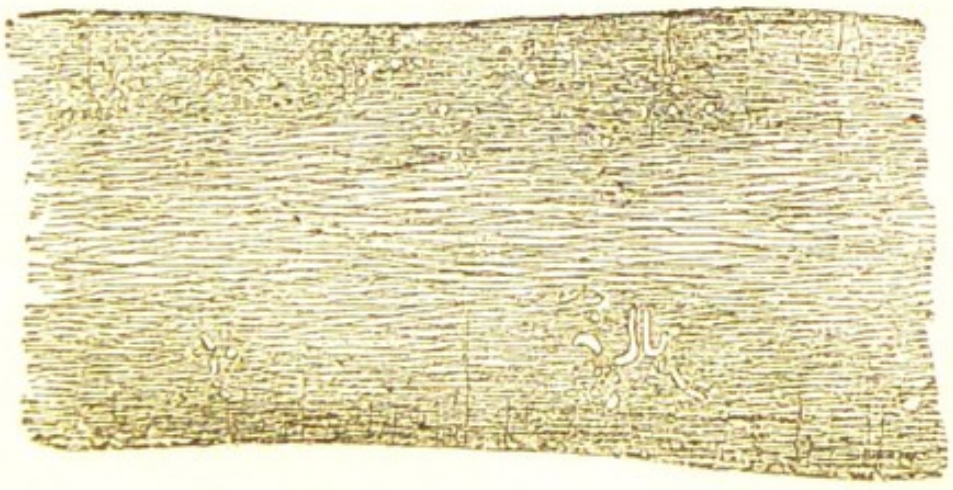
Treatment consists of epilation and the use of a parasiticide, the avoidance of stimulating food and

drink. The treatment in fact is the same as tinea tonsurans. See Formulæ—Parasitical remedies.

TINEA DECALVANS.

Tinea decalvans, alopecia circumscripta, or area: these are the names given to a disease which is characterized by the presence of circular, perfectly smooth, pale, bald patches, varying in size from one-third of an inch to one or two inches or more in diameter. Patients say that they discovered a small bald spot, which has got steadily larger and larger. There may be several spots. There may be slight scurfiness. The patches are well-defined. The disease attacks young people, and especially girls, as far as I have seen; but is the most common form of parasitic disease in adults. The hairs around the bald patch are more or less dry, come out readily, and are seen to be bulbless, and tapering at their roots towards a point. Under the microscope, in some instances, at intervals on the shaft, are collections of minute spores, and also in the little masses of epithelium that stick to the hair. The hair may present bulgings here and there, which

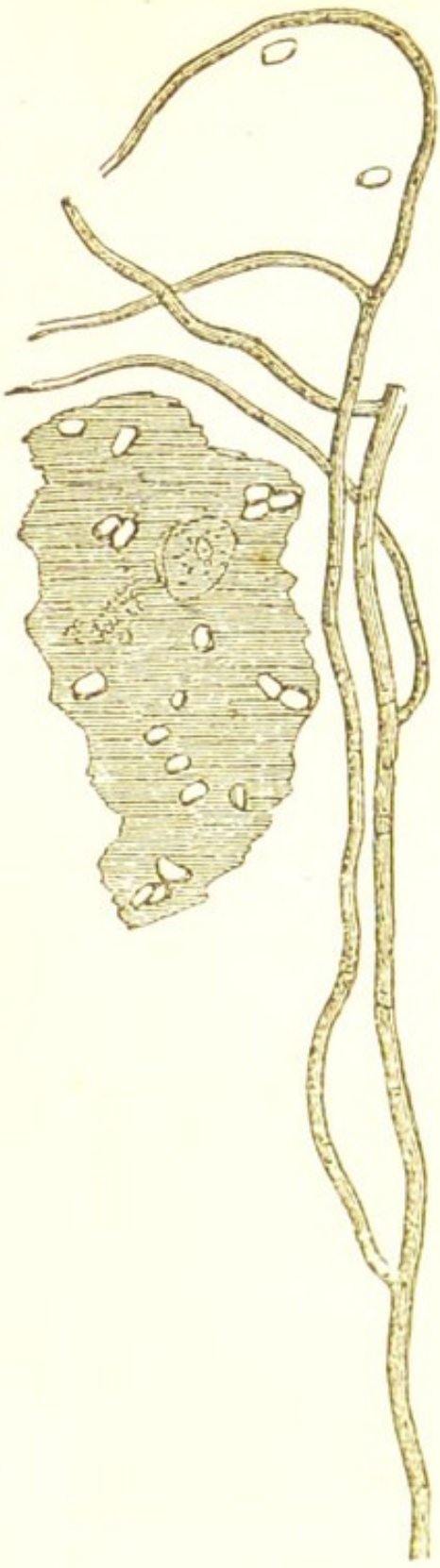
Fig. 19.



Minute fungus in tinea decalvans.

are due to the presence of abnormal granular matter, partly pigmentary, partly the minute stromal form of

Fig. 20.

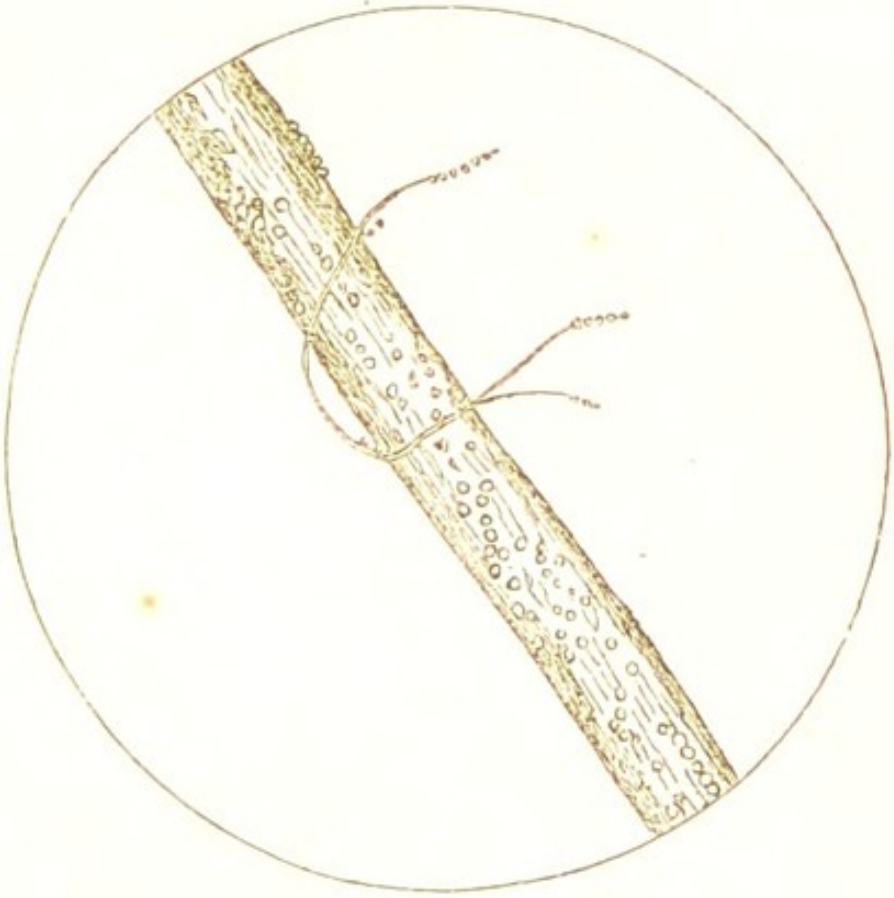


the fungus, which is also scattered throughout the hair, and remains mostly undetected, see fig. 19. I have shown this repeatedly by artificial germination, by which I have obtained the distinct sporular form in the course of a few days from what appeared to be mere granular débris. See fig. 9 and fig. 20: the last represents the appearance developed from the microsporon Audouini in glycerine, in the case of a child at Charing Cross Hospital. There were large spores in the epithelial débris and luxuriant mycelial threads. The fungus is the microsporon Audouini. The spores are from $\frac{1}{25000}$ to $\frac{1}{5000}$ of an inch, the filaments few, wavy, and devoid of granules. The ordinary appearance of the fungus is seen in fig. 21. The fungus is sometimes found in the epithelium at the extending edge of the disease. I believe, however, that it often lodges behind in the empty follicles, attacking the formative papillæ therein, and interfering with the proper re-formation of the hair.

I now have described the most common form of

circumscribed alopecia or tinea decalvans; but localized baldness may be produced by other than parasitic causes, and the confusion of the parasitic and non-

Fig. 21.



parasitic forms has led to great difference of opinion, which still exists. In any atrophy of the skin, the tapering hairs (atrophied roots) may be found, and even fungus elements are seen. I believe also that bald patches may be the result of a failure locally in the nerve activity or an atrophy *pur et simple;* and, indeed, the hair of the scalp, eyebrows, pubes, and whiskers may disappear; but in these instances there is always thinning of the entire derma; the hair-follicles are invisible, participating themselves in the general atrophy; the sensibility is diminished, so that the application of strong vesicating fluids scarcely irritates the scalp if it does so at all. There is a general thinning of the hair during the progress of the baldness, and often

antecedent neuralgia or some definite impairments of nutritive power traceable to an efficient cause, and no parasite to be found. On the other hand, in the parasitic form, the hair-follicles are visible, there is not any diminution of sensibility more than is due to the inactivity of the follicles, and there is often antecedent erythema, with concomitant scaliness over the bald patch, whilst the loss of hair is in strong contrast to a vigorous growth often of dark black hair around, on a head with a good crop of hair. I am quite clear as to the parasitic form. It is sometimes contagious. A remarkable case in point was afforded at Hanwell a few years since, where the disease spread from one to between thirty and forty children in the same part of the building; the ordinary fungus was detected in these cases, which are alone explained by the contagious nature of the disease. There are also transitional stages between the parasitic variety and tinea tonsurans—the two may exist on the same subject even (see *British Medical Journal*, Feb. 29th, 1868). I think, then, that circumscribed baldness may certainly be parasitic; but, moreover, it may be non-parasitic, and then a part of an atrophy which affects the entire thickness of the skin. The important point to recollect is the stromal form of fungus present. A localized baldness as well as general thinning may be produced by syphilis.

The Diagnosis I have given in the above remarks sufficiently in detail.

The Treatment.—I may as well speak of the non-parasitic here so far as to say that the general treatment consists in the exhibition of those particular drugs that tone up the nervous system, such as strychnine, large doses of dilute nitric acid, &c. Locally, the use of iodine paint twice a week, continued for some time, and then free stimulation with cantharides, are the best remedies. A host of panaceas have been sug-

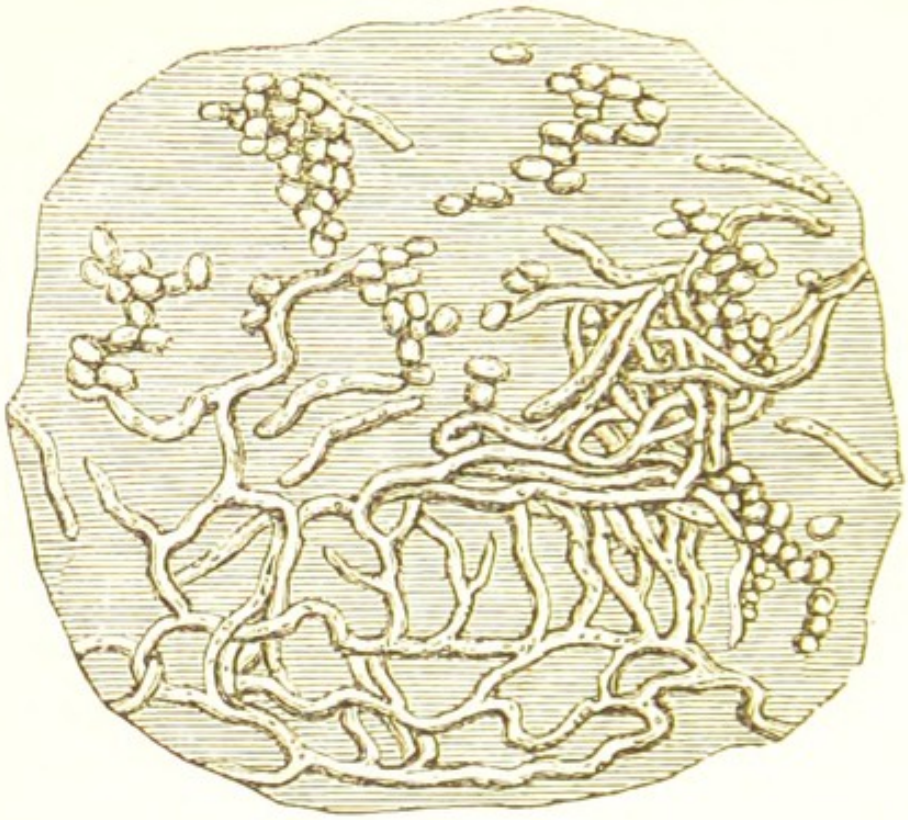
gested, but I cannot mention these here. As to the parasitic form, my plan is to blister all patches that are on the increase with blistering fluid—twice or more—to pull out a few of the hairs around the patch, then to rub in for some little time bichloride of mercury ointment (gr. ij—v to ℥j), and finally, to stimulate with nux vomica, cantharides ointment or lotion; and by perseverance I scarcely ever fail in my object. I give iron, cod-liver oil, bitters, or other drug, as the special nature of each case may require.

TINEA VERSICOLOR.

Tinea Versicolor.—Chloasma or *pityriasis versicolor*, often commences as little erythematous points, attended by itching, which is increased by warmth of all kinds. This stage is rarely observed. The patient presents him or herself with patches of a fawn colour, which are slightly elevated, dry, rough to the touch, somewhat scaly at the edge, and from which branny scales can be rubbed off. These patches are itchy, especially when the body is warmed; occur chiefly on the parts covered by flannel, and, it is affirmed, in phthisical patients; they may spread and cover large tracts of surface, may be developed quickly all over the chest and arms, or occur in patches the size of from a threepenny-piece to the palm of the hand. Chloasma is especially common on the front part of the chest and belly. If the scales be examined, their under-surface will be noticed to be studded with little collections of spores arranged in heaps, and mycelial threads freely interlacing. The minute hairs of the part are more or less infiltrated, and the fibres split up. The disease has been noticed by myself to be produced by the implantation of the oidium, and by Mr. Hutchinson from the fungus of tinea tonsurans. The plant is the *Microsporon furfur* (see fig. 22) (Eichstädt).

The spores average in size between ·0008 and ·002 mm.; they are round, do not contain granules, are said to be

Fig. 22.



Microsporon furfurans.

"bilinear," and to be collected into little heaps, which are sub-epidermal. The mycelial threads are much branched and wavy.

Diagnosis.—I am constantly in the habit of seeing patients with chloasma who have been treated vigorously for secondary syphilis. Such a mistake ought not to occur. It is generally when the chloasma is extensive that error is made, but syphilis never produces an extensive fawn-coloured staining like chloasma, and never elevated and desquamating. But here are the diagnostic points in the two cases :—

Syphilitic stains.	*Chloasma..*
1. Colour brownish.	1. Fawn-coloured.
2. History of syphilitic infection.	2. No syphilitic history, perhaps.

Syphilitic stains.	*Chloasma.*
3. Preceded by roseolous rash and slight pyrexia, with congestion of the fauces, &c.	3. No antecedent erythema as a rule, no pyrexial symptoms, no throat congestion, &c.
4. Seated on all parts of the neck, breast, face, forehead, and arms.	4. Parts covered by flannel generally.
5. Absence of itching as a rule.	5. Itching troublesome, increased by warmth.
6. Circular form of the stains, varying in size from that of a fourpenny to that of a two-shilling piece.	6. Patches generally of irregular shape, often of large size after the disease has existed for a while.
7. Desquamation absent.	7. Desquamation usual; branny scales can always be scraped away.
8. No elevation.	8. Slightly elevated.
9. Other forms of secondary disease often present.	9. Eruption uniform.
10. No parasitic elements found.	10. Parasitic elements easily and always detected.

Chloasma may occur in men who have had syphilis, and with some frequency perhaps; but that is readily explained by a special process of contact. Leucoderma may resemble chloasma, but there is no desquamation and no parasite, as there must be if the extensive staining were parasitic.

Treatment.—I have one mode, and it is always successful. I apply a weak alkaline solution, first of all, or wash with yellow soap, then sponge with a

little weak vinegar and water, and apply freely a lotion composed of four drachms of hyposulphite of soda and six ounces of water. A hyposulphite bath once or twice, if the cure be obstinate, will aid somewhat; but I never require much else than this for any case.

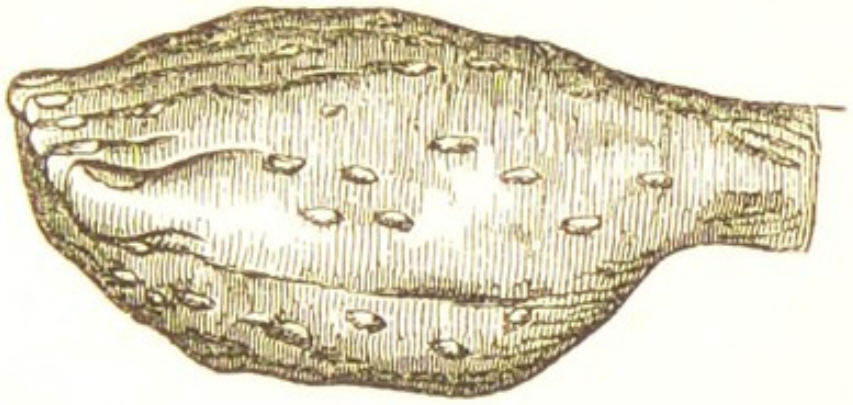
Tinea tarsi comes under the notice of the ophthalmic surgeon; but it may be as well to say that the inflammatory state of the Meibomian glands frequently seems to depend upon the presence of the trichophyton. The fungus is the trichophyton.

MADURA FOOT.

The *Madura foot, Fungus foot of India*, or *Mycetoma*.—The characters of this disease can only be summarized here. The malady depends upon the presence of a parasite which makes its way beneath the integuments mostly of the foot to the bones, producing symptoms closely resembling caries. There are numerous sinuses leading to the diseased bone, and giving exit to fungus elements in the form of little black, white, or red masses, together with thin seropurulent or viscid secretion. Mr. Minas, in the *Indian Medical Gazette* for May 1, 1868, describes and figures the disease (as attacking the hand and the foot). It began in one case as a blue spot on the palmar surface near the index finger. In a year a fistula formed on the dorsum, and the hand enlarged generally with intense pain. I have taken the liberty of giving a copy of one of his representations. (See fig. 23, of a diseased foot.) If an examination of the structures of the foot be made, we find them studded with little masses of varying size, which may be black, red, or white, and which may be picked out from apparent cavities lined by a special membrane. The little pits containing these may be situated in the bone, and are caused by simple absorption. The joints are healthy, and no true caries exists. Dr. Eyre describes the appearance of the

soft parts, as composed of "numerous minute tubercles resembling fish-roe lying beneath the muscles, and extending from the bones to beneath the skin, and

Fig. 23.



nodules composed of the same, often black in colour." These latter often surround the apertures of the sinuses on the surface. In addition to these elements, there is more or less fleshy substance infiltrated amongst the tissues, together with fat and sloughy matter; the general health remains good for a long time; but after a while the pain debilitates; when the disease is removed by amputation the patient's debilitated condition rapidly improves. The fungus is the *Chionyphe Carteri* (Berkeley). Dr. Carter says in the early stage there are little elevations which burst and discharge a thin yellowish puriform fluid containing granules like poppy seeds, the skin being thickened on the plantar surface, and knotty here and there. Mr. Moore of Rajpootana says it appears as a nodular swelling, presenting black particles beneath the integument as if gunpowder or Indian ink had been pricked into the foot. The fungus occurs in masses, varying in size from that of a pin's-head to that of a bullet. As before observed, they are black, white, or red. The *black* variety, brown within, and having a radiated aspect on section, is made up of tubular, cylindrical, knotted threads, radiating in every direction, and terminating

in globular dilatations $\frac{1}{120}$ inch in diameter, the fibres being about $\frac{1}{3000}$ inch in diameter; they may be beaded. The smallest masses are a mere packing together of these globular dilatations. In addition there are scattered amongst the fibres: oval, clear, thick-walled cells, from $\frac{1}{2000}$ to $\frac{1}{800}$ inch in diameter, which give off prolongations; granules: fatty matter: and a framework of fibres. The *light*-coloured variety occurs in smaller masses than the black variety, and is composed of the same elements—viz., beaded fibres, compound or simple cells of pinkish hue oftentimes, which can be seen when aggregated, by the unaided eye; they are very numerous, and on examination the cells appear to be often quadruple, double, triple, or cuboid; there are also some little brownish masses like poppy seeds. The two chief forms, then, in Chionyphe Carteri are, "cylindrical articulated threads," ending "in large spore-like cells," and brood filled with daughter cells. The latter are often dotted externally with a radiating growth assuming a variety of forms, which, as I have remarked elsewhere, is probably produced by the crystallization of fatty matter. Mr. Berkeley believes the Chionyphe Carteri to be closely allied to the genus *Mucor*, but differs in the absence of the columella in the sporangium. Fig. 24 and descriptions, which are Dr. Carter's, sufficiently indicate the characters of the Chionyphe. It is stated that partial amputation and the use of acids or strong parasiticides are successful in arresting the disease.

PLICA POLONICA.

This may soon be dismissed. This disease is produced by the matting together of the hair, subsequent inflammation of the hair-follicles, the infiltration of the hair with blastematous fluid, the assemblage of pediculi, and the presence of some few vegetable spores. It is in reality felting produced by neglect. I must refer to my work on parasitic diseases for further information.

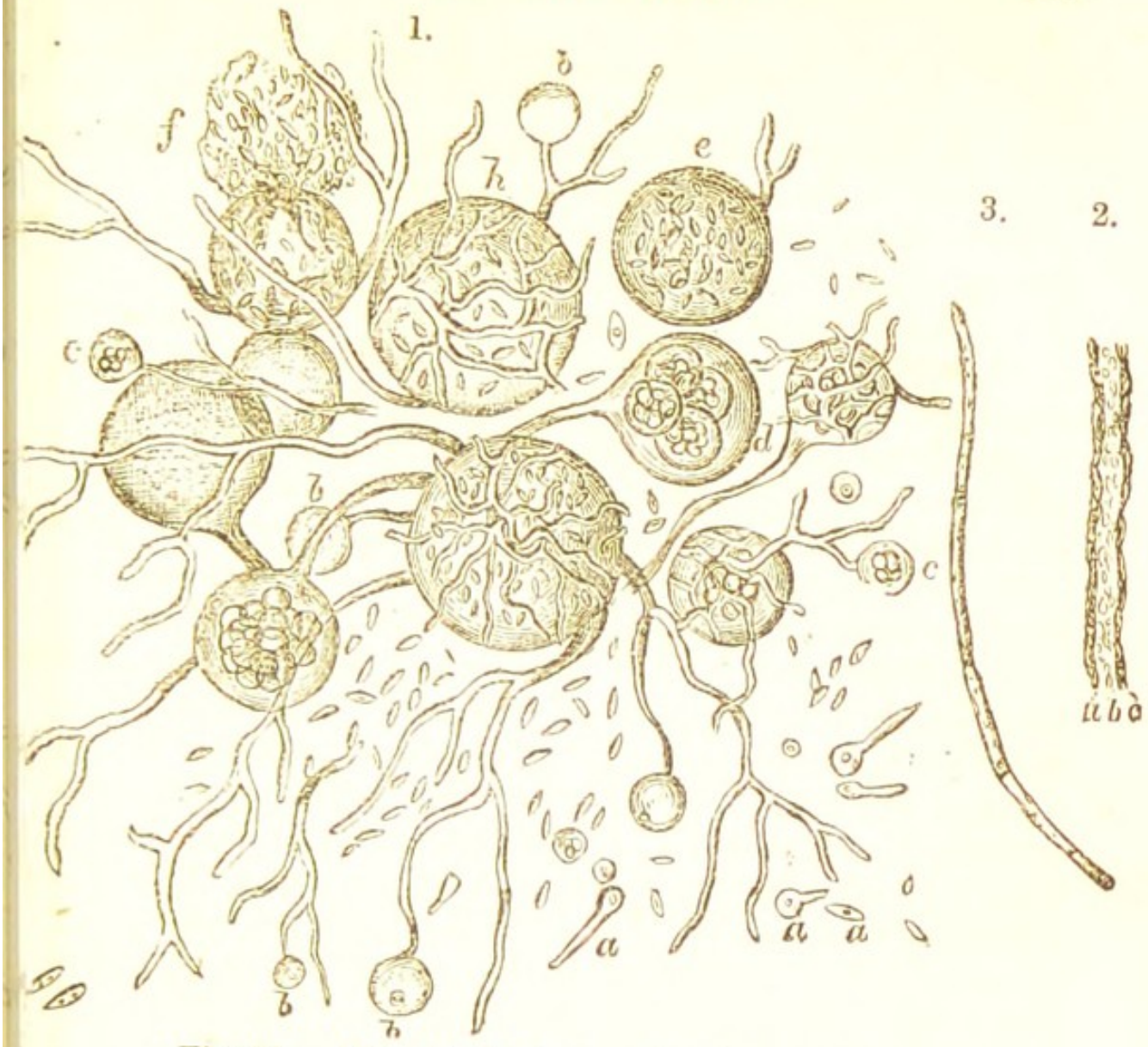


Fig. 24.—After Beale, from a drawing by Carter.

1. *Red Fungus* which grew on the surface of the fluid covering the portions of a foot affected with the "Black Fungus," magnified to show its development from the germinating sporidia, *a*, *a*, *a*, to the formation and bursting of the spore *f*.

a, *a*, *a*, *a*. Germinating sporidia. *b*, *b*, *b*. Commencement of spore-cells containing nucleus. *c*. Nucleus and contents of spore-cell further advanced. *d*. Apparent quadruplication of contents of spore-cell with further subduplication of their interior. *e*. Spore and sporidia formed. *f*. Spore bursting. *g*. Sporidia more magnified to show shape and nucleus. *h*. Spore embraced by a condensation of small filaments, very common, if not constant.

2. Felt-like form of the layer of Red Fungus as it grows in the bottle. *a*. Filamentous layer. *b*. Layer of spores. *c*. Filamentous layer below.

3. Filament to show that it is composed of cells with a nucleus in the upper end of each.

ONYCHIA PARASITICA.

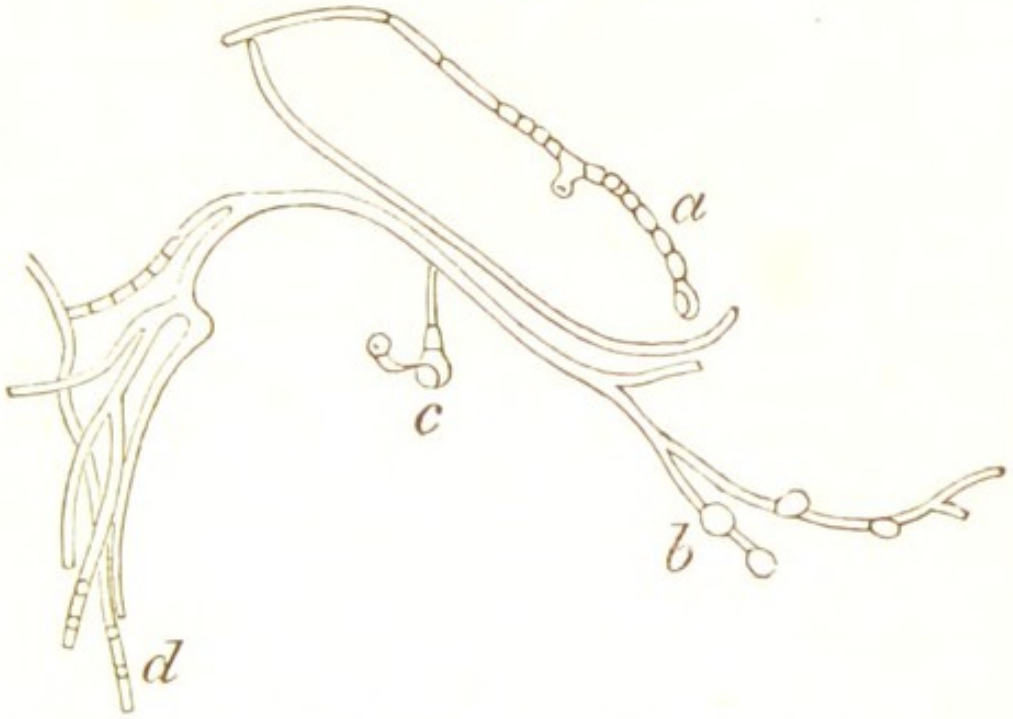
This disease, called also onycomycosis, or parasitic disease of the nails, requires a few words.

Now, in any of the tinea of the head, especially favus, the nails may be attacked by the fungus present. It acts upon the nail in the same manner that it does on the hair, it thickens and dries it, destroys its polish, renders it brittle, and the parasite can be seen growing into and amongst the component elements of the nail. I may as well relate the cases by Dr. Purser recorded in the *Dublin Quarterly Journal*, for November 1865. He gives two cases. The first is shortly as follows :—Nail dirty brown, streaked with lines of a darker colour, greatly thickened, and at its free extremity separated from its bed by a mass of soft nail substance which could easily be picked out. The entire nail was somewhat roof-shaped, a prominent ridge running along its centre ; its surface was uneven and traversed by rough lines ; longitudinal striæ well marked ; the nail had a tendency to split up ; and the microscopic appearances of a bit of the nail were as follows :—(1) spores like those of trichophyton ; (2) filaments tortuous and branching, jointed and containing nuclei ; (3) larger, less branched, brownish filaments, containing spores, walls of many indistinct-looking like moniliform chains ; (4) granular matter. In the second case the appearance of puccinia was simulated. Dr. Purser describes the fungus as trichophyton, and by his courtesy I am enabled to give a figure of one of the specimens (see fig. 25). In the Report of the Clinical Society of London for the 13th March, 1868, the following occurs in reference to the achorion (favus parasite) attacking the nail :—

"Dr. Hilton Fagge exhibited three patients affected with parasitic disease of the nails. These cases were remarkable not only on account of the rarity of such affections, but also because they had an important bearing on the question of identity or non-identity of

the vegetable parasites which attach to the skin. The first case was that of a child aged eleven, who had for

Fig. 25.



some years suffered from favus in a very severe form affecting the head and limbs. The disease of the nail—of the left little finger—however, had only commenced about three weeks before she came under observation. There was, therefore, an unusually good opportunity of observing the course of the affection. The tubes and spores of the fungus were seen to penetrate the substance of the nail, gradually invading it till they reached its root. The lamina of the nail then became loose. The progress of the disease thus differed entirely from the description given by Bazin, and English writers who had followed him, according to which description a favus-cup forms beneath the nail, and gradually perforates it. The affected part of the nail was of a sulphur-like colour, and when the lamina had been removed the bed remained covered with an irregular striated mass of nail-substance of a yellow or a brownish hue. This appearance was precisely that of the diseased nails on the other two children, and on microscopic examination

they too were found to present sporules and beaded tubes as of achorion. Yet these two children, who were sisters, displayed no cups nor masses of favus on the scalp or other parts of the body. Dr. Fagge entered into some further details respecting these cases, from which he stated he was led to regard them as affording strong confirmation of the view maintained by Hebra and by Dr. Tilbury Fox that the fungi found in the different forms of favus are in reality mere varieties of one microscopic plant."

A less severe form of similar changes may be produced by the microsporon Audouini (tinea decalvans).

The Diagnosis must be made from psoriasis and syphilitic onychia. Suspicion is aroused by concomitant parasitic disease of the head, and the microscopic detection of the parasite is conclusive.

Treatment.—The nail should be removed if the disease is deep and extensive. If superficial, scraping away the lamina is needed, and strong carbolic acid lotion perseveringly used, or glycerine and hyposulphite of soda lotion, will be the best remedies.

MYRINGOMYCOSIS.

Another disease to note under this section is one caused by the growth of a fungus within the meatus of the ear. It has been re-described by Wreden lately, in the "Comptes Rendus," Aug. 26th, 1867, and named myringomycosis or myconyringitis—outlandish terms both of them. The fungus is the aspergillus nigrescens and flavescens, having all the characters of a glaucus save in colour, or an ascophora elegans. In four out of ten cases, Wreden found the disease on both sides. There was much derangement of the function of hearing and a good deal of irritation. The fungus tends to form an interlaced mass of fibres or rather a white shining tissue, studded here and there with black points (aspergillus nigrescens), or brownish yellow (A. flavescens). The injection of a weak solution of hypochlorite of lime

or arsenite of potash is recommended by Wreden. The same authority suggests that the source of these moulds may be the walls of uncleansed and stuffy rooms. Lastly, in pruritic irritation of the vagina, oidial forms of fungus may be present as the cause. This has been called *vaginal mycosis*. A parasiticide at once stops and cures completely the pruritus which otherwise might be troublesome. Anal irritation in children after thrush may arise from a similar cause.

CHAPTER XIX.

NEUROSES OF THE SKIN.

Disorders of the nervous element of the skin come under this head. They are characterized by alteration in the sensibility or by structural changes, the immediate result of disease in the nerves themselves. Now disorder of the nerves of the surface may be secondary to various morbid conditions, and so we find altered sensibility, itching, pain, and the like, in many general diseases, in local inflammations, and indeed skin affections generally, whilst structural changes, due to nerve change, may be part of a well-marked general disease, like elephantiasis. Nerve disorder occurring under such circumstances is secondary, and in one sense accidental: it is therefore described in connexion with the several affections in which it occurs. In other cases the nerve disorder is the prominent, primary, and practically the sole disease—and this independent form of disease will be described here.

The affections then truly comprised under the head of neurotic disease are—

1. Increased sensibility, or hyperæsthesia.
2. Diminished sensibility, or anæsthesia.
3. Perverted sensibility, including pruritus and prurigo. The changes in the skin in prurigo are secondary to nerve disorder.

It may be asked why not rank urticaria and herpes under the head of neurotic disease? What is the objection if that term be extended in its meaning? For the present I have described urticaria as an erythematous disease, and herpes under bullous disorders, for though these cannot be produced without the

agency of the sympathetic or cerebro-spinal nerves (and their excitability is a *sine qua non*), yet the nervous element is not the only one, though it is prominently involved in these diseases. Herpes occurs in catarrh, as a critical eruption in fevers: urticaria from the circulation in the blood of special articles of diet or medicinal bodies, and for these reasons I have left those two diseases, the one under erythematous, the other bullous affections. I think that if herpes is neurotic, so is pemphigus. Then again, if we widen out the meaning of the term neurotic, we must include under it elephantiasis, in which nerve disorder, that can be felt in the case of the superficial nerve trunks, precedes the alteration in the skin, but is itself the consequence of the effusion of a special fibrinous material into the cellular structures generally. In neurosis the disorder of the nerves is the primary and the real disease, the other changes are secondary.

Hyperæsthesia, or exalted sensibility of the skin, if general, is secondary to brain and spinal diseases; occasionally it is idiopathic, and when this is the case, it partakes of the nature of a neuralgia, or is hysterical in origin. The skin is morbidly sensitive to all impressions, the clothes, the air, pressure, even that of lying.

Anæsthesia is a secondary symptom of other diseases, such as morphœa, atrophia cutis, and I name it here for the sake of completeness.

PRURITUS.

This disease is characterized by the occurrence of what is termed "itching." This may co-exist with, or be entirely unaccompanied by, change of structure. The word pruritus is generally used in common parlance to signify itching, whensoever and wheresoever it occurs. As a secondary disease it is produced by *general causes—e.g.*, the rheumatic diathesis, the

circulation of morbid elements, as bile, excreta; by alterations of temperature, gastro-intestinal disturbance, nervous diseases, genito-urinary and uterine derangements, sedentary habits, rich stimulating diet; by *local causes*—ascarides, piles, parasites (animal or vegetable); by various skin eruptions, especially lichen, prurigo, psoriasis (in its early stages), eczema. When pruritus is spoken of in the abstract, itching, as constituting the primary and sole disease present, is signified, and the nervous character of the itching is frequently shown by its sudden appearance, its almost as sudden disappearance, and often its marked tendency to periodicity.

Pruritus may be general or local, and it is very usually followed by secondary changes in the skin. When general it may be due to an inactive state of the skin, by which the nerves are irritated, or it may arise from reflex irritation. The local forms are the most important. They are P. ani, P. scroti, P. pudendi, P. præputii, P. urethræ.

Pruritus præputii is merely itching of the glans, connected with an abnormal secretion of sebaceous matter by the follicles there. Pruritus urethræ is itching connected with disease of the bladder. But in P. ani, scroti, and pudendalis, we have marked itching as a primary feature with secondary eruption, and other changes, such as discoloration of the skin, excoriation, &c. These are the features of prurigo, and therefore these three varieties of pruritus should really be regarded as local prurigos. I shall describe them accordingly as such; these local varieties are often as troublesome as the general disease.

PRURIGO.

I have read with very considerable regret that which has been expressed in England of late in regard to this disease. The leading dermatologists are agreed on clinical grounds that the neurotic character of the

disease is sufficiently marked to classify it under the head of neuroses of the skin. Since the intense itching is often the sole as it is the primary and important thing present—other phenomena observed in the skin are secondary.

Prurigo is a disease of advanced life. When fully developed it is characterized by three sets of symptoms:—(*a*) intense pruritus, which is increased by heat of all kinds, the warmth of the clothes, and is generally described as a creeping sensation, such as would be caused by a multitude of insects; (*b*) a peculiar unhealthy, yellowish, infiltrated, but yet wrinkled and flabby state of skin; (*c*) the presence of papules, which are not prominent, but flattened more or less, disseminated, and showing at the summit of each a black speck, caused by the drying of a drop of blood, which is effused in consequence of scratching. The pruritus is peculiar; it is burning, creeping, tingling. Friction aggravates it, and yet the patient tears the skin with his nails, and thus induces secondary changes (erythema, pustules, wheals, and ulcerations); and a peculiar *quasi*-urtication is frequently seen, and produced by exaggeration of the little areas of skin enclosed by the natural furrows. These are the broad papulæ of prurigo. In addition, the skin becomes more or less pigmented in chronic cases. Prurigo may be partial or general; it occurs generally about the back and outer aspect of the limbs; about the shoulders, the clavicles, and the belly; it is often localized to the anus or genital organs. The pruritus may cause sleeplessness, loss of appetite, and a condition of general discomfort and misery.

Now in hospital practice especially, in connexion with these changes, pediculi are observed. This is a very old fact indeed; and it has been thence concluded that pediculi are always the cause of prurigo. Clinically this is not true. Prurigo as I have described it, may exist without the vestige of a pediculus, as an

essentially neurotic disease. It is not common to have prurigo without lice in uncleanly persons, in hospital practice; but to say that every man who has prurigo is "lousy" is not a fact.

Neligan, speaking of prurigo in old people, says—"the chief peculiarity, however, in prurigo senilis is that it is invariably attended with the appearance of innumerable pediculi;" and he styles this "a complication never absent in the poor and in persons of filthy habits. Their presence aggravates the other symptoms." This form is often called prurigo pedicularis. The relation between the two I will speak of directly. The varieties of prurigo are—*Prurigo mitis*, *formicans*, and *senilis*, with local varieties before referred to under the head of pruritus.

Prurigo mitis is the least expressed form of the disease; occurs in summer, about the back, the outer part of the limbs and shoulders, under the clavicles, and about the thighs. It is seen in the young sometimes; the skin after a while becomes muddy and thick.

Prurigo formicans is a more severe form of disease, and attacks elderly people: the main peculiarity is in the sensation, which is that of the creeping of innumerable insects over the skin, accompanied by a burning feeling that keeps the patient awake, and distresses him. Scratching gives rise to pustulations, with subsequent discoloration of the skin. The eruption is pretty general.

Prurigo senilis is the fully-developed disease as I have described it, and in this form pediculi are mostly present in uncleanly people; they are found in the folds of linen, especially about the armpits, and require to be carefully looked after for detection. Contrasting those cases in which pediculi occur with those in which they do not, we notice "louse-bites" in the former and not in the other. The louse-bite being a flat, at first palish elevation, with a central dark spot where the

wound has been inflicted. These have long been recognised.

Local Varieties.—In these the papules are not very numerous, but the pruritus is oftentimes terrible. *P. podicis* is seen about the anus, chiefly of adults, and is sometimes produced by irritation from ascarides: it attacks sedentary people, or those who suffer from hæmorrhoids; papulæ of characteristic aspect are seen, the skin gets thickened, and in consequence of the contiguity to the mucous surface, gives out a moist discharge. *P. scroti* is the same disease in another situation. In consequence of the moist secretion and excoriation, an eczema is simulated. In *P. pudendalis* the redness of the mucous surfaces of the vulvæ and vagina is accompanied by paroxysmal pruritus of burning and distressing kind; the parts swell, the surface discharges, and the acridity of the fluid causes redness (intertrigo) of the surface outside the passage; nymphomania is induced, and occasionally papules are detected.

Besides these varieties, there are some mixed forms of disease. Prurigo often complicates scabies; in which case the papulæ of prurigo are noticed, scattered over the forearm, the abdomen, and thighs—not on the face: this may be called scabies pruriginosa. Strophulus pruriginosus and pemphigus pruriginosus occur, and have been described.

Pathology and Cause.—The basis of the disease is a paresis, a disorder of the nervous element of the skin—a neurose. This disorder is brought about in young people by bad diet and bad keeping; in old people, it is a part of commencing decay signified too plainly in the loss of elasticity, and the semi-atrophy of the skin tissue. The neurotic aspect of the disease prurigo is well shown in the burning, tingling, formicant character of the disordered sensation. The importunate character of the itching has been ludicrously ascribed to the large size of the pediculus; the

explanation of this theory is not given. The burning has been attributed to the "contact with the air of the chafed and excoriated surface of the skin;" (But how account for this burning before any chafing or excoriation occurs?) the formication, to the fact that the pediculus *is the same size as an ant*, and "to the formidable-looking claws with which the feet of the pediculus is armed, and with which it clings to the skin" (? clothes). The reason that pediculi occur in prurigo is this—viz., that the state of the secretions is that exactly suited to their development. The concomitance involved in the presence of pediculi in prurigo does not imply cause and effect, else might we ascribe the decay of organic matter solely to the influence of fungi, when the development of the latter takes place in consequence of certain antecedent alterations in the decaying material by which the way for its death and destruction is paved: the germs of fungi being ever present to take advantage of the opportunity to grow and help onward the process of decay.

The following are the arguments against the necessarily pedicular origin of prurigo. I do not say that pediculi may not be the exciting cause in uncleanly persons; they may, in common with other agents, act in that way, but unless there be a disordered state of the nervous plexus of the skin, and an unhealthy state of the integument itself, no prurigo would result. Now, first of all, a necessary consequence of the pedicular hypothesis is the denial of the relation of the local forms of prurigo—in which no pediculi certainly occur—to general prurigo, yet in these all the features of prurigo are present.

The peculiar pruritus may be present as the primary disease.

I have seen in prurigo all the symptoms of disordered sensibility in the extreme, preceding the occurrence of an eruption, followed by special papular changes and excoriations, and no "louse-bites" what-

soever: and in all these cases of prurigo there were signs of a decay in the skin, its vitality was lowered, it had lost its elasticity, firmness, and fat, it was stained, its sebaceous secretion was disordered—the condition was favourable to pediculi.

Again, there is no relation between the amount of eruption and the degree of disordered sensibility. The "louse-bite" can always be detected if the pediculus cannot, so that the difficulty of detecting the presence of the latter is only an assumed one.

Pediculi placed upon a *healthy* surface will not give rise to prurigo. For example, a man may sleep with a lousy bedfellow, and the lice may seriously attack him, but he exhibits a quantity of what appear to be flea or bug bites, with some excoriations from scratching, and he complains of itching, but he soon gets well, and the active repair, and the absence of the dark crusts, &c., are very striking. To call this prurigo is wrong. If a man is old, unhealthy, and dirty, prurigo may be evoked by pediculi, or slighter forms of the disease appear in those who are out of health, as in overworked students, or jaded medical officers of workhouses, or sickly children. But pediculi only act the part—beyond the infliction of the bites—of local irritants. A pruriginous condition occurs in scabies, lichen prurigi-nosus, strophulus pruriginosus, pemphigus prurigi-nosus. In these cases we have no lice or louse bites; the pruriginous condition is clearly due to the lowered state of nutrition. The last clinical fact I will mention is this: that a patient with prurigo shall go to bed after using parasiticides, after taking his bath and putting on clean linen, and yet he shall have an inten-sification within a few minutes of getting to bed of all his pruriginous itching and burning. Does not this show clearly the nature of the disease?

Whenever pediculi are present in prurigo, they un-questionably play an active part in intensifying the disease; they superadd to prurigo the special features

of the "bites," and conduce to increased irritation, (and one of the chief points in treatment is to destroy them as early as possible,) but I contend that they simply act as irritants and not as primary producers of what has really a general origin. A recent writer has observed that one-sixth of all cases of diseases of the skin in public practice are prurigos of pedicular origin: that they are more numerous than scabies: these two classes together including one-third of all cutaneous maladies. Mr. Wilson states, that of 5000 consecutive cases 36, or ·72 per cent., were those of prurigo, 66, or 1·32, pruritus, and 148, or 3·68, scabies. This wide difference requires explanation. I have merely glanced over some of the points of interest, and I do protest against that doctrine which takes no cognizance of the general state of nutrition in prurigo, which declares that louse-bites are characteristic of prurigo, that general remedies are of no good, that the only cure is the use of mercurial ointment to the skin and baking the clothes, and that one-sixth of the persons afflicted with skin diseases are lousy.

All ages are affected by prurigo, but the advanced by far the most. Prurigo is mostly seen among the lower orders. Neglect of cleanliness, moral depression, change of season, bad living, bad clothing, bad food, and such like, are peculiarly predisposing. Amongst other excitants are pregnancy, local irritation, the free use of stimulants, and unquestionably the presence of pediculi.

Diagnosis.—Prurigo is known by the peculiar dark aspect of the papulæ at their apices, their dissemination on the outer and posterior aspects of the limbs and back; by the peculiar pruritus, the unhealthy, flaccid, dirty state of skin, and the uniformity of the eruption. In lichen, the papulæ are light-coloured, and without dark apices; the disease occurs on the inner aspect of the limbs, &c.; there is no "urtication," the surface is not withered, but dry, thickened, harsh, not flaccid. In

scabies, the eruption is multiform, seated about the interdigital spaces, on the front parts of the arm and body; the skin is apparently healthy, there is no burning pruritus; it also occurs on the seats of pressure, especially the tuberosities of the ischium, and exhibits the characteristic vesicle and furrow; in addition prurigo occurs not only on the outer aspect of the limbs, but also generally above the level of the nipple-line and below the upper part of the thigh; scabies, on the other hand, is seen mostly between these two lines of demarcation. In prurigo, pediculi are detected.

Scabies and prurigo may be conjoined. Here the characters of the two diseases co-exist.

Treatment.—Speaking generally there are three main objects, the first to improve the tone of the general health: the second to allay the irritation of the skin, when the secondary charges of papulation and the like subside: and the third to destroy any pediculi that may be present; and this latter point must always be attended to. Pediculi are readily destroyed by changing the clothes, which should be baked or thoroughly scalded, by careful tepid bathing night and morning, and the use of ammonio-chloride of mercury ointment, stavesacre ointment, or a solution of the pyrethrum roseum, and the removal of flannel from next the skin. I never find any difficulty in getting rid of them. If I am very assiduous in their destruction, I direct a powder in small amount composed of equal parts of oxide of zinc and white precipitate to be sprinkled about the armpits and over the clothes which come in contact with these parts. I believe the main reason of failure is inattention to change of clothes, and neglect in the prescription of proper ablution. The destruction of pediculi then is to be resorted to under all circumstances. Now, clinically regarded, the various cases of prurigo that occur may be fairly arranged into five groups. (1) Cases in which prurigo of a mild form complicates other

diseases, frequently in young people, as in lichen pruriginosus, again in pemphigus pruriginosus, and even scabies. In these cases all that is needed is the exhibition of cod-liver oil and quinine with better food. The pruriginous element is an evidence of special mal-nutrition of nerve origin, in which probably uncleanliness, in addition to bad living and feeding, has had much influence. A better hygiene and tonics, with perhaps alkaline baths, never fail to effect the desired change. In the case of pruriginous scabies, the cure of the itch is the first step; and tonics are specially useful according to my experience. (2) The second class comprises cases in which prurigo occurs in middle-aged men and women, in whom the pruritus is not of so decidedly a burning, formicant, character as in older folk: the skin is often tolerably well nourished: the atrophous state is but slightly marked. Here we get pediculi, and in such cases the main cause of their presence and their activity is to be found in tolerably bad living, a scanty change of linen, and absence of cleanliness. In these cases the cure is easy, by the destruction of the pediculi, together with enforced cleanliness. (3) The third batch of cases is that in which old people are attacked, and pediculi are present. Here the atrophous state of integument is more marked, and independently of the destruction of any pediculi, much requires to be done to improve the nutrition of the skin by general remedies. Arsenic is here admissible. The skin, too, is in these cases oftentimes very irritable, and, as a consequence, the pruritus is intense, and aggravated by change of temperature, by hot drinks, &c. It may be relieved by tepid and alkaline bathing. I do not commend the plan of applying tar, sulphur baths, and the like, to cases of prurigo such as these. There can but be the frequent result of over-stimulation. Internally, the mineral acids with strychnine, or in severe cases aconite, are the best remedies; where a gouty tendency exists, the

iodide of potassium is of use. The action of the kidneys also needs to be encouraged, by diuretics, in some of these cases. The circulation of bile products, and their non-excretion, are aggravating influences in other instances. The local irritation must be allayed by the adoption of scrupulous cleanliness, and by the application of various emollients and sedatives, which are found useful in the other varieties. The most common is one composed of from two to three or four grains of the bichloride of mercury, with two drachms of dilute hydrocyanic acid, and eight or ten ounces of water; lotions into whose composition watery extract of opium, belladonna, and chloroform enter are of service; several of these will be found amongst the formulæ; a good lotion is made with cyanide of potassium. For general use, the following may be employed: liquor plumbi two drachms, biborate of soda a drachm, glycerine two drachms, and lime-water six ounces. When the pruritus is severe its cessation or diminution is rather to be expected from sedatives given internally than lotions and pomades externally.

Now in some of these cases ecthymatous pustules appear. This is to me an indication for the exhibition of cod-liver oil or quinine. In certain cases, where the disease depended rather upon an atrophy than the influence of pediculi, I have found the little fat glands plugged up with exuviæ, and have been startled, on examining these with the microscope, to notice the large number of fungus spores therein. I have seen good results in such cases from the use of hyposulphite of soda lotion (half an ounce to half a pint of water).

(4) In the fourth group of cases the most troublesome instances of the disease are met with—those in which the pruritus is most intense, and out of all proportion to the "eruptive" manifestations; the prurigo is here sometimes clearly a part of a general disturbance of the system in which the nerves play the prominent part. For example, in connexion with asthma or

long-continued and severe "pyrotic" symptoms, or it may be a gouty tendency. The atrophy of the skin may be very well marked. These are the most difficult cases to treat, and those which puzzle the practitioner. Attention to diet, which should be unstimulating, regulation of the secretions, the use of opiates in connexion with tonics, such as ammonia and bark, strychnine, nitric acid and quinine, as the case may be, or tincture of aconite in moderate doses, with digitalis, where this is admissible, are the remedies of best action. Locally, lotions of various kinds may be employed; and here it seems that we must act empirically; in some cases dilute nitric acid lotion (℥j—℥iss to ℥vj of water), at other times alkaline lotions—ex., carbonate of soda (℥ij ad ℥vj), prussic acid, tobacco, the hot-air bath, &c., are serviceable. I frequently use the following:—Tincture of nux vomica, two drachms; tincture of digitalis, two or three drachms; glycerine, two drachms; and water, to six or eight ounces. This same kind of non-pedicular prurigo is seen occasionally in middle-aged subjects; then it is pretty well distributed over the body, but especially affects the shoulders, arms, neck, belly, legs, and about the calves. I have known it associated with "drinking habits." Free excoriations are caused by the scratching.

Here I have found that treatment has been successful in proportion to the degree of personal control I could exercise over my patients. I do not hesitate to purge, to give diuretics freely: to moderate the "heat of the body," declared to be present, by digitalis, and even antimonials. Colchicum may be also needed, reserving the mineral acids and bitters till a later stage. Locally, the attempt should be made to exclude the air by free smearing, first of all with a glycerine and zinc or lead plasma, and then "whitewashing" with oxide of zinc and water, or a whitening-paste, or even painting with glue and whitening. Saturation at night in a strong alkaline bath is another good plan. Alcoholics are to

be avoided, together with seasoned dishes, pickles, spice, pastry, salt meat. (5) Lastly, the local varieties need to be noticed. In prurigo of the anus; hæmorrhoids, ulcers, and ascarides of the rectum are at the bottom of many cases; the two former require surgical treatment. In other instances there is an eczematous state present, which is removed by zinc and lead lotions. In other instances the affection is purely neurotic: here, keeping the bowels relaxed, warm water injections, poppy-head fomentations, belladonna, opiate lotions, and black wash, constitute the agents of relief. In the other local varieties similar means are to be used; but there is one exceptional condition—viz., prurigo pudendalis; when the vaginal mucous membrane is inflamed and irritable, a borax lotion, or one composed of hyposulphite of soda does much good.

The observance of a rigorous personal hygiene is one of the most important points in the therapeute of prurigo: this, with good unstimulating diet, alkaline baths, astringent and sedative lotions, after destruction of pediculi, with opiates internally, constitute the basis of treatment. But I must add finally that in some instances, where debility is extreme, a free stimulating plan is advisable. See Formulæ Nos. 29, 36–7–8–9, 41, 45, 47–8–9, 50–1–2–3–4, 61, 66, 69, 105–6–8–9, 122, 141, 146, 151.

CHAPTER XX.

HÆMORRHAGES.

I AM indebted to my friend Dr. Buzzard for the following note on Purpura, the only disease which I have to describe under the head of hæmorrhages.

"The skin is liable to be discoloured by *hæmorrhages* into its structure. In typhus, petechiæ or spots of hæmorrhage are very frequently observed, and in other acute specific disorders, purple discoloration from hæmorrhage, may accompany or even replace, the natural eruption, in cases of extreme virulence. This is every now and then observed in variola, scarlatina, and rubeola; also in the course of chronic disorders—as of the liver, spleen, and kidneys—purple spots may appear on various parts of the skin. The term *purpura* is often applied to these conditions, and some little confusion has thence arisen, because by the same name is also designated a disorder which is independent apparently of specific poison, or of chronic organic disease. This disease may be very mild or (rarely) very severe. In the former case it is called *purpura simplex*, in the latter *purpura hæmorrhagica*. It is characterized by cutaneous hæmorrhage, giving rise to spots, patches, or bruise-like discolorations of the skin; and in the severe form, the hæmorrhage also comes from any or all of the mucous surfaces.

"Purpura is most commonly seen in its early stage as a minutely fine eruption of pin-point-sized specks, of a pink or purplish colour, covering the skin more or less extensively. The eruption is especially apt to appear on the lower extremities, and it is usually

most marked about the thighs and buttocks. In these situations there is usually a rapid aggregation of the specks into patches of irregular shape and size. After a few days there are intermingled with these, yellowish or buff-coloured patches, which are the sequelæ of the earlier eruptions. Here and there, too, will be seen bruise-like discolorations, extending over a larger surface.

"The same words will describe also another disorder —*scorbutus*—which, however, can be readily distinguished from purpura, by the following characteristics:—1. It is always caused by privation of fresh vegetable food. 2. The gums are usually swollen, spongy, discoloured, and bleeding. 3. There is always great lethargy and prostration, and the skin is of a peculiar dusky, dirty-looking pallor. These features are not observed in purpura. A purple eruption, then, which is not connected with the exanthemata, nor with chronic organic disease, and the history of which does not correspond with the characters of scurvy just given, may be safely set down as *purpura*. Another point of diagnosis still remains. In all forms of cutaneous hæmorrhage there is a gradual change of colour. First a more or less bright pink spot appears, which becomes in succession purple, brown, tawny, buff, and yellow. It never fades on pressure. Under these circumstances the spot at one time may look a good deal like a flea-bite, but it will be found to have no central puncture. The spots may be single, or aggregated into patches. They tend to appear fresh every day, or at short intervals. Under the use of fresh vegetable food the appearance of new spots is immediately checked, if the case be one of *scurvy*; but if *purpura* be the cause, this diet will quite fail to influence the progress of the eruption.

"As regard *treatment*, the cause must first be ascertained. Nothing need here be said respecting the management of cutaneous hæmorrhage occurring in

the exanthemata, or in chronic organic disorder. If scurvy be the cause, the patient must be immediately furnished with fresh vegetable food, and good generous living. Lemon or orange juice, potatoes, cabbages, and lettuces, are of especial value. The skin should be kept clean. The patient should be kept for the first few days in the recumbent position. No drugs need be given to him. The etiology of *purpura* proper is still but ill understood, and any treatment for it is therefore necessarily empirical. Turpentine, the perchloride of iron, and quinine have apparently produced the best results." See Formula 135.

I may just add that purpura is sometimes complicated urticaria, and then we have what has been called Purpura urticans. I have also seen purpura take its origin in abortive zoster. The attempt at the formation of bullæ failed, and in the place of these formations purpurous spots appeared.

CHAPTER XXI.

CHROMATOGENOUS DISEASES—PIGMENTARY.

ALTERATIONS of colour are produced of course by many different conditions, by an alteration of the blood current, by parasites, and other agents. These have been classified in speaking of maculæ under the head of elementary lesions. Reference is now made to cases in which the pigment-supply of the skin is alone concerned. Now, there are two groups of cases—(1) Those in which the pigment is deficient in quantity (*Leucoderma*), and (2) those in which it is in excess (*Melanoderma*). These may be congenital or acquired, general or local. The seat of change is the rete mucosum.

First with regard to

LEUCODERMA.

This may be general or partial. The former condition is represented by the albino, whose whiteness is congenital. The physician has to deal medically with the partial variety. Now, there are two conditions producing a partial whiteness—the one in which the pigment is deficient in one spot, but perhaps in excess at the adjoining part; it is not equally distributed; there may be no excess on the whole, nor deficiency, but unequal scattering. In the other case the general surface of the skin is normally coloured, but there is an absence in some one or more parts locally. The former condition I have seen in young men who have been exposed to the sun in hot climates, have had fever and then returned to England; it is not very common. The latter variety—that is, true partial

leucoderma—occurs especially in the black races, and consists of circular white patches giving a piebald appearance. In leucodermic patches the hairs are often white. The only change in the derma is that of pigmentation. Everything else is normal, save perhaps the sensation, which may be blunted. The extent of the patches, which may be round or serpentine or in the form of bands, varies. The disease may cover the chest and back, white and dark blotches being intermingled; it occurs in youngish folk. I cannot but think exposure to the sun's rays has much to do with its production, deranging the pigment-formation in the skin.

Diagnosis.—The fact that there is simply deficiency of the pigment without other change, save an apparent accumulation in parts of the skin contiguous to the white patches, must be diagnostic.

Pathology.—It seems clear that the disease may arise from depressed innervation. The action of the sun oftentimes sufficing to determine the occurrence of the disorder.

Treatment is often successful. A nutritious diet, a course of tonics, arsenic, iron, and the mineral acids, the correcting of any of the ill effects of the action of malarial poison, residence in a cool locality, and avoidance of fatigue, generally suffice for improvement. Locally, the use of friction and cold bathing, with iodine baths, are the best remedies.

MELANODERMA.

This term of course means excess of pigment resulting in dark discoloration, but the altered tint of skin may be blue, yellowish, or black, hence the terms cyanoderma, xanthoderma and melanoderma. A short description will suffice for these.

Melanoderma, or that in which the discoloration is black in colour, is general or partial. The latter is sometimes called melasma. There is a general dark discolora-

tion associated with disease of the supra-renal capsules, and now known as Addison's disease. I need not describe this. The local variety, or melasma, is important. It may be a "physiological" condition, as seen in the staining around the nipple and the linea alba in pregnancy; this condition may be excessive. Dr. Swayne has described a case in which there was a peculiar discoloration about the face, arms, hands, and legs, which were spotted like a leopard. The same woman thus affected exhibited like phenomena in her skin during the last three months of her two former pregnancies, the discoloration disappearing after each confinement. Then in anæmia, discoloration of the skin may occur about different parts of the body. In connexion with the syphilitic diathesis the earthy and very characteristic aspect of the surface, especially the face, is a melasma.

Lentigo is a variety—it is known as freckles. The seat of the pigment-deposit is the rete mucosum; it is often congenital, and of varying extent and distribution; generally, however, consisting of round yellowish spots, the size of split peas and less, not only on the parts exposed to the light, but also that covered by the dress, in those with fair skins, and particularly red-haired folk. There is no desquamation, no itching, and no heat of any kind: freckles often disappear after puberty; do not depend upon seasonal change; and require no treatment, except slight stimulation, acetate of lead, sulphate of zinc, and iodine lotions.

Ephelis (or *Sun-burn*).—In this particular variety of discoloration the pigment deposit is excited by the sun's rays. Sunburn consists of little dots the size of pins'-heads, which appear upon the parts of the body exposed to the influence of the sun, and are seen mostly in lymphatic subjects with delicate skins. Treatment is of little avail. We may, if we choose, use a little bichloride of mercury lotion.

Melasmic discoloration of the skin occurs in certain

states of the blood—*e.g.*, anæmia, syphilitic cachexia—as the result of the action of local irritants, such as the sun, strong light, blisters. It also follows chronic eruptions—syphilitic roseola giving rise to syphilitic maculæ. Indeed all forms of syphilitic disease leave a pigmentary staining behind, of course in this group of cases the melasma is a secondary and not a primary form of disease. Another melasma is found in pigmentary nævi, which are round, small, feel smooth to the touch, covered with a number of soft hairs and pigmented brown or black. These moles occur on the body, but especially the face and back; they are slightly elevated, are not nævoid in structure, and undergo little change; they are merely collections of pigment in the rete mucosum; they may cover over a large extent of surface, from several inches to a foot or more.

Xanthoderma.—In this disease the pigmentary discoloration is yellowish. It is characteristic of certain races, and is due to some special condition of the colouring matter of the skin, molecular or chemical.

Cyanoderma, or blue discoloration, is different from coloured sweat. It is a curiosity, if not, at least in the greater number of instances, a hoax. A curious disease is described by Dr. Arcken as endemic in New Granada and the northern parts of America, and is called *Carate:* it is diathetic, and characterized by the appearance of various colours on the body—dull white, copper, crimson, red, and dark blue—so it is said. There appear to be three varieties—the simplest, *blue*, which is seen between 15 and 25, and consists of oval or roundish spots on the face, extending to the neck and lower limbs even; the *white*, occuring between the ages of 30 and 40, rare in males, and usually associated with ovarian disease: this is leucoderma: lastly, the *rose-coloured*, consisting of red points on the hands, face, and belly, seen in both sexes. It is said to be due to bad living.

Pathology.—Mr. Wilson thinks that there is an anæmia of special features, accompanied by pigment-

deposit and change, due to debility of the nervous powers, and that the various colours are modified results. Especially in reference to melanoderma, he notices a peculiar condition of eye—"the melasmic eye." It consists of "a vivid brightness and brilliancy and sparkling lustre of the eyeball, a liquid depth of colour of the humours of the eye, and a strongly contrasting whiteness of the sclerotica, the effect being often increased by a more or less deep tint of a dull blackness of the integuments of the eyelids, more especially of the fold of skin of the upper eyelid which immediately borders on the eyelashes." The non-production of pigment may arise from local destruction of rete mucosum, &c.; from want of nutritive power, as in leucocythæmia; and, on the other hand, an excessive production is brought about by *imperfect oxidation*—the carbon is not burnt off as carbonic acid; by the *imperfect elimination* of the carbon, in deficient menstruation, diseases of liver and kidneys, deficient hair-formation, during disease in pregnancy (leucocytosis present), and by *the excessive production*, from the use of highly carbonized foods. Such are the causes given by Dr. Laycock. The above remarks apply to cases of true pigment-alteration. There is great distinction to be drawn between these and states of abnormal coloration, due to an alteration of the hæmation of the blood, and not to the excessive production of pigment, as in sallowness, icterus, chlorosis, scorbutus, cancer, and splenic disease.

The Diagnosis of these discolorations offers no difficulty; the colour is altered, and that alone.

Treatment.—This is generally that of anæmia. Locally little can be done. Organic disease must have its appropriate treatment. Sometimes there is excessive waste going on in the system; in that case the diet, the use of stimulants, nerve tonics, change of air, mental rest, and the diminution of anxiety, are the points to which we should look for preventing depression of the nervous innervation and for toning up the

powers. In this way both imperfect oxidation and deficient elimination are met. One other important thing to do is to see that the amount of red corpuscles in the blood is sufficient. I think that the deficiency of the red cells may be one factor in the causation of melasmic stains, and for that reason I use iron as a remedy against them. Then I am inclined to think that the action of the malarial poison on the system may tend to an abnormal production of pigment in the blood, so that in pallid neuralgic subjects, large doses of quinine are called for. Though I do not think local remedies of any direct use, yet free ablutions, and frictions with the use of juniper tar soap as a stimulant, help the skin to recover its healthy condition.

CHAPTER XXII.

DISORDERS OF THE GLANDS.

We have two sets of organs to deal with: the sweat or sudoriparous, and the fat or sebaceous glands. I think both these parts of the skin are much more frequently disordered than is generally supposed. I shall first speak of—

I. DISEASES OF THE SWEAT GLANDS.

The deviations from health may be functional or structural; the former include all those cases in which the sweat varies in amount and kind; the latter those in which the sweat follicles are likewise congested, obliterated, inflamed, or enlarged.

The disorders may be arranged thus:—

A. Disorder of Function, including *hyperidrosis* (excessive sweating), *anidrosis* (diminished perspiration), *osmidrosis* (change in odour), and *chromidrosis* (change in colour).

B. Structural Disorder: *miliaria* and *sudamina* (congestive disorders), *lichen tropicus* (folliculitis), *strophulus* (inflammatory), *hydro-adenitis* (suppurative), and *cysts*, due to follicular obstruction.

First, then, A—Functional Diseases of the Sweat Glands:—

HYPERIDROSIS.

This disease is *excessive sweating*. It is, however, not generally an independent form of disease; it is often the case that the circulation through the glands becomes disordered, and hence we have structural

changes, congestion and prominence and effusion into the follicles, constituting miliaria and sudamina, and other diseases, to be described in a moment under the head of structural changes. The mere excessive sweating is a functional disorder of course; it may be partial and chronic. It generally depends upon some loss of control by the nerves of the part. In excessive sweating (hyperidrosis) the sweat is acid and somewhat disagreeable. There is generally a feeling of chilliness, and locally in the skin, pricking or burning. It may be "critical." The local forms occur about the hands, feet, and neck, and scalp. In hot weather, about the hands and feet the sweat (being free all over the body) may not be able to escape readily in consequence of the cuticle being roughened and hard; under these circumstances it distends the sweat-follicles, which may be seen dilated and filled with fluid beneath a layer of cuticle. This is often mistaken for eczema; one or more patches, the size of about a shilling, surrounded by redness, are seen at the sole or side of the foot, about the fleshy part of the thumb or the palm of the hand. On viewing them with a glass, there is what appears to be vesiculation under the skin, whilst each patch is raised; but there are no vesicular prominences, in fact the glands are (sub-epidermically, so to speak) distended with fluid, as I have said, which cannot escape. The sensation of burning and pricking is marked: after awhile the cuticle bursts and the fluid is discharged, leaving behind a hot, red, peeling surface, which by fits and starts weeps, the escaping fluid evidently being sweat; or if there is no escape of fluid, the attacked parts swell, they become red and shining, and are exceedingly painful. There is no formation of crusts as in eczema; the cuticle peels off, and presently the redness subsides. This is not eczema; it is simply hyperidrosis, with difficulty of escape of perspiration. The follicles are not congested and inflamed sensibly as in miliaria. The treatment consists in careful

bandaging, the application of lead lotion, the sedulous exclusion of the affected surface from the air, and the use of diuretics. In some cases the use of an oxide of zinc lotion, with an aperient, will suffice. Hyperidrosis may be an acute disease of sudden occurrence, when it is general; or it may be local and chronic.

ANIDROSIS.

This disease is characterized by a diminution of perspiration. A dry skin is part of many general diseases—ex., fevers, diabetes; in xeroderma, in which there is congenital defect of development. More commonly, it arises from allowed inaction of the cutaneous covering, and the use of friction, warm bathing, alkaline baths, and the like, generally bring the skin into a proper state of action. There is of course in these cases more or less general debility, which must be specially attended to in each instance.

OSMIDROSIS.

This is that disease in which the odour of the perspiration becomes so offensive as to constitute "the thing to be remedied."

It may co-exist with other functional derangements of the sweat apparatus. In general diseases the sweat exhibits very peculiar odours; in rheumatism it is "rank," scurvy "putrid," chronic peritonitis "musky," itch "mouldy," syphilis "sweet," jaundice "musky," scrofula like "stale beer," in intermittent fevers like "fresh-baked brown bread," in fevers "ammoniacal," and so on. When the feet are affected, the sweat is sometimes most offensive, especially in the summer time. Hebra describes the condition very fully. The hands and feet of the afflicted are cold without their knowing it; they exhibit shining drops of sweat; the epidermis is macerated and presents a white wrinkled appearance; excoriation may result, and with

these conditions the offensive odour exists. Hebra believes that the smell is not inherent to the sweat, but (external) in the boots and socks. This is, no doubt, true to some extent, but it would seem also that where the greatest cleanliness is observed, some people's feet are most unfortunately not of the sweetest smell. There is often a blueness due to inactive circulation in the tissues. The treatment is a matter sometimes of great tediousness. Much may be done by rigid cleanliness. If the disease be due to saturation of long-worn socks and boots, with acid sweat which decomposes in them, then the removal of the cause of offence is easy. In ordinary cases the feet should be well washed and bathed in a solution of alum or Condy's fluid. The use of a light sock and shoe, lotions of creasote, or finally strapping each foot for twelve hours together, as suggested by Hebra and Martin, with diachylon plaster, are useful. (Some observations on fœtid perspiration will be found by Dr. Foote, in the *Dublin Quarterly Journal*, for May, 1866.)

CHROMIDROSIS.

Black, blue, and sanguineous perspiration are included under this term. Much has lately been written on the subject. Chromidrosis is often connected with menstrual disorder, and is due to the escape of the colouring matter of the blood, or actual blood, with the sweat. It is an unimportant disease.

B. STRUCTURAL DISEASES OF THE SWEAT GLANDS.

Under this head I have included miliaria and sudamina (for in these the vascular plexuses of the follicles are specially involved); lichen tropicus and strophulus, and hydro-adenitis, or suppurative inflammation of the follicules.

MILIARIA AND SUDAMINA.

These two affections really have no right to be con-

sidered as separate diseases. Sudamina is the lesser degree of disease, the contents of the vesicles being acid; miliaria is the more developed condition, in which the contents are alkaline—in fact, inflamed sudamina, as Dr. Gull pointed out. Sudamina have been described as little round vesicles, produced by distension of the cutis by sweat, and therefore seated at the orifices of the sweat follicles. This is an excess of the condition referred to under hyperidrosis, only that these are distinct elevated vesicles, which are never confluent, and unattended by any inflammation: when the latter is present, the affection is called miliaria. Sometimes the vesicles are reddish (miliaria rubra), sometimes white (miliaria alba). These vesicles are developed about the neck, axillæ, clavicles, and trunk, in diseases in which profuse sweating occurs; their contents quickly dry, each crop is replaced generally in from three to six days by furfuraceous desquamation. The disease is seen in phthisis, during summer time, in acute febrile disease, the parturient state, in rheumatism, fevers, in the sweating disease of Picardy. Since the adoption of a cooler regimen in sick rooms, the disease has been altogether less frequent than formerly. So-called miliary fever (said to occur in two forms, mild and malignant), is characterized by profuse sweating and the development of sudamina. The treatment demanded is a cool regimen.

STROPHULUS AND LICHEN TROPICUS.

I have already referred to these two affections, under the head of lichen, to which disease I refer for a description of their characters. I believe that they should be transferred from their present position, and placed under the head of disorders of the perspiratory glands.

The part of the glands affected in the above diseases, is the follicular. We now come to a disease in which the whole gland is involved.

HYDRO-ADENITIS.

Verneuil described this disease, which is an inflammatory state of the perspiratory follicles, ending in suppuration. The disease occurs in every region of the body where there are glands, except in the sole of the foot; but it is most frequent in the axilla, at the margin of the anus, and near the nipple. It also is seen on the face, about the ear. The disease commences by a crop of small inflammatory tumours, about the size of peas, of bright red hue, and (says M. Verneuil) at first like boils; they are unlike boils in the fact that the little inflamed indurations begin not on the surface of the skin, in a sebaceous or hair follicle, but beneath the skin, which is reached and involved secondarily. The suppurating follicles offer no prominent "point" or "head," and there is no discharge till the swelling bursts, when the disease is brought to a sudden termination. The causes are said to be uncleanliness, friction, the contact of irritants, pus, parasites, profuse perspiration, and, according to Bazin, the arthritic dyscrasia, syphilis, and scrofula. The disease is often mistaken for scrofuloderma. The treatment consists in the use of alkalies internally, hot fomentations, and soothing applications—lead lotion and the like—externally. I find collodion the best thing.

The above account is taken from an article in the *Journal of Medicine and Surgery* for October, 1866. I have had several cases of this disease under my care. The last was that of a young woman, who had two or three red, subcutaneous "lumps" under her eye of bright red colour, and the size of peas, with no central suppuration. In a couple of weeks the tumours "broke," and the face rapidly got well.

OBSTRUCTED SWEAT GLANDS.

In some cases one sees developed in the skin a cyst, which takes its origin in a dilated follicle or sac of the

perspirating gland. The follicle of the latter becomes obstructed, and instead of the gland inflaming and suppurating, the fluid collects and distends the follicle. The line of demarcation between hydro-adenitis and cyst formation in the early stage is not well-defined. I have seen "serous" cysts of this kind form on the face from the closure of the perspiratory ducts, by the cicatrices of acne in a strumous subject, and most difficult the disease was to cure. I found the continuous application of collodion the best treatment; the cysts, however, may be punctured, and the contents allowed to escape; the incisions must be deep enough. I now come to

II. DISEASES OF THE SEBIPAROUS OR SEBACEOUS GLANDS.

As in the case of the sweat glands, we may divide the diseases of the fat glands into two groups.

a. FUNCTIONAL — including *stearrhœa* or *seborrhœa* (increased secretion), *asteatodes* (deficient secretion), and *allosteatodes*, or alteration in the character of the secretion. Retention of secretion is usually accompanied by alteration of structure, and I shall describe it under the latter head.

b. STRUCTURAL.—Diseases of the lining membrane—ex., pityriasis, vitiligoidea: retention of secretion and its consequence—ex., comedo, sebaceous cysts, molluscum: and lastly, congestive diseases and inflammatory diseases—acne, furunculus, &c.

We notice first of all, then,

A. FUNCTIONAL DISORDERS—SEBORRHŒA.

Seborrhœa, or augmented secretion of fatty matter, sebaceous flux—the stearrhœa of Wilson—is not so very uncommon in the various diseases of the surface; in elephantiasis it is a marked feature. Some persons have naturally a greasy skin.

When occurring as a separate disease, its most usual seat is some part of the face, especially the nose, and it mostly shows itself in the form of little yellowish thin crusts, which on examination are found to be made up of sebaceous and epithelial matter, the epithelial cells of the sebum being loaded with fat intermingled with free granules and cholesterine; the skin beneath is reddened, more or less thickened, and the sebaceous glands are hypertrophied. It may give rise on the scalp to a kind of pityriasis; the scalp however is greasy, not dry. There may be itching—generally there is. It often disappears after a time. The causes are not well made out; it is said to be produced by over-stimulating diet in lymphatic subjects; it occurs in either sex, generally about puberty. The treatment consists in the exhibition of cod-liver oil and arsenic, the removal of the scales by alkaline lotions, and the local use of alum, bichloride of mercury ointment, and glyceral tannin. Now the secretion may vary in consistence and quality in seborrhœa; it may be oily, and then represents the acné sebacée fluente; when it forms crusts, the acné sebacée concrétée; and, in a more hardened state, the acné sebacée cornée of the French writers. These terms sufficiently explain the different appearances of the disease. In speaking of ichthyosis it will be remembered that I stated that the scaliness or horny plates were often made up of a large amount of fatty matter; the disease I now speak of occurs as a primary condition; in ichthyosis it is but part of a general disorder of the skin. But a close resemblance to ichthyosis may be produced by seborrhœa; the naked-eye appearances of the skin may be the same, only the disease is localized, the skin beneath being naturally healthy.

ASTEATODES,

Is *deficiency in the sebaceous secretion*. The skin appears to be dry and harsh, and this arises from de-

ficient action of the sebaceous glands. Asteatodes is seen in hereditary syphilis, and in badly-nourished or uncleanly folk. The treatment consists especially in the use of the bath, oily infrictions, generous diet, and tonic remedies, especially cod-liver oil.

ALLOSTEATODES.

Alteration of secretion is the characteristic of this form of disease. The secretion may be of various colours—yellow (seborrhœa flavescens), or black (so-called seborrhœa nigricans).

Seborrhœa flavescens is nothing more than a marked form of S. simplex; indeed is the same as the acné sebacée concrétée, only that the colour of the scaliness is yellowish. The sebaceous matter is thick, yellow, forming scales; the disease affects the nose, limbs, or trunk: there first exudes an oily transparent fluid, and this quickly concretes. The crust may become hard and adherent (A. S. cornée). Sometimes the sebaceous matter is black: this is the stearrhœa nigricans of Wilson. The colour is produced by the presence of pigment granules in the cells of the sebaceous matter. It is an analogous state to the *chromidrosis;* only in the latter case the pigment comes with perspiration, in stearrhœa nigricans with sebaceous matter. The treatment is the same as in the simple seborrhœa. I now come to

B. STRUCTURAL DISEASES.

Hypertrophy of the Epithelial Lining and adjacent structures of the follicle is sometimes observed, and then we have what has been called *Vitiligoidea*—a villanous term. Mr. Wilson calls the disease *Xanthelasma*. Drs. Addison and Gull described and figured the disease in the "Guy's Hosp. Reports," 2nd ser., vol. vii. p. 271, and vol. viii. p. 149, which Willan perhaps included under the term Vitiligo.

It may occur in two forms—"either as tubercles, varying from the size of a pin's head to that of a large pea, isolated or confluent; or secondly, as yellowish patches of irregular outline, slightly elevated, and with but little hardness." These are mere modifications, and are termed V. plana and V. tuberosa. It is seen about the face, the ear, and the limbs and palms of the hands. The most common form is a yellowish patching about the inner part of the eyes; the disease is symmetrical; the cuticle over the diseased part is unaffected. Rayer figures it at Pl. XXII., fig. 15, and says, "On the eyelids and in their vicinity we occasionally observe little yellowish spots or patches, very much like chamois leather in colour, soft to the touch, and slightly prominent, without heat or redness, and often very symmetrically disposed." Most authorities regard the disease as an hypertrophy of the epithelium of the sebiparous glands; others look upon the disease as due to the deposit of a peculiarly light-coloured pigment. In a case exhibited by Dr. Pavy to the Pathological Society, June, 1866, the following were the appearances observed:—"Completely encircling each eye, and extending for a space of from half to three-quarters of an inch in breadth, was a patch of an opaque yellowish colour, and slightly elevated above the surrounding skin. Upon the ears there were a number of tubercles, looking certainly to the eye like sebaceous tumours. Similar tubercles also existed upon the backs of the hands and arms, and also on the back and nates. Upon the palms of the hands and palmar aspect of the fingers there was a patchy and diffused cream-coloured deposit in the skin. A tubercle removed from the back of the little finger was submitted to microscopic examination. The deposit pervaded the true skin, and occurred in little nodular masses beneath. These were exceedingly tough, and consisted of fibrous tissue. On being squeezed between the forceps an opalescent juice exuded, which

was found to contain a large number of fat-granules. The cuticle was not involved in the affection. It was argued that independently of the result of minute examination, against its being a sebaceous disease was the fact that it occurred, and in a marked manner, on the palmar aspect of the hands, where no sebaceous glands existed. In some cases there is little doubt that it commences in the epithelial lining of the sebaceous glands. Jaundice has sometimes been found in connexion with it. This was noticed by Dr. Barlow, and in three of five cases observed by Hebra there was jaundice. Mr. Wilson denies the connexion. I do not know that any treatment save the use of compound tincture of iodine externally, and iron internally, has been of service; but the course would be clear if there were any liver disorder present.

It should be mentioned that cancer may take its rise in a sebaceous gland.

RETENTION OF SECRETION.

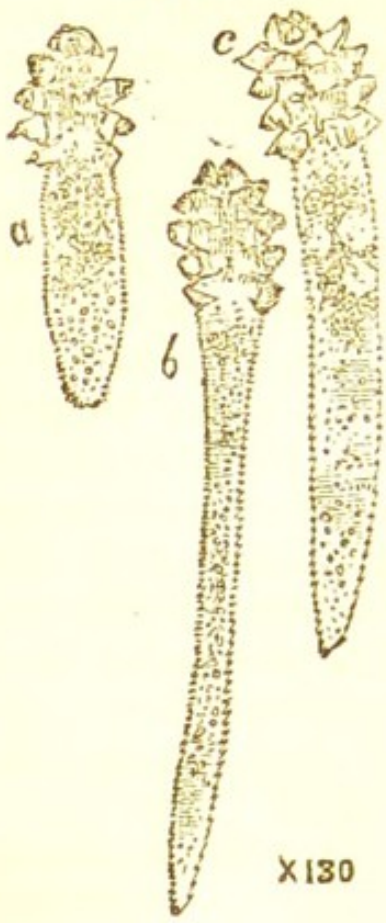
Now this condition of course is always accompanied by change in the calibre, and often the structure of the gland, and includes comedones, strophulus albidus, molluscum contagiosum, and sebaceous cysts.

The simplest form is seen in the *strophulus albidus* of children, which is nothing more or less than the distension of little fat glands by fatty matter. As excessive warmth artificially induced in children, disorders the sweat-glands, and produces strophulus, so may the fat glands be excited to action, the secretion of matter being free; it cannot escape, and slight distension of the glands occurs.

COMEDONES.

Comedones, or grubs, constitute the ordinary black specks seen on the face of adults and adolescents, and

Fig. 26.



they are produced simply by the retention of sebaceous matter. If slight inflammation be excited, then we have acne punctata. The skin in both is thickish, greasy; the secretion is retained and is inspissated; the dirt collects at the apex of each little grub, and forms a black speck or point: the whole face—for this is the common seat—may be affected. The sebaceous matter can be squeezed out of each follicle, and then resembles, according to popular notion, a little maggot; the mass is composed of sebaceous matter, epithelial cells, a number of minute hairs, and one or more of a species of acarus, called steatozoon (or acarus) folliculorum, see fig. 26, after Beale. The spores of a fungus, and even puccinia, have been found. Comedo is generally regarded as the least expressed form of acne.

The Treatment consists in curing dyspepsial, amenorrhœal, leucorrhœal, and such-like conditions, which are often present; exhibiting, in the lymphatic, iron in combination with saline aperients, and cod-liver oil. Locally, shampooing the face, or kneading it, as it may be termed—using friction, and then certain stimulating and slightly astringent lotions. Borax is the best to begin with. Other remedies are bichloride of mercury, with almond emulsion, alkaline washes, oxide of zinc lotion, weak alum lotion. Some recommend hypochlorite of sulphur ointment.

SEBACEOUS CYSTS.

Now in some cases the opening of the follicle of the gland becomes obliterated, and a cyst forms, filled with

sebaceous matter, and analogous to the cysts formed in connexion with the sweat glands. The simplest form is that of little white tumours of roundish shape and opaline aspect, varying in size from that of a pin's-head to that of a pea, solitary or multiple, and generally seated about the eyelids. They contain sebaceous matter. It is the acne miliaris of some authors: it differs from molluscum to all appearance only by the imperviousness of the duct. The treatment consists in turning out the contents and applying astringents or nitrate of silver. The contents are sometimes calcareous; the scales becoming "impregnated with molecular matter" (calcareous cysts); in other cases, the contents may be fluid (serous cysts). When the tumours are larger and encysted, they are called steatomata. These are simply enlarged miliary cysts. Their most common seat is the scalp; they vary in size; they contain cheesy, fatty matter; if it be "soft and white," the tumours are said to be *atheromatous;* "if yellowish, like beeswax," *melicerous;* and if white and fatty, *steatomatous*. The cyst wall is thickened and tough, the coats of the gland being hypertrophied.

The best mode of treatment is excision.

In the above cases of distension of the gland apparatus, the follicular part is chiefly concerned, but in other instances it seems that the true gland structure takes on an unusually active formation of sebaceous matter, and itself enlarges, the duct of the gland not being closed, but patent: the whole gland enlarging and forming a prominence, not in or beneath, but free on the skin, this is,

MOLLUSCUM.

It has been usual to describe two forms of molluscum: the one is a new growth from the fibro-cellular tissue, the other a dilatation of the sebaceous gland. This confusion of two different diseases is wholly unallowable. I have already described the former variety of

disease under the head of hypertrophies, as *Fibroma;* the latter, or *Molluscum contagiosum*, as it is called, commences as a little white elevation like a minute drop of white wax; this enlarges until it attains the size of a split pea: it may reach that of a nut. It is of circular form, firm, white, often flattened at the top, where a little depression, which marks the orifice of the follicle, is seen; and it is attached by a more or less sessile pedicle to the surface. The section shows it to be an enlargement and distension of the whole lobules of the sebaceous gland. The contents of the little molluscous tumours can be squeezed out through the orifice, and consist of soft and whitish sebaceous matter. If left alone, these tumours either disappear or ulcerate, or remain pretty much *in statu quo*. The disease is said to be contagious by some; this is denied by others. I have seen a mother and child, and a family of children, affected in such a way as to be inexplicable with our present knowledge, save by the contagiousness of the disease. The sac is often transparent and shining. The chief seats of molluscum are the face, the chest, the arms, the genital parts, and the neck. The disease mostly occurs in children, but may be seen in adults.

Pathology of Molluscum.—If we examine any of the tumours microscopically, we find that the whole sebaceous gland is involved and enlarged, the follicle being filled with secretion of a fatty character, and the only thing found in the mass are cells, which are similar to those of the epithelium lining, save that they are piled together one upon another, and are oval. There are fibrous bands running between collections of these cells; the cells are about from $\frac{1}{800}$ to $\frac{1}{1200}$ of an inch in diameter. They are supposed to be the contagious agents. However, I am investigating this point, and reserve my facts for the present.

The Diagnosis.—The disease is easily recognised. The small oval or round umbilicated semi-transparent

tumour with a central opening, from whence sebaceous matter may be squeezed, is unmistakeable. In old people little fibrous outgrowths are to be met with about the back and chest, but one may readily see that these do not arise from the sebaceous glands.

The Treatment of Molluscum is simple and effective. In those cases where it can be done the contents should be squeezed out, and nitrate of silver applied to the inside of the tumour. If small, the acid nitrate of mercury, or potassa fusa solution, may be used. When large, the sac must be removed; and when numerous, each tumour must be destroyed by caustic, and an astringent lotion used. In old persons I have found it necessary to give quinine and other tonics for debility in connexion with molluscum.

Horns or Cornua.—When the secretion of the glands is abundant and pressed together, horns may be formed.

I need not dwell upon them.

INFLAMMATORY AFFECTIONS.

It is generally considered that only one disease ranks here, and that is acne; but I have, it will be remembered, given reasons for supposing that furunculi, anthrax, and ecthyma have their anatomical seat in the sebaceous glands, although their description will be found under the head of Pustular Diseases. I think that Furuncular affections may have to be shifted in any anatomical classification to a position under the head of Diseases of the Sebaceous Glands. I have only now, however, to describe

ACNE.

This consists of retention of secretion, together with inflammation of the sebaceous follicles. At the outset, there is simply a collection of sebaceous matter. This sets up slight irritation (A. punctata); congestion of

the follicle ensues in some subjects, and the gland becomes thickened by inflammatory products (A. indurata); more or less pus is produced and pent up in the follicle; in some instances the disease assumes an active character; there may be new formation of vessels and areolar tissue (A. rosacea), and in some cases this is so marked as to have led authorities to make an additional species--A. hypertrophica.

Acne simplex is observed in the young of both sexes, especially about the time of puberty, on the face and back; it appears as little hard lumps, rising up, so to speak, out of the skin. In severe cases the base is hard and the apex pustular. (*Acne punctata* really includes Comedones.) After a while the pustule scabs over, and, healing, leaves behind a slight cicatrix. *Acne indurata* is indolent and chronic; the separate pustules have a very hard dusky-red base; suppuration is scantily evolved; the pustules are painful, and there is a feeling of tenseness about the face: the derma generally is congested, thickened, and dense: it is an exaggeration of acne simplex. *Acne rosacea* is rarely seen in young life. It appears sometimes to be hereditary. It is common about the nose in women of middle age, with uterine troubles. The redness is bright, and the congestion is active; in addition there is evidently a new formation of tissue outside the gland itself; the veins are varicose, the attempt at suppuration fails; the face is much disfigured; the surface is red, and dotted over with pustules; the integument is thickened; food and stimulants produce great burning and flushing of the face.

There are two other conditions deserving notice. In both the disease commences as an acne. In the one the tissues become hypertrophied, the glands enlarge, the skin is red or violet, rough, uneven, shining, and greasy, and little tumours form, which may be sessile or pedunculated. It is sometimes connected with intemperance, and is called *acne hypertrophica*. There

is an opposite condition described by Chaussit, in which atrophy takes the place of the hypertrophy—acne atrophica. I have seen it affect the arm, the face, and the body. It leaves behind little cicatrices. It has some alliance with lupus; there is active gland action at first, and subsequent atrophy.

The causes of acne are somewhat obscure. Acne is common in early life—more so in the female than in the male sex. It appears to have as its basis congestion of the follicles. This may be brought about by retention of secretion, or by a naturally torpid state of circulation, or by reflex irritation.

The circulation of the face possesses great excitability; it is liable to great fluctuation; it is very active. These states are acted upon by external, and not only external, but various internal agencies; and nothing is more probable than that some derangement of the vascular supply will take place. Then the glands are particularly well developed in those situations in which acne is wont to occur; they are therefore likely to become functionally deranged. We see, then, that all debilitating causes, all local causes of irritation and disorders of those organs which have a reflex relation with the face—*e.g.*, the stomach, predispose to the occurrence of the disease, and act most efficiently where torpor is a natural feature. Abortive development of the hairs may disorder the follicles, and produce acne.

Hence want of cleanliness, stomach derangement, leucorrhœa, menorrhagia, cold winds, constipations, the use of cosmetics, physiological changes (as puberty), want of nervous power, intemperance, may induce glandular congestion, and so acne. But when acne is marked and general what is that tendency which gives rise to the production of acne? It has been my lot to see the subjects of the most severe and obstinate acne I have met with (in young people) die of phthisis, and I cannot but think that lymphatic subjects, and those

who are of a phthisical *tendency*, are those most prone to acne.

The Diagnosis.—In ecthyma the pustules are large, surrounded by an areola, without the induration of acne, and with larger and adherent crusts.

Syphilitic pustules are broader, flatter, shining, and copper-coloured, they ulcerate and co-exist on parts other than the face; they are accompanied by other forms of eruption, and there is a history of syphilitic impregnation.

The Treatment.—This varies. Speaking in general terms, we must, first of all, insure cleanliness; secondly, we must remove any cause of debility present, correct menstrual deviations, remove dyspepsia, &c., and especially prevent constipation. This preparation is a *sine quâ non.* Then, in the simpler cases, which exhibit little inflammatory action, friction and gentle stimulations may be had recourse to: borax, soda, and calamine lotions: almond emulsion, with bichloride of mercury (two grains to eight ounces), will suffice. In the severer forms much more remains to be done. Hebra treats acne as follows:—He gives vapour douches to the face, applies soft soap or caustic potash ℥j to Oj of water. In other cases he washes the face with soft soap, and at night he applies a paste made of ℥j of sulphur to ℥j of alcohol or camphorated spirit, by means of a camel hair pencil. This is removed in the morning by means of soap. Cacao butter is kept on all day; sometimes he uses bichloride of mercury (gr. v to ℥j of spirit), with a compress for two hours. At other times he applies, two or three times a day, tr. benzoin ℥j, bichloride of mercury gr. j, and distilled water ℥vj. I fear Hebra would seriously disagree with English patients. Now, first of all, it is necessary that we attend to the state of the general health. There is often much debility, which is best met by syrup of iodide of iron; or sulphate of iron, acid, and sulphate of magnesia; by arsenic, or by acid and

bitters, according to circumstances. Anæmia must be met with iron, strumous tendencies with cod-liver oil, and want of digestive power by the mineral acids and bitters. Locally, if there be much inflammation, warm poultices, hot-vapour douches, poultices, and warm lead lotion are called for. When these have allayed the irritation, absorbents may be used—oxide of zinc lotion: oxide of zinc and glycerine or the glycerine plasma. I generally prescribe bichloride of mercury lotion, gr. ij to ℥viij, with borax ℥ss, and glycerine, to be frequently used; when the disease is chronic, revulsives are needed—the biniodide of mercury (gr. v ad ℥j) is one of the best. A very good plan is to pencil each acne spot with acid nitrate of mercury, once or twice. In acne rosacea, diet and good hygiene are of vast importance. If there be many varicose vessels, they may be cut across, as recommended by Westerton. The incisions should be never deeper than 2‴; cold water will stay the bleeding, and collodion may be subsequently used to contract and heal the incisions. I have generally seen acids, and especially pepsin, given internally, do much good. Much has been said with regard to the efficacy of the iodo-chloride of mercury in acne rosacea and indurata. It is used in the proportion of gr. v—xv to ℥j of lard; it requires care, as it produces a good deal of irritation. In the indurated forms, it is a good plan to touch the apices of the pustules with acid nitrate of mercury: this causes their absorption often very rapidly. The tincture of horseradish is also said to act very efficiently. See Formulæ 34, 70–1–4, 82–3–4, 91–2–3, 100, 115, 121 to 130, 137, 139, 140, 142, 152.

DISEASES OF THE NAILS.

The nails become peculiarly rounded, in aneurism, cyanosis, chronic inflammations of the chest, and phthisis. Their structure is altered by the attack of certain parasites, as in favus. They are also attacked

by psoriasis. This has been described. Hebra remarks that they become brittle, thickened, and broken off in lichen ruber. Sometimes the matrix becomes inflamed, and this appears to be erysipelatous in character. It may be primary and idiopathic, or secondary, and often traumatic. The early symptoms are sense of heat and pain, throbbing, and redness just around the base of the nail of erysipelatous aspect. These increase, the surface gets livid, the part beneath the nail inflamed, and assumes a cloudy and often a sanious appearance, in consequence of the effusion of blood; the nail loosens, becomes soddened, opaque, and thickened; and from beneath its surface oozes out a nasty dirty fluid. The nail often falls off by-and-by, leaving behind a very tender pultaceous-looking raw surface, which readily bleeds. Two courses may now be taken. The part may ulcerate, the finger inflame, the bone necrose more or less, and phlegmonous inflammation attack the arm: or an attempt at repair is made, after a while a new nail is produced, which is short and generally stumpy. The treatment consists of local bloodletting, warm fomentations, removal of the nail and other dead structures; the use also of astringent lotions, good and generous diet; bark, with acid or ammonia internally: syphilitic and strumous onychia are noticed elsewhere.

In-growing of the toe nail is easily cured by softening the nail, and then scraping off as much as possible, so as to thin it in the middle. I have seen several instances of vascular corns growing under the nail.

DISEASES OF THE HAIR.

The growth of the hair is very intimately connected with nutrition generally. Like all other parts of the body, it has a definite term of life, and, if not interfered with, would shed itself, to be reproduced at certain times. The amount and colour of the hair is certainly a very fair index of the tone and stamina of any individual.

Diseases of the hair may be divided into those of Augmented and Diminished Formation, Abnormal Direction, and Alteration in Physical Aspect.

Augmented growth may be congenital and of varying extent, from that of little hairy moles to that in the "hairy man" described by Mr. Crawfurd. Stimulation has a tendency to augment the growth of hair, if the formative power is normal. During convalescence a reactionary growth oftentimes takes place.

Diminished formation of hair, which is partial or general, comparative (thinning) or absolute (alopecia), congenital, accidental, or normal (senile), may be represented in its different aspects as follows:—

1. *Congenital*—(*a*) partial, (*b*) general. This is a rare form of disease. Generally downy hairs stud the surface and prove the existence of bulbs, though in an inactive state.
2. *Accidental*—(*a*) partial, as in tinea decalvans and other parasitic diseases; in cases of wounds, direct injury, and the like; (*b*) general, from such as lower the vital tone—*e. g.*, fevers, syphilis, anæmia, gout, rheumatism, neuralgia, fast living, great study, violent emotions, dyspepsia, want of cleanliness, over-purgation, local eruptive diseases, wasting of subcutaneous fat, atrophic state of the peripheral nerves, morphœa (?), and, lastly, physiological states—*e. g.*, hereditary peculiarity, pregnancy, seasonal shedding, deficiency of formative force inherent in the system, and failure of the mutual relations of parts.
3. *Normal*, as the shedding of the lunago, and the loss of hair in old age (calvities).

When the hair is lost entirely from a part, this is called alopecia, or baldness. Parasitic disease is the most usual cause of *localized* baldness; syphilis, violent

emotion, atrophy of the scalp (?), and senility, are most efficient in producing an absolute or *great amount* of baldness. The other conditions noticed above usually give rise to thinning, not absolute loss or baldness. Circumscribed baldness is considered under the head of *Tinea decalvans*. The total loss of hair is sometimes seen in early life. I have had a boy under observation who has not a vestige of hair on his scalp; he was at the time I saw him about four years and a half old: no cause could be assigned for the loss of hair. Another instance is that of a young lady about thirty. Now, in some instances of complete loss, the baldness has commenced at one spot and travelled over the scalp. In other cases the disease commences as a general thinning; "handfuls" of hair "*come out*," and suddenly the whole is lost. Various theories have been suggested. Von Barensprung believes that the cause is a failure in the nerve-power. It is clear that the formative power suddenly fails, for in the early condition the follicles are distinct, and the skin is normal. It is true that it presently becomes thinned, hard, white, shining, insensible somewhat, and the follicles waste; but these changes are sometimes the necessary consequence of the inactivity of the hair-forming apparatus, and not the cause of the loss of hair. It appears to me that in some of these cases the hair dies from want of nutritive pabulum, as in syphilis; in others, in consequence of the cessation of the normal reproductive function of the formative apparatus. The hair comes to its natural period of existence, and no attempt is made to re-form it. Violent grief, great mental labour, and anxiety, are determining causes of this form of baldness. It is pretty rare.

Senile baldness, or calvities, is due to an atrophy of the structure generally; it commences on the crown of the head, the hair first turning grey; the scalp is dry, thinned, loses its subcutaneous fat, and the follicles become indistinct. In some people this change takes

place at an early age; it is either an hereditary or physiological peculiarity.

General thinning of the hair, it is easy to understand, is most likely to occur under conditions which lower the vital energy of the patient. The scalp generally is scurfy and dry. This is in all probability due to the sluggish action which goes on. The usual sebaceous matter is not secreted; the follicles become choked by retained fatty and epithelial matter, and the formation of the hair is interfered with. This is also the case in eruptive disease and in syphilis.

The loss of hair in all these cases is an evidence of the working of some debilitating cause; it is not remediable to its most perfect extent without the use of general remedies—not by the employment of *local stimulation*.

The hair in cases of thinning and baldness is often dry, brittle (crisp), and twisted or split up. This results from the peculiar absence of moisture; in its turn from the diminished activity of the circulation of the scalp; in its turn again, from the general debility of the system.

The various other alterations in physical aspect come under the head of Parasitic Disease.

The Diagnosis.—Senile baldness commences with the hair becoming grey; it occurs of course in old people, at the vertex of the scalp first of all. The structures generally waste; there is little subcutaneous fat; the follicles are indistinct; the circulation is diminished, and the scalp is white, thin, and shining.

Alopecia from parasitic disease occurs in the young chiefly, and is preceded by signs of local irritation. It commences not at the vertex but at the side of the head generally; the hair is not grey, the scalp is natural; it is not white, thin, and shining, but the follicles are distinctly visible; the circulation is always pretty active. In some cases there are peculiar features present, in consequence of the rapid and free growth of

the fungus—*e. g.*, favus, tinea tonsurans. Parasitic disease gives rise to partial loss; debilitating causes to general thinning; syphilis sometimes to general loss, but mostly temporary thinning.

The Treatment.—In the cases of total loss, much good may oftentimes be done. In the first place, all syphilitic taints require detection and specific treatment; the hair will assuredly grow if a syphilitic taint be treated. Then debility of all kinds must be removed; and this is a matter of some considerable nicety, rules for which cannot be laid down. It is customary to give arsenic in these cases, and it is requisite that the student should know that one of its special actions is supposed to be the promotion of the re-growth of the hair. I prefer to treat the patients not by specifics but on general principles; and so with regard to the cases of general thinning. Dyspepsia has appeared to me to be a very frequent source of evil in the latter class of cases; it has assumed, too, a most determined and inveterate form, resisting acids, alkalies, bitters, and yielding at last to a long course of pepsin porci. Iron and tincture of nux vomica are useful tonics in the "nervous" cases. With regard to local measures:—In the cases of absolute loss, which occur from trouble, or rather a failure of the reproductive function of hair-forming apparatus, local stimulation is the *sine quâ non* whenever any downy hairs are visible; if these be absent, the scalp atrophied from disease, and white and shining, little good will be done, though I have succeeded even here. Repeated blistering must be adopted, and stimulating washes used. If there be œdema, or any tension, though the follicles are distinct, tincture of iodine applied over parts of the scalp every two or three days is of service. Shaving the downy-haired scalp is also beneficial. Nine out of ten affirm that this does harm. I know to the contrary; it should be done once a fortnight regularly for a while. In the cases of general thinning,

the plan of stimulation requires modification. The general state of nutrition is below par; and hence the local also. The scalp is not healthy; it is dry, scurfy, irritable. We should first of all try and get it into a soft and cleanly condition by frequent ablution, the use of glycerine and lime-water, or olive oil and lime-water, used night and morning. Then we may recommend local warm vapour douches, with gentle friction and galvanism. When the system is under the influence of tonics, we may employ local stimulation with the best results. Some teach that greasy applications should be avoided. As a rule, this is good advice. Certain ordinary pomades, cosmetics, and the like, on account of their very rancidity, do harm; the olive-oil and lime-water compound is not open to this objection. Tincture of nux vomica I have found the most efficient local remedy, in combination with distilled vinegar, and tincture of cantharides.

When thinning of the hair is the result of eruptive disease, it is due to debility, and must be treated upon ordinary principles.

SUMMARY.

In the chapter on Classification, in the early part of the work, I gave only the headings of the different classes of skin diseases, and omitted to fill in details—viz., to name and place the individual diseases in their proper positions in these several groups—under, for example, eruptions of acute specific diseases, diathetic diseases, hypertrophies, and atrophies, diseases of the glands, &c. I thought it best to reserve these particulars until I had given the description of each separate disease; the reader would then be the better able to comprehend the complete arrangement, and the somewhat unusual position assigned to certain affections which I have come to regard as possessing a different nature and pathology from those signified by the position which they have hitherto been assigned in other systems of classification. I now proceed to complete the classification which was given in outline in Chapter I., and in so doing I shall under each group refer to the novel points of pathology contained in the various preceding chapters. The result will be a summary of the pathological contents of the book. I should repeat that the classification is made in accordance with the principles laid down in the nomenclature report of the College of Physicians, which all are bound to adopt. The following are the diseases of the skin with which dermatologists have to deal:—

1. Eruptions of Acute Specific Diseases, including *variola*, *vaccinia*, *varicella*, *typhus* and *ty-*

phoid, rubeola, rubella, or anomalous exanthem, *scarlatina, erysipelas, dengue,* or dandy fever, *malignant pustule,* (due to a specific animal virus), *glanders,* and *farcy.* [Some authors place *frambœsia* here. See remarks under Diathetic Diseases.]

2. Local Inflammations:—

A. Erythematous, including *erythema, intertrigo, roseola, urticaria,* and *medicinal rashes.* [Pellagra is placed here by some writers. See Diathetic Diseases.] Some think urticaria should be classed with neurotic diseases.

B. Catarrhal, or *eczema,* as defined by Willan, an inflammation with sero-purulent discharge as its main feature. It corresponds in the skin to catarrhal inflammation of the mucous membrane, and includes eczema *simplex, rubrum, impetiginodes,* and the local varieties of these three forms.

C. Plastic or "Fibrous," including the disease *lichen,* as defined by Willan, and its varieties, *simplex, circumscriptus, gyratus, agrius, ruber* of Hebra, so called *strophulus pruriginosus, lichen* in children, which is classed with different diseases under the term strophulus, *lichen pilaris,* and the mixed forms L. *lividus, urticatus, eczematodes,* in which purpura, urticaria, and eczema respectively occur. [Lichen ruber involves the hair follicles very distinctly, and in addition, the papillary layer of the skin; hence it fairly ranks with lichen. I believe that strophulus, as defined by most authors, includes simple lichen occurring in infants, a sebaceous disease (S. albidus), and congestion and inflammation of the perspiratory follicles; and I have

broken up strophulus into these forms of disease, placing its components in their proper place. Lichen tropicus is a disorder of the perspiratory apparatus. Lichen pilaris may be included under the head of lichen, it being understood that the hair-follicles are specially the seat of fibrous inflammation. See Diseases of Hair-follicles. Lichen scrofulosus is not a lichen, it begins as a pityriasis of the hair-follicles, and is followed or complicated by acne; it occurs in strumous subjects, and should be regarded as disease of the hair-follicles and the related sebaceous glands.]

D. Suppurative, including *impetigo*, *ecthyma*, and *furuncular* affections, and (?) certain endemic diseases, such as Delhi boil. [If the primary anatomical seat of furunculi be the sebaceous glands, furunculi would rank here as suppurative inflammation, specially involving the sebaceous glands, and the disease would be also named under the head of Diseases of the Sebaceous Glands. Impetigo contagiosa is a form of disease distinct from ordinary impetigo, (see p. 146). For the present, Delhi boil, Aleppo evil, Biskra bouton (figured at p. 170) are placed here. It is a question whether these affections, together with framboesia,—all of which are allied and produced by endemic influences acting generally on the system,—be not classifiable under the head of constitutional or diathetic diseases. Pustula maligna and glanders are clearly correctly placed with acute specific diseases.]

E. Bullous, including *herpes* and *pemphigus*. [There is a growing inclination to rank these two diseases under the head of

neurotic diseases, and I may call attention to a singular feature in their clinical history bearing upon this point. They exhibit changes in the skin which are not only those exactly which we should expect to follow an alteration in the calibre of vessels, the result of nerve paresis, but occur in connexion with a comparatively passive state of the tissue themselves. This seems to indicate that the blood and tissues are not the originators of disease or actively involved as in other inflammations. There is rapid escape of serosity, after congestion, and certain changes in the exuded fluid. The fluid becomes opaque and dries into crusts, changes which are due to the inherent properties of the outpoured fluid, and are independent of any active influences exerted by the tissues of the derma. In ordinary inflammations, the tissues take on special action; there is cell-growth and disordered cell-nutrition of an active kind, which accounts for the continuance of disease; such an influence is absent in herpes and pemphigus. I think the facts involved in the contrast which I have attempted to indicate are certainly greatly in favour of the specially neurotic nature of herpes and pemphigus.]

3. Diathetic Diseases.

A. Strumous, including *scrofuloderma* and *lupus*.
B. Cancerous.—*Epithelioma* and *rodent ulcer*.
C. Syphilitic.—*Secondary* and *tertiary* disease.
D. Leprous.—*Elephantiasis græcorum*. [It is thought by some that morphœa, keloid, scleroderma, &c., are allied to elephantiasis.]
E. Alphous.—*Lepra vulgaris*. [Might not Pellagra, Framboesia, Delhi boil, Aleppo

evil, and Biskra bouton, inasmuch as as they are due to a general mal-nutrition produced by climacteric or endemic influences, be classed under the head of Diathetic Diseases ?]

4. Hypertrophies and Atrophies.—The diseases that are found under this head are simple enough.

The hypertrophies are those of (1) epithelium—ex., *pityriasis, corns, callosities;* (2) the papillæ, as in *warts*; (3) the vascular structure, as in *nævi*; (4) the fibrous tissue of the derma, as in *keloid, scleroderma, morphœa, fibroma, bucnemia,* and *dermatolysis.*

Under the head of Atrophies, we have only *atrophia cutis.*

Lastly, a sub-head, entitled Developmental Diseases, appears in the work, so as to include *ichthyosis* and *xeroderma.*

[I am by no means satisfied with the arrangement of this group, but think it the best that can be made in the present state of our pathological knowledge. In the first place, though simple pityriasis might rank with hypertrophic affections, one variety, P. rubra, is more truly an inflammatory affection of the true skin, and should rank with inflammatory affections; it is indeed a dermatitis. There is a general relationship between morphœa, fibroma, bucnemia, and scleroderma, in the fact that the diseases consist of change in the fibro-cellular tissue of the skin. In morphœa the hyperplasic growth of tissue is not well marked, but its relationship to scleroderma (and other fibro-cellular degenerations) is shown in the fact of its occurrence as a part of, and oftentimes apparently as the early stage of, that disease. A similar condition to morphœa occurs in leprosy. The most novel point in relation to these diseases of the fibrous element of the skin, is the probable participation of the lymphatic system in their

causation. The degree of depravity or degeneracy in the "lymph," varies in each of these diseases, and the material of morphœa seems to be the farthest removed from true fibrous tissue, with which, however, it has affinities. See remarks on the group, p. 284.]

5. Hæmorrhagic Affections, embracing *purpura* and *scurvy*.
6. Neurotic Diseases, including *pruritus* and *prurigo*. [If *herpes* and *pemphigus* are allowed to be included here, the term and group "bullous inflammation" may be rejected. True prurigo I regard as primarily a neurotic disease; pediculi are often present, and produce certain "bites," but otherwise they act merely as local irritants, and could not produce the atrophy of the skin, &c., seen in prurigo, unless the innervation of the skin were primarily at fault.]
7. Chromatogenous Diseases.—There are two chief diseases: leucoderma, or deficiency of pigment; and melanoderma, or excessive pigmentation.
8. Parasitic Diseases:—
   A. Animal or Dermatozoic, including *scabies*, and *morbus pediculari*s, or *phtheiriasis*, and affections associated with the chigoe, the dracunculus, the leptus, fleas, bugs, gnats. [In regard to the relation between pediculi and prurigo, I may refer to what has been said at pp. 365—7.]
   B. Vegetable, or Dermatophytic, including *tinea favosa*, *tinea tonsurans*, *tinea kerion*, *tinea circinata*, *tinea decalvans*, *tinea sycosis*, *tinea versicolor*, *tinea tarsi*, *madura foot*, and *onychomycosis*.

[I affirm the truly vegetable nature of "vegetable parasites:" that they will not flourish on *really* healthy surfaces, that growing fungi alone produce the dry, brittle, and split up hairs, and the damaged epithe-

lial cells, seen in the group tineæ. Fungi act also as local irritants. Kerion, a modification of tinea tonsurans, in which the sebaceous follicles are probably involved, is described at p. 344. There is a parasitic sycosis, but inflammation of the hair-follicles may occur, of course, as a non-parasitic disease. One of the forms of so-called eczema marginatum is parasitic, and here I agree with Dr. Anderson. True tinea decalvans is parasitic. There are other instances in which the hair is lost over circumscribed patches, from atrophy and syphilis. Madura foot, which is figured at p. 383, is now recognised as a parasitic disease.]

9. Diseases of the Glands and Appendages.

Sweat Glands.—The disorders may be arranged thus:—

A. Disorder of Function: including *hyperidrosis* (excessive sweating), *anidrosis* (diminished perspiration), *osmidrosis* (change in odour), and *chromidrosis* (change in colour).

B. Structural Disorder: *miliaria* and *sudamina* (congestive disorders), *lichen tropicus* (folliculitis), *strophulus* (inflammatory), *hydro-adenitis* (suppurative), and *cysts*, due to follicular obstruction. [I have placed lichen tropicus under the head of inflammatory disorders of the sweat-follicles, and some of the cases that make up the strophulus of children are instances of folliculitis.]

Sebaceous Glands.—As in the case of the sweat glands, we may divide the diseases of the fat glands into two groups.

A. Functional: including *stearrhœa* or *seborrhœa* (increased secretion), *asteatodes* (deficient secretion), and *allosteatodes*, or alte-

ration in the character of the secretion. Retention of secretion is usually accompanied by alteration of structure; it is described under the latter head.

B. Structural: diseases of the lining membrane—ex., *pityriasis*, *vitiligoidea*, retention of secretion and its consequence, *comedo*, *sebaceous cysts*, *molluscum contagiosum*, and lastly congestive diseases and inflammatory disorders—*acne*, *furunculus*, &c. [I have described vitiligoidea as a disorder of the epithelial lining of the glands. There is reason to think that the anatomical seat of furunculus is the sebaceous gland of the skin, a boil being a suppurative inflammation of the gland. I have, however, placed furunculus under the head of suppurative inflammation of the skin, specifying the probability of its involving the sebaceous glands. In the *lichen scrofulosus* (or scrofulosorum) of Hebra, the anatomical seat of the disease is first of all the hair follicles, and subsequently the sebaceous glands; it occurs in markedly strumous subjects. See p. 125.]

Diseases of the Hair.—For tabular statement of diseases see p. 403. [Lichen pilaris is "fibrous or plastic" inflammation of the hair follicles.—See p. 125. Lichen scrofulosorum commences as a pityriasis of the hair follicles, and involves after a time the related sebaceous glands, giving rise to a species of acne, p. 125. It is not a lichen at all.]

Nails.—See p. 401.

I hope this summary, founded, as I have said, upon

the classification of diseases recommended by the College of Physicians in its nomenclature report, will indicate the present state of knowledge in regard to skin diseases, and especially the novel points in this work.

APPENDIX.

THE MODE OF FORMATION OF A BULLA OR BLISTER.

THE following note will be read with interest and profit:—

"As generally understood, a blister is supposed to be an exudation of fluid, which, discharged from dilated vessels, passes through the rete mucosum or Malpighian layer of the skin, and accumulates between the epidermis, that constitutes the elevation, and the rete mucosum, which is held to remain attached to the surface of the dermis. The difficulty which at once suggests itself here is, why there should be a detachment of the epidermis from the rete mucosum—why the papillæ should not be left bare when the raised skin is removed. Some recent investigations by Professor Biesiadecki show that our previous knowledge of the process, though in the main correct, has not been complete or accurate. He has endeavoured to fill up this hiatus, and has taken as the subject of his observations the small vesications that are caused by a burn, because these are quickly produced, and are not, as in the case of the minute blisters which occur in disease, accompanied by any previously diseased conditions of the skin. If a subject be burnt with a hot iron, there will be found in the neighbourhood of the eschar, after the lapse of a few hours, sundry small vesications; these are well adapted for investigation. If such a blister be cut out with a

portion of the adjoining skin, macerated in chromic acid, and imbedded in gum, complete vertical sections may be obtained. It is then found that both the papillæ and the stratum Malpighii have undergone important changes. In the smaller vesicles the papillæ are enlarged, their connecting tissue presents lacunæ, and the vascular loops are greatly dilated and apparently elongated. The epidermis is altogether detached from the papillæ except in the hollows between the papillæ, and the space between the two is occupied by innumerable very fine fibres, which seem to be on the stretch. The fibres do not at first sight give the idea of elongated cells, as they are of equal thickness and have no nuclei, though one or two may be scattered here and there. They readily stain with carmine. When the vesications are larger, and the fluid more abundant, the fibres are torn through, part adhering to the inner surface of the epidermis, part to the outer surface of the papillæ. Amongst them, some club-like cellular structures, with nuclei in their interior, may be seen adhering to the papillæ by their elongated extremities. In the serous contents of the vesicles a few round nuclei are suspended. Biesiadecki states he was long in doubt respecting the origin of these fine fibres, but he has now convinced himself that they really proceed from the cells of the rete mucosum, as the intermediate forms between the finest fibres and the unchanged cells may with care be seen, whilst the surface of the papillæ is well defined, so that they could not proceed from the connective tissue. We may therefore conclude that in the formation of a blister from a burn there is, in the first place, a great dilatation of the bloodvessels, which immediately occasions a serous exudation. This permeates the tissue of the cutis and reaches the rete mucosum, the cells of which do not appear to be capable of imbibing fluid. As the deeper ones adhere strongly to the papillæ, and as the accumulating serous fluid cannot escape through

the condensed cellular layers of the epidermis, the cells constituting the rete mucosum are gradually put upon the stretch, at first being merely elongated, and finally becoming converted into fibres in which no trace of a nucleus can be discerned. These facts appear to us to be of great interest, and they teach that vesicles may be traversed by a framework of fine fibres, as it is well known is the case with pustules—*e.g.*, those of small-pox."—*Lancet*, Oct. 10th, 1868.

NOTE ON SO-CALLED "ARMY ITCH."

It has been asserted by army medical officers of late years, that there exists a special form of disease amongst soldiers, which has not been described hitherto. It is engendered mostly by a camp life, but is also seen in recruits, and amongst the poor in the vicinity of camps. To this disease the term "army itch" has been applied. It is said to have no relation to scabies. The American military surgeons are reported to have seen a good deal of it during the recent civil war in their country, as the following quotation from Dr. Hartshorne's handy little work, entitled "Essentials of Medicine," shows:—"During and since the late war in this country, the inevitable filth of camp-life begot, among other evils, a very troublesome contagious skin-disease, called by the above name. Itching, without any eruption except small papulæ, characterizes it. Outside of the army it has extended to a considerable number of persons. No better remedy for this affection, I believe, has been found than a lotion and ointment, composed of iodide of potassium and glycerine; with water or rose-water for the lotion, and lard or cold cream for the ointment. Mercurial ointment, and sulphuric acid ointment, are also efficacious for it."

Dr. Hartshorne, it would appear, does not think that the disease is scabies. Being desirous of obtaining as many particulars as possible, I wrote to several of the leading men of the army to ask for special information touching the existence and nature of this so-called "army itch." Professor Maclean has been kind enough to reply as follows, "I know nothing of the so-called 'army itch.' The disease (scabies) as seen in soldiers, presents no peculiarities of which I am aware. I have shown your note to several experienced and very careful medical officers at Netley; they all agree with me." Inspector-general Dr. Lawson, C.B., remarks:

"In reply to your question regarding itch in the army, so far as I have seen, the disease which is usually so denominated is really scabies in the first instance, but under the influence of irritating applications, whether ung. sulph. comp., sulphuret of lime, or carbolic acid, &c., too long continued, a new eruption is brought out, occasionally like prurigo, more frequently eczematous in its character, which may be mistaken for scabies, and if under this impression the treatment be continued, the secondary affection may become troublesome, and continue for a long period. Occasionally there is an inadequate diagnosis, and a case really of prurigo is treated as if one of scabies; but this, in my experience, has not been very frequent.

"Thirty years ago, when I first entered the army, the usual treatment for scabies was inunction of the whole body with compound sulphur ointment, and the usual period of treatment was three to four days. I soon found that the ointment caused much irritation of the skin in many persons, and brought out an eruption of eczema, and in consequence, with my own regiment, diminished the period of treatment in nearly every case to two days only, which overcame the original disease, and did not develop the other to any troublesome extent.

"We tried carbolic acid for several months last sum-

mer, for the treatment of scabies, at Aldershot, but the opinion of the medical officers was by no means favourable to it. It seemed to be less certain in destroying the insect, and more apt to excite eczema than either the sulphide of lime or the sulphur ointment, and was at last abandoned.

"I trust this statement will meet your desires."

The facts mentioned by Dr. Lawson are most important, and entirely coincide with similar experience of my own in regard to the treatment of scabies.

It will be seen, then, that scabies offers no *peculiarities* when it occurs in soldiers. It is, however, often followed by various secondary eruptions. But these latter are not those which constitute the so-called "army itch," of American authors especially. That is a primary form of disease, having no relation to scabies, so it is affirmed. Dr. Hartshorne observes that it is *contagious*. I am not aware that this is thought to be the case by English army medical officers. But allowing that the "army itch" is not scabies, how does it arise?

In many cases it seems to follow the undue physiological excitement of the perspiratory function, caused by residence in hot climates, especially in those who are possessed of the rheumatic diathesis. There is considerable disorder of the sensibility of the skin, succeeded by a lichenous, pruriginous, or eczematous eruption.

Through the courtesy of Dr. Gordon, C.B., I am enabled to give the following interesting particulars relating to the disease, which he has been so kind as to obtain for me. The account of "army itch" given by Dr. Perry is especially interesting and valuable.

Dr. Sinclair writes touching the disease:—"Nothing of this kind was noticed in the men of the 33rd Regiment in Abyssinia, although they wore one suit of clothes by day and by night for nearly two months, only taking them off to wash occasionally. A

good deal of redness and scalding was produced by the friction of the trousers at the fork,—nothing more."

Dr. Lamprey writes:—"No case of '*army itch*' occurred in the 67th Regiment while serving in China, although the reputed cause of that disease was in excess there, no Asiatics being more troubled with pediculi than the Chinese, who have a saying that not one man in ten, no matter how high his rank may be, is exempt from body lice. Of course our men, who were much in contact with the Chinese of the poorer sort, were not exempt from lice, especially during the winter months, but I did not notice any pruriginous results. I fancy the good sanitation observed with regard to housing, clothing, general cleanliness, exercise, and more especially abundance of good wholesome food, and of fresh meat in their dietary, kept the skin in good order, and proved good preservatives against the disease. For the same reason, cases of common scabies were not frequent, though the Chinese are particularly addicted to that disease also, their food consisting chiefly of vegetable ingredients, and meat being rarely and sparingly used. It is generally believed that Chinese itch is particularly virulent and difficult of cure. I have certainly seen some very angry-looking pustules arising from it, but I have not found any case resist the ordinary sulphur treatment."

Dr. Perry's experience is contained in the following letter to Dr. Gordon, dated Royal Artillery Hospital, Portsmouth, 29th September, 1868:—"In relation to our conversation respecting what is called 'army itch,' and the information Dr. Tilbury Fox seeks regarding it, I now send you an extract from my reports for the year 1862–3:—'Speaking of the sanitary condition of the 6th Brigade Royal Artillery, as relates to the bedding supplied to it, I am still of opinion that the substitution of hair, fibre, wool, cotton, or even sea-weed (zostera marina), for the straw now used for

stuffing the beds, would be beneficial, and, in the end, justify the expense. Considering the very frequent change entailed by straw beds, and the uncertainty of the straw used being perfectly free from parasitic or insect life, it becomes an open question whether or not one of the diseases affecting soldiers may not be referible to its use. For some time past a complaint closely simulating itch in many of its characters, but which is not amenable to the ordinary treatment for that disease, has been very prevalent among the troops in this district, and has by some medical officers been confounded with scabies. It appears, however, to be a composite affection, having several different symptoms, and being a mixture of ordinary lichen and prurigo with herpes and eczema, occasionally taking on the graver form of impetigo. At present no cause can be discovered for the affection, and though diligently sought for, no acarus has been discovered. The impression among the men is that "the blankets have something to do with it," and it appears to be just such a complaint as might have become induced by some irritating agent derived from the straw composing the beds. The suspicion that it was so induced arose in my mind from my having seen many cases of a similar description in the workhouses of Hampshire, the disease occurring amongst tramps and navvies who, as the nightly occupants of the casual wards, had nothing but straw to lie upon, and in whom, to my own knowledge, the sulphur plan of treatment proved useless. It might have been but a mere coincidence, and atmospheric influences alone the cause of the complaint, but to a certain extent these views have been borne out by observation lately made in America, where in the Federal army a bastard kind of measles was apparently induced by a fungoid condition of the straw used by the soldiers as bedding. Careful examination of the straw used by the Royal Artillery in Portsmouth was made, but the microscope failed to discover any

parasitic growth attached to it. Still the interesting fact remains that in all probability a diseased condition of straw is capable of exercising evil effects upon those using it as bedding, if the American observations are correct.' Some time after the above remarks were written I had a conversation with Mr. Erasmus Wilson upon the subject, and his opinion was that the complaint had been introduced into England by the army from the Crimea, that it had at first attacked the poorer population, but was gradually affecting persons of higher social status. He was under the impression that the persulphide of calcium (which has been used for so many years past in the army for the cure of scabies) would also cure the complaint in question; but my experience is against such, as although I have found sulphur occasionally do good (probably where, also, there is a complication of scabies itself), yet that it would not entirely eradicate the disease so closely simulating it. The best remedy for the complaint I found to be the following as an external application:—

"℞ Zinci oxidis ℥j, hydrarg. ammon. chl. ℥j, acidi hydrocyanici diluti ℥ss, glycerinæ ℥j: ft. lotio; and the following mixture internally:—℞ Ext. taraxaci ℥iij, liquor hydrarg. bichloridi ℥xvj, vini colchici ℥ij, tinct. cardam. co. ℥iv, aqua ad Oij: ft mist., a dessertspoonful twice daily in a wineglassful of water. The above mixture was made in the quantity named because so many men suffered from the complaint.

"Occasionally I have found the disease prevail among the recruits drawn from the neighbouring counties, and upon one occasion I well recollect a young man telling me that it had become known amongst his friends by the name of 'Dorsetshire itch,' and that a *doctor* had also told him it was so. At the present time the complaint is hardly known amongst us, but at the time I have alluded to it was so prevalent, and its character so little known, that

many medical officers were considerably troubled with its treatment, and to my own knowledge one medical officer recommended that the bedding of a whole battery of artillery should be burnt, in consequence of its presence amongst the men."

Dr. Marston, of the Royal Artillery, amongst others, obtained various specimens of suspected straw from different sources at Portsmouth, and submitted them to careful microscopical examination, but did not discover the presence of any fungus or other cause in the straw for disease, which was then in existence, I suppose the same to which reference is made by Dr. Perry. Dr. Marston informs me that he is of opinion that the disease has been erroneously connected with the condition of straw used. Dr. Marston adds:— "The name is an absurd one: scabies in the soldier is the same that it is in the civilian, and many of the cases I saw at Portsmouth were really those of itch; but the affection of which I write is, however, different and almost equally common." It is chronic; neither insect nor ova can be detected, and sulphur does not cure it. It is often accompanied by symptoms of dyspepsia, or preceded by the tropical form of prickly heat; by hyperæsthesia or disordered innervation of the skin, and is aggravated by the use of flannel, by sea bathing, and by beer.

The most successful treatment appears in Dr. Marston's experience to consist in the exhibition of bichloride of mercury, taraxacum, and liquor potassæ. The disease is a mixture of prurigo and lichen.

Putting these facts and opinions together, I should be disposed to think with him that the disease will be found to be a prurigo, in the true sense of the word, mixed with eczema and lichen.

With regard to the influence of mouldy straw in producing disease in camps, I think a little confusion has been made. Some American physicians (especially Dr. Salisbury) assert that a form of "measles"

may be produced by soldiers sleeping on damp or mouldy wheat-straw. I do not gather from my reading that they attribute the pruriginous affection styled "army itch" to that cause, but only "camp measles" —a different thing. Dr. Salisbury's account of the matter will be found in the *American Journal of Medical Sciences* for July and October, 1862. It is entitled on "The Influence of the Fungi of Wheat-Straw on the Human System, and the Origin of Camp Measles," and, perhaps, of measles generally. Dr. Salisbury records many facts to show that the inoculation of the system with the elements of the fungus of wheat-straw gives rise to the development of a disease which does not differ from measles. He says that sleeping on damp and "mouldy" straw is the cause of camp-measles. He also produced it artificially by inoculation, and suggests that the origin of measles is to be sought for in some such manner. Dr. H. Kennedy (*Dublin Quarterly Journal of Medical Science*, February, 1863), gives a case in confirmation. Dr. Salisbury observes also, that measles was not known till 1518 (Rayer) in the New World; and this was the date at which wheat and small grains were introduced into the New World; and measles are most prevalent in cold weather—in other words, at the time straw beds are disturbed and thrashed. If there be anything in this view, the agency possibly must be a poison generated by the mouldy straw, of which the fungus is an evidence.

NOTE ON EQUINIA OR GLANDERS.

The account of equinia was accidentally omitted from its proper place amongst the acute specific or zymotic diseases.

Equinia, or as it is usually called *Glanders*, is a disease which originates in the horse, the mule, and

the ass, and when it occurs in man it is communicated to him from one or other of these animals, either by the contact of the "discharge" of the disease with wounds, or by pure absorption. In the former case glanders commences as an erysipelatous inflammation of the lymphatics and glands, following quickly upon the poisoning of the wound. In other cases there is a period of incubation of from three to fifteen days. However, the introduction of this poison into the human subject is followed by the development of acute febrile symptoms, rigors, articular pains, delirium, marked prostration, with a tendency to gangrenous inflammation of the lymphatic vessels, the occurrence of a pustular and phlyctenular eruption, inflammation of the skin, ulceration and discharge from the nostrils, with subcutaneous abscesses. The above is a rough outline of the disease. Veterinarians describe two varieties of equinia, *Glanders* and *Farcy*. In the former the disease falls upon the nasal mucous membrane and the skin, in the latter the nose is unaffected, and the skin often escapes, the lymphatics and glands are specially the seat of disease. *Glanders* may be acute or chronic. In the *acute* form there is inflammation of the lymphatics, with abscesses specially about the face and over the joints. Pustules appear over the cheek, the arms, and the thighs, and commence as red papules, with a distinct areola, isolated or semi-confluent; these are accompanied by bullæ with dark areolæ. At the same time there comes on what appears to be erysipelatous inflammation of the nose, eyes, and the contiguous parts; and soon from the nose a thick, viscid, often fœtid humour is discharged, and if the nasal mucous membrane be examined, pustules and ulceration will be observed over its area. In the chronic disease the skin may be free from eruption, but the nasal symptoms are present. The general symptoms are the same as in the acute variety, only less marked.

Farcy is either acute or chronic. In *acute* farcy all

the general pyrexial symptoms of acute glanders are present, and occasionally some eruption occurs, but the nose escapes. The disease may therefore be regarded the same as acute glanders without the nasal affection. Inflammation of the lymphatics and subcutaneous abscess are prominently marked. In *chronic* farcy, the health deteriorates, and chronic indolent abscesses form about the forehead, the calves, &c., giving rise to open ulcers. The disease lasts from a few months to three years. Acute glanders may be developed out of chronic farcy.

Diagnosis.—The disease commences like rheumatism, but the occupation of the attacked, the commencement of the disease like erysipelas, the prostration, the absence of joint inflammation itself, the pustular eruption, and the ulceration and discharge from the nose are significant. In chronic glanders there may be no eruption, the disease then resembles ozæna, but if farcy be present the diagnosis is certain. With regard to farcy, if eruption be present, no mistake can occur, but difficulties do arise in chronic farcy without eruption. We determine the nature of the case by exclusion. It may resemble syphilis.

Prognosis.—Equinia is a dangerous disease, and in acute cases almost always fatal.

Treatment.—I have no experience upon this point. It has never fallen to my lot to treat a case of glanders. We are told upon good authority that the combination of arsenic and strychnine acts apparently better than anything else. Hyposulphites, and perchloride of iron, have been recommended. The use of nitrate of silver to the eruption, and chloride of zinc solution, two grains to an ounce night and morning, to the nasal mucous membrane, or a weak carbolic acid lotion, is commended.

POISON-VINE ERUPTION.

"The common poison-vine (*Rhus toxicodendron*), a species of sumach, and one or two other plants more rarely, cause, by contact, in some persons, an inflamed vesicular eruption of considerable severity. The hands and face are its most common localities; but it may come out on the lower limbs or about the anus and genitals. Its duration, when severe, may be from one to two weeks; but it is often quite limited and of shorter course.

"In the treatment of this annoying but not dangerous attack I have had a good deal of experience in my own person as well as with others. I have found the most relief, and the greatest effect in shortening the course of the disease, by reducing the inflammation, from *lead-water, early*, freely and frequently applied, with a large camel's-hair pencil. It should not be put upon the *opened* vesicles, which it irritates; but around them, upon the reddened skin. In the practice of my brother, Dr. E. Hartshorne, a very successful remedy has recently been the *fluid extract of serpentaria*, painted directly upon the eruption. It seems to kill it at once."—Dr. Hartshorne, *Essentials of the Principles and Practice of Medicine*, p. 354. Philadelphia, 1868.

MINERAL WATERS IN SKIN DISEASES.

The following is a list of the principal "waters" of use in the treatment of skin diseases, especially those of chronic character, for which I am indebted to Dr. Althaus:—

A. Foreign:—

1. Ems Salzbrunn	For eczema and prurigo.
2. Wiesbaden Bourbonne les Bains	Ulcers and chronic skin diseases, with abdominal plethora.
3. Friedrichshall Pullna	Scrofulous skin diseases.
4. Rehme Nauheim	Eczema in the early stages, and pityriasis.
5. Kreuznach Krankenheil	Lupus, sycosis, lichen, ichthyosis, scrofulous ulcers.
6. Leuk (Louèche)	Eczema, psoriasis, and all chronic skin diseases.
7. Wildbad Gastein Pfæffers Teplitz	Prurigo, psoriasis, and lichen, where there is nervous debility.
8. Spa Schwalbach Pyrmont Franzensbad	Skin diseases connected with or owing to anæmia.
9. Aix-la-Chapelle Baden (near Vienna) Baden (in Switzerland) Aix-les-Bains Bagnères de Luchon Barèges St. Sauveur Eaux Bonnes Nenndorf Sandefjord (Norway)	All sulphurous waters, useful in acne, pityriasis, psoriasis, prurigo, sycosis.

B. English Waters.

1. *Sulphurous.*—Harrogate, Moffat, Cheltenham, (sulphur spring).

2. *Saline.*—Cheltenham, Buxton, Bath, Scarborough, Leamington (New and Old Bath).
3. *Chalybeate.*—Tunbridge, Cheltenham (chalybeate), Brighton.
4. *Bromo-iodine.*—Purton in North Wilts, temperature 58½° F., useful in strumous subjects; and the Woodhall Spa in Lincolnshire.

"It is probably unknown to many of our readers that midway between Boston and Lincoln there exists one of the most valuable and remarkable spas to be found, not merely in Great Britain, but in Europe—namely the Woodhall bromo-iodine spa. It is one of the very few spas in this country which contain in any medicinal quantity those potent and most beneficial agents, bromine and iodine. Amongst the Continental mineral waters, it most closely resembles that of the celebrated Kreuznach Spa, to which invalids of a certain class resort from nearly all parts of the world. It differs from and is superior to the waters of that spa in the very much larger quantities of bromine and iodine present in the former, and which are stated to be some three or four times as great.

"The water of the Woodhall Spa has been more than once very carefully tested, and, as there can be no doubt of the substantial accuracy of the analyses made, we have thought it unnecessary to make a full quantitative examination; we have, however, verified the presence of bromine and iodine in large amounts. The late Mr. West, who very carefully tested this water, stated that the presence of iodine might be detected with the starch and sulphuric acid test, without the water undergoing any preliminary evaporation.

"In the bromo-iodine water of the Woodhall Spa we have therefore a very powerful remedial agent, especially valuable in the very large class of cases of scrofula and chronic rheumatism, tumours, &c."—*The Lancet*, Feb. 22, 1865. And I may add tertiary syphilis. The

water of the spa at Woodhall contains a proportion of $5\frac{1}{2}$ grains of iodine to 10 gallons; and $20\frac{1}{2}$ grains of bromine in 10 quarts.

I should think that the Woodhall Spa may turn out to be a valuable remedy in skin diseases.

FORMULARY.

BATHS.

1. *The Brick Vapour Bath.*—Mr. Grantham's simple mode of applying steam vapour. "Boil two gallons of water; at the same time put into the fire half a brick, which must be heated to redness; have a cane-bottomed chair and a hot bath to the feet, with a large blanket in the room; put the boiling water into an earthen pan, and place it under the chair: then put the red-hot brick into the pan. The patient is to be seated on the chair in a state of nudity, with the feet in the foot-bath, and then to be covered, excepting the head and face, by the blanket. By these means the steam is kept up on the surface of the body for the space of fifteen or twenty minutes; after which the patient is to be well dried and retire to a warm room, or be placed between the blankets." If a sulphur-bath is wanted, "boil six ounces of sulphur fifteen or twenty minutes in the two gallons of water; or, if an ammonia-bath is required, merely put two ounces of the strong liquid ammonia into the water just before the brick is introduced."

2. *A Modified Plan* is the bath invented by Messrs. Benham and Froud, of Chandos Street, W.C., called the Portable Oriental Vapour Bath. The price is about thirty shillings and there is apparatus for all kinds of fumigation. If a sulphur-bath is to be used, the quan-

tity of sulphur should be half an ounce: the mercurial agencies were noticed under the head of the Treatment of Syphilodermata.

3. *Mr. Henry Lee's* calomel fumigating bath is made by Savigny, in St. James's Street.

Ordinary Baths.

The quantity of water in a bath is estimated at 30 gallons, and the amounts of medicinal substances stated below have reference to this quantity.

4. *Emollients.*—Bran lb. 2 to lb. 6, potato flour lb. 1, gelatine lb. 1 to lb. 3, linseed lb. 1, various herbs —*e.g.*, marshmallow, lb. 4, size lb. 2 to lb. 4, to 30 gallons of water, as stated above.

Use in *all erythematous* and *itchy* diseases, *syphilodermata* in the early stage, *lichen*, *lepra*, &c.

5. *Alkaline.*—Carbonate of soda ℥ 4 to ℥ 8, carbonate of potash ℥ 3 to ℥ 6, or the same, and in addition borax ℥ 2 where there are many crusts to be detached. Borax or sulphur, of each ℥ 2.

Use in *eczema*, *urticaria*, *lichen*, and *prurigo*, where there is much local irritation.

6. *Acid.*—℥ 1 of nitric or muriatic, or a mixture of nitric acid, ℥ 1 or more, with hydrochloric acid, in like quantity, to 30 gallons of water.

Useful in *chronic lichen* and *prurigo*.

7. *Iodine.*—Iodine ℥ ½, iodide of potassium ℥ ½, with ℥ 2 of glycerine; or iodine ℥ 1 or more, with ℥ 1 or ℥ 2 of liquor potassæ, to 30 gallons of water.

Use in *scrofulous eruptions*, in *syphilis*, and in *squamous diseases*.

8. *Bromine.*—20 drops of bromine, with ℥ 2 of iodide of potassium.

Use as the Iodine.

Sulphuret of Potassium.—℥ 4. The balneum sulphuris co. of Startin is made with ℥ 2 of sulphur (precipitated), ℥ 1 of hyposulphite of soda, and ℥ ½ of

dilute sulphuric acid, with a pint of water, added to the usual 30 gallons of water.

Use in *itch*, in *chronic eczema*, *lichen*, and *psoriasis*.

9. *Mercurial.*—Bichloride ℥ 1—3 with ℥ 1 of hydrochloric acid. Biniodide of mercury ℥ 1, with ℨ 2 of chloride of sodium.

Use in *pityriasis rubra* and the *syphilodermata*, especially with ulceration. The Purton springs in North Wilts are bromo-iodated and sulphated waters, having a temperature of 58½° F., and would appear to be very useful in strumous subjects.

CAUSTICS.

10. *Iodine.*—Iodine ℥ ½, iodide of potassium ℥ 1, distilled water ℥ 5.

Use in *glandular enlargements*, *lupus*.

11. *Nitrate of Silver*, ℈ 2 to ℨ 1 of spirit of nitric ether. (To be kept excluded from the light.)

Use in the chronic forms of *erythema*, *eczema*, and *lepra vulgaris*, *ringworms*.

12. *Chloride of Zinc* (Startin).—Chloride of zinc ℥ 4, chloride of antimony ℥ 2, starch ℥ 1, and glycerine *q. s.*

Use in *ulcerous* and *tuberculous* affections.

13. *Arsenical* (Startin).—Calomel ℨ 2½, bisulphuret of mercury ℈ 2, and arsenious acid ℥ 1.

Use in *lupus*, *scrofulous ulcers*, and *syphilis*.

14. *Vienna Paste.*—Unslaked lime and caustic potash, of each equal parts; when used, mix with alcohol.

Use as above.

15. *Bicyanide of Mercury.*—gr. 2 or more to ℨ 1 of water (Burgess).

Use in *acne rosacea;* to be painted on for two or three minutes and then wiped off.

16. *Biniodide of Mercury.*—gr. 10 to gr. 20 to ℨ ½ of glycerine.

Use in *lupus* especially.

17. *Plencks.*—Alcohol and acetic acid, of each ℥ ½; bichloride of mercury, alum, camphor, and carbonate of lead, of each ʒ ½.

Use in *syphilitic* warts; pencil twice a day.

18. *Savin* (Langston Parker).—Powdered savin, bichloride and nitric oxide of mercury, of equal parts.

Use in *condylomata* and *warts.*

19. *Coster's.*—Iodine ʒ 2, and colourless oil of tar ℥ 1.

Use *in ringworm in the early stages;* one or two applications suffice.

SOAPS.

20. *Hendrie's* Dispensary petroleum soap.

Use in *eczema.*

21. *Juniper-tar Soap* (recommended by Velten of Aix-la-Chapelle).

Use in the *squamous diseases* especially.

22. *The common Soft* (potash) *Soap*, used in chronic infiltration—*e.g.*, lichen circumscriptus or chronic eczema. It may be dissolved in boiling water, ℥ 1 of the soap to ℥ 2 of water, and scented with some aromatic oil.

23. *The Sulphur Soap*, of use in *scabies* and *prurigo.*

24. *Sapo Laricis* (Moore, *Dub. Hosp. Gazette*, March 15, 1859).—Wheaten bran ℥ 4, glycerine ℥ 3, white curd soap ℥ 24, extract of larch bark ℥ 6, and rose-water ℥ 12.

Use in *pityriasis, psoriasis, chronic eczema,* and *herpetic* eruptions.

25. *Pear's transparent Soap.*—The best soap made.

26. There are many other kinds of soap, but I am not in the habit of using them very much—ex., sulphur, carbolic acid, oxide of zinc, &c., a series of which are carefully made by Morstatt and Co.

ASTRINGENTS.

27. *Tannic Acid* gr. 40, French vinegar ℥ ½, and distilled water ℥ 7½ (Neligan).

28. *Tincture of Krameria* ℥ 2, creasote ♏ 8, prussic acid ♏ 8, and distilled water ℨ 4 (Neligan).
29. *Opium* gr. 8, creosote ♏ 10, adeps ℨ 2 (Neligan).
Use in *prurigo* and *lichen.*
30. *Tincture of Myrrh* ♏ 30, cold cream ℨ 1, oxide of zinc gr. 20 (Neligan).
Use in *prurigo, erythema, lichen.*
31. *Borax* ℈ 1 to ℥ 1, glycerine ℨ 1, and ℨ 8 of rose-water.
Use in *squamous diseases.*
32. *Zinc*, oxide of, ℥ 2, glycerine ℥ 2, liquor plumbi ℥ 1½, lime-water to ℨ 6 or ℨ 8.
Use in the *secretory stage of eczema*, in *acne*, in *lichen*, in *foul ulcers*, *impetigo*, and *herpes.*
33. Lotions containing in the ℨ 6 of water ℥ ½ to ℥ 2 of dilute hydrochloric or nitric acid or less, gr. 5 to gr. 10 of acetate of lead, &c.
Use in *eczematous* and *lichenous* affections.
34. *Alum* ℥ 2 to a pint of infusion of roses (Cazenave).
Use in *acne*, *pityriasis*, and *eczema* (*sine crustis*).
35. Sulphate of *copper* ℥ 1, sulphate of zinc ℨ ½, distilled water 1 pint, cherry-laurel water ℨ ½ (Dupey).
Use in *mentagra.*

SEDATIVES. (Lotions and Ointments.)

Soda.

36. Carbonate of soda gr. 30, *conium* juice ℨ 1, elder-flower water ℨ 1.
37. Bicarbonate of soda ℥ 1, glycerine ℥ 1½, elder water ℨ 6½.
38. Biborate of soda ℥ 2, cherry-laurel water ℨ 1, elder-flower water ℥ 11 (Neligan).
39. A lotion of ℥ 2 of soda or potash to ℨ 6 or ℨ 8 of water.

Uses.—Either of the above are useful in the early stages of *vesicular and papular diseases to allay itching.*

40. Borax ℥ ½, rose-water ℥ 8, sulphate of morphia, gr. 6.
Use in *pruritus vulvæ* (Meigs).

Prussic Acid.

41. Bichloride of mercury gr. 1, prussic acid ℥ 1, almond emulsion 6 ℥.
Use in *itching in lichen, syphilodermata, pruritus.*
42. Prussic acid ℥ 1 to ℥ 2 to ℥ 5, ℥ 6, or ℥ 8 of marsh-mallow infusion.
43. Acetate of ammonia ℥ 2, prussic acid ℥ 1, tincture of digitalis ℥ 3, rose-water ℥ 5 (Thomson).
43 A. Prussic acid ℥ ½ to ℥ 1 to ℥ 2, ℥ 4, ℥ 8 of fluid.
Use in the *prurigo* of old people.
44. Borax ℥ ½, rose-water ℥ 8, prussic acid ℥ 2, (Neligan).
Use in *lichen agrius.*

Cyanide of Potassium.

45. Cyanide of potassium gr. 6, cold cream ℥ 1, cochineal gr. 1 (Anderson).
Use in *pruritus, urticaria.*
46. Cyanide of potassium gr. 5, sulphur and bicarbonate of potash of each ℥ ½, cochineal gr. 1, and axunge ℥ 1 (Anderson).
Use in *eczema* with pruritus.
47. Cyanide of potassium gr. 15, water ℥ 8 (Hardy).
Use in *pudendal irritation, lichen* and *prurigo.* N.B.—Keep in a dark place.

Chloroform.

48. Chloroform ♏ 6, cucumber cerate ℥ 1.
49. Carbonate of lead ℥ ½, chloroform ♏ 4, cold cream ℥ 1.
50. Chloroform ♏ 8, glycerine ℥ 1, white wax ointment ℥ 7, cyanide of potassium gr. 4 (Neligan).

51. Chloroform ℥ 1 to ℥ 4 of glycerine (Duparc).
52. Glycerine ℨ 2, bichloride of mercury gr. 1½, chloroform ♏ 20, and rose-water ℨ 6 (Burgess).

Use in *itching* in *papular* and *vesicular* diseases and *urticaria*.

Belladonna.

53. Extract of belladonna ℨ ½, hydrocyanic acid (dilute) ℨ ½, glycerine ℨ 1, water to a pint (Startin); ℨ 1 *contains* ♏ 14 *of prussic acid*.

Use diluted in *papular* and *phlegmonous* affections.

Digitalis.

54. Tincture of digitalis ℥ 2—℥ 4, glycerine ℨ½, rose-water ℨ 6, as a lotion.

Use in *prurigo* of *purely neurotic character*.

Liquid Pitch.

55. Pitch ℥ 1, extract of opium ℈ 1, adeps ℨ 1 (Duparc).

Use in obstinate *prurigo*.

Variæ.

56. Sweet almonds ℨ 1, orange-flower water ℨ 2, rose-water ℨ 8, to make an emulsion, and then add muriate of ammonia ℥ 1, and tincture of benzoin ℥ 2 (Hermann).

Use chiefly as a cosmetic.

57. Carbonate of lead gr. 4, glycerine ℥ 1, simple cerate ℨ 1.

Use in *erythema*.

58. Solution of diacetate of lead ℥ 1 to ℥ 2, to ℨ 16 of infusion of althæa (Burgess).

Use in *lichen* and *chronic eczema*.

59. Solution of acetate of ammonia ℨ 2, spirits of wine ℨ ½, rose-water ℨ 4 (Burgess).

Use in *lichen*.

60. Protochloride of lime ʒ ½, almond oil ʒ 2, lard ʒ 3 (Biett).
Use in *papular itching.*
61. Acetate of lead ʒ 1, distilled vinegar ʒ 2, distilled water ʒ 2, olive oil ʒ 3 (Graves).
Use in *prurigo.*
62. Acetate of zinc gr. 2, rose-water ʒ 1, cold cream ʒ 1.
Use in *erythema* and *herpes.*
63. Aconitina gr. 1 to gr. 5 to ʒ 1 of adeps.

Camphor.

64. Camphor ʒ ½, alcohol sufficient to dissolve it, powdered oxide of zinc and starch, equal parts.
Use as a powder to allay the *burning heat of eczema* (Anderson).
65. Camphor gr. 8, tincture of conium ʒ 2, white-wax cerate ʒ 1 (Neligan).
66. Camphor ʒ ½ or more, spirits of wine ʒ 1, borax ℈ 2, and rose-water ʒ 8.
Use in *pruritus*, *eczema*, and *erythemata.*
66A. *Absorbent powder.* Powdered maize ʒ 4, oxide of zinc powder ʒ 1, calamine powder ʒ ½.
Use in *excoriated surfaces.*

STIMULANTS AND ABSORBENT REMEDIES.

N.B.—See also Special Section—Parasiticides.

Soft Soap Preparations.

67. Soft soap ʒ 1, boiling water a pint, to be scented with some essential oil.
Use in the second stage of *eczema*, to counteract the infiltration.
67A. Equal parts of tar, methylated spirit, and soft soap,

constituting the "Tr. saponis viridis cum pice," and used by Hebra in *eczema*.

68. Spirit of wine, oil of cade, and soft soap, of each ℥ 1, oil of lavender ℥ 1½ (Anderson): a more elegant form than the last.

Camphor.

69. *Unguentum Camphoræ* (Startin)—
Camphor gr. 10, glycerine ♏ 10, fresh lard ℥ 1; mix.

Use in *erythematous*, *vesicular*, and *squamous* diseases.

Borax.

70. *Lotio Boracis* composita (Startin)—
Borax, sesquicarbonate of ammonia, of each ℥ 1½, glycerine ℥ 1, dilute hydrocyanic acid ℥ 3, distilled water a pint. Modus, ℥ 1 to ℥ 1 or ℥ 2 or ℥ 4 of water.

Use in *vesicular* and *sebaceous* diseases.

71. Borax ♑ 2, oxide of zinc ℥ 1, solution of diacetate of lead ℥ 2, lime-water to ℥ 6 or ℥ 8.

Use in *eczema* and *herpes*.

72. *Unguentum Boracis*—
Borax ℥ 1 to ℥ 2, glycerine ℥ 1, adeps ℥ 1.

Use in parasitic diseases, *eczema*, *erythema*, *intertrigo*, *lichen*.

Mercurial.

73. Calomel ℥ 1 to ℥ 1 of lard.

Use in *herpes*, *psoriasis*, *pruritus vulvæ*.

74. Protiodide of mercury gr. 2 to gr. 15 to ℥ 1 of lard (Hardy).

Use in *acne*.

75. Bicyanide gr. 5 to gr. 10 to ℥ 1 of lard.

76. Biniodide gr. 5 to gr. 20 to ℥ 1 of lard.

Use cautiously in *tubercular syphilis* and *lupus* or *acne indurata*.

77. Iodo-chloride of mercury gr. 3 to gr. 10 to ʒ 1 of lard.

Use as above.

78. *The Unguentum Mercuriale co.* (Startin)—viz., levigated nitric oxide, ammonio-chloride of mercury, of each gr. 6, fresh lard ʒ 1.

Use in *sebaceous*, *squamous*, *ulcerous*, *tubercular*, and *papular* affections.

79. *Linimentum Hydrarg. c. Iodinio* (Startin)—viz., iodine ʒ ½, glycerine ʒ 2, olive oil ʒ 3½, the stronger mercurial ointment ʒ 2.

Use in *tubercular* and *cachectic* affections.

80. *Lotio Hydr. Bichloridi.* Bichloride of mercury gr. 4, dilute nitric acid ʒ 1, hydrocyanic acid ʒ 1, glycerine ʒ 2, water ʒ 8. (Startin.)

Use in *syphilitic eruptions*, *pityriasis*, *chloasma*, *&c.*

81. *Lin. hydr. nitrico-oxydi* (Startin). Olive oil ʒ 2, fresh lard ʒ 2, nitric oxide of mercury ʒ 1, oil of bitter almonds ♏ 10, glycerine ʒ 1.

Use in *pityriasis.*

Sulphur.

82. Iodide of sulphur gr. 10 to gr. 60 to ʒ 1 of lard.

Use in *acne.*

83. Equal parts of precipitated sulphur and alcohol (Hebra).

Use in *acne.*

84. Hypochlorite of sulphur ʒ 2, subcarbonate of potash gr. 10, purified adeps ʒ 1, essential oil of almonds ♏ 10 (Wilson).

Use, *acne.*

85. Sulphuret of potassium ʒ ½ to a pint of lime-water.

Use in *pityriasis*, *pustular* and *parasitic* diseases.

Tar.

86. Equal parts of tar and alcohol.

Use in *psoriasis* especially.

86A. The pyroligneous oil of juniper ʒ 1 to ℥ 1, mutton suet ℥ ½, and ℥ 1 of lard.
Use in *eczema, psoriasis palmaris*, &c.
87. Tar ʒ 1, camphor gr. 10, adeps ʒ 10 (Baumés).
Use in *pruritus*, in *vesicular* and *papular* diseases.

Lead.

88. Acetate of lead, gr. 15, hydrocyanic acid ♏ 20, alcohol ℥ ½, water to ℥ 6.
Use in *impetigo*.
Iodide of lead gr. 12, chloroform ♏ 40, glycerine ʒ 1, adeps ℥ 1 (Belcher).
Use in *eczema* and *psoriasis*.

Silver.

89. Chloride of silver gr. 5 to gr. 15, lard ℥ ½, white wax ʒ 2.
Use in *psoriasis*.
90. Nitrate of silver gr. 2 to gr. 10 to the ounce.
Use in *eczema* and *erythemata*.

Bismuth.

91. Lotio bismuthi nitratis (Startin).—Trisnitrate of bismuth ʒ 2, bichloride of mercury gr. 10, spirits of camphor ʒ ½, water to a pint.
Use in *sebaceous, pustular*, and *vesicular* diseases, and in *pityriasis*. Modus, 1 to 2 or 3 parts of water.

Phosphorus.

92. Phosphorated ether ʒ 1, cerate freed from water ʒ 5 (Burgess).
Use in *lupus, syphilitic tubercle, acne rosacea*.
93. Phosphorus gr. 2 to gr. 5, ether *q. s.*; dissolve and add camphor gr. 20, cerate ℥ ½.
Use as above.

Zinc.

94. Oxide of zinc ℥ 2, calamine powder ℥ 2, glycerine ℥ 2, rose-water ℨ 8.

Use, in *eczema, generally where the surface is tender and red.*

Creasote.

95. Creasote 50 drops, glycerine ℥ 3 to ℨ 6 or ℨ 8 of water.

Use in *pityriasis.*

Variæ.

96. Tincture of nux vomica ℨ ½, essence of camphor, essence of caraway, each ℥ 2, distilled water ℨ 7 (Neligan).

Use in *chronic lichen simplex.*

97. *Lotion for Ephelides* (Hardy). Bichloride of mercury gr. 8, distilled water ℨ 4, sulphate of zinc ℈ 2, acetate of lead ℈ 2, alcohol *q. s.* Use night and morning.

98. Mezereon bark and horseradish, of each ℨ 1, hot distilled vinegar half a pint. Infuse for a week and strain (Wilson).

Use in *tinea decalvans.*

99. Persulphate of iron ℥ 1, tincture of iodine and soap liniment, of each ℨ 1.

Use in *chilblains.*

100. *Virgin's Milk.* Bichloride of mercury gr. 1, tincture of benzoin ℥ 2, distilled water to ℨ 6.

Use in *acne.*

101. Equal parts of cod-liver oil and tincture of cantharides (Langston Parker).

Use in *syphilitic alopecia.*

102. Cod-liver oil ℨ 1, solution of ammonia ℨ ½, tincture of cantharides ℨ ½, honey-water ℨ 2, essence of rosemary ℨ 4.

Same authority and use.

103. White wax ointment ℥ 2½, Peruvian balsam ʒ 2, oil of lavender ♏ 12.
Use in *loss of hair.*
104. Fowler's solution ʒ 1, distilled water ℥ 1 (Hooper).
Use in *lupus.*
105. Subcarbonate of soda ʒ 2, extract of opium gr. 10, slaked lime ʒ 1, lard ℥ 2.
Use in *prurigo* (Biett).
106. Oil of bitter almonds ʒ 2, cyanuret of potassium gr. 12, Galen's cerate ℥ 2.
Use in *itching* and *prurigo.*
107. Cyanuret of mercury gr. 6, ointment ℥ 1.
Use in *syphilitic ulcers.*
108. Chloride of lime ℥ ½, sweet almond oil ℥ 2, lard ℥ 3.
Use in *papular itching.*
109. Hyposulphite of soda ʒ 1, glycerine ℥ 1, water ℥ 3.
Use in *pruritus vaginæ.*
110. Biborate of soda ʒ 1½, dilute hydrocyanic acid ʒ ½, glycerine ʒ 3, water ℥ 6 (Startin).
Use in *syphilitic palmar psoriasis.*
111. Ammonio-chloride of mercury ℈ 1, olive oil and adeps, of each ℥ 1, otto of roses ♏ 6, tincture of Tolu gutt. 20.
Use in *pityriasis capitis.*
112. "Liq. carbonis deterg." ℥ ½, glycerine ℥ ½, dilute hydrocyanic acid ʒ 1, water to ℥ 10.
Use in *lepra vulgaris.*
113. Nitrate of mercury ointment, camphor oil, and glycerine, of each ℥ ½, to form a liniment.
Use in *lepra vulgaris.*

MIXTURES.

Chiefly those of use in the more obstinate and chronic cases.

Mercurial.

114. Bichloride of mercury gr. $\frac{1}{16}$ to gr. $\frac{1}{8}$, dilute hydro-

chloric acid 10 drops to ℥ 1 of water or bitter infusion for a dose.

115. Bichloride gr. 1, iodide of potassium ℥ 2, water ℥ 3; dose, a dessert-spoonful three times a day.

Use in *acne* (Burgess).

116. Mist. hydrargyri iodidi (Startin). Bichloride ℈ 1, iodide of potassium ℥ 6, compound tincture of iodine ℥ 2, water to a pint. N.B.—℥ 1 contains gr. $\frac{1}{8}$ of the bichloride and gr. 3 of iodide of potassium.

117. A mixture containing in each dose gr. $\frac{1}{12}$ to gr. $\frac{1}{10}$ or gr. $\frac{1}{8}$ of bichloride and gr. $\frac{1}{40}$ to gr. $\frac{1}{20}$ of arsenious acid.

118. Biniodide of mercury gr. 3, iodide of potassium ℥ 1 to ℥ 2, spirits of wine ℥ 2, syrup of ginger ℥ 4, water to ℥ 1½ (Puche). Dose, ♏ 30 three times a day.

119. Biniodide gr. 1 to gr. 2, iodide of potassium ℥ ½, water to ℥ 8 (Hardy). Dose, a table-spoonful in a cup of ptisan, with the waters of Barèges and Louchon.

120. Liq. arsenici et hydrargyri iodidi (Donovan's solution). Dose, ♏ 10 to ♏ 30. ℥ 1 contains gr. $\frac{1}{8}$ of arsenious acid, gr. $\frac{1}{4}$ of peroxide of mercury, and about gr. $\frac{3}{4}$ of iodine, converted into hydriodic acid.

121. Bicyanide of mercury gr. 2 to gr. 10, water a pint (Langston Parker). Dose, ℥ ½ night and morning.

Uses.—The above are used chiefly in secondary syphilis; the 3rd, 5th, 6th, and 8th, especially in tubercular forms; 4th and 7th in ulceration when it is of syphilitic nature; and also in some obstinate forms of acne.

Arsenical.

122. Steel wine ℥ 1, simple syrup ℥ ½, Fowler's solution (liq. potassæ arsenitis) ♏ 48, dill-water ℥ 6.

Dose, a tablespoonful twice or thrice a day. (℥ 1 contains ♏ 4 of arsenical solution).

Use for ordinary skin diseases of scaly kind.

123. Fowler's solution ♏ 80, iodide of potassium gr. 16, iodine gr. 4, orange-flower water ℥ 2 (Neligan). Dose, a teaspoonful three times a day.

Use, *eczema*.

124. Cod-liver oil ℥ 2, yolk of egg 1, Fowler's solution ♏ 64, syrup ℥ 2, distilled water to ℥ 4. Dose, ℥ 1 three times a day (Wilson).

125. Bromide of iron ℥ ½, Fowler's solution ℥ 1, elder-flower water ℥ 1½, orange-flower syrup ℥ ½ (Neligan). Dose, a teaspoonful three times a day.

Use in *anæmiated* subjects.

126. Arseniate of soda gr. 1—2, distilled water ℥ 8 (Hardy). Dose, 1 spoonful daily, then 2, in conjunction with, alternately, alkaline and vapour baths, and tincture of cantharides night and morning, and the mineral waters of St. Sauveur and Louèche.

Use, it is beneficial in *lichen*, also in *psoriasis*, and *chronic eczema*.

127. Equal parts of tincture of cantharides and Fowler's solution (Bennett). Dose, ♏ 10 (twice a day), increased to ♏ 15.

Use in *psoriasis* especially.

128. Solution of chloride of arsenic ℥ 1, dilute hydrochloric acid ℥ 1, tincture of sesquichloride of iron ℥ 1½ to ℥ 3, water ℥ 8. Dose, a sixth part three times a day.

Ferruginous.

129. The mistura ferri acida (Startin). Sulphate of magnesia ℥ 3, sulphate of iron ℥ 2, dilute sulphuric acid ℥ ½, infusion of quassia to a pint. Dose, ℥ 2 to ℥ ½.

Use in *acne*, *eczema*, *impetigo*, and *ulcerous* affections. (An aperient tonic.)

130. Mist. ferri iodidi (Startin). Sulphate of magnesia ℥ 5, solution of iodide of iron ʒ 1, oil of peppermint ♏ 10, water to a pint. Dose, ʒ 2 to ℥ ½. Use as above. ℥ ½ contains ½ gr. of iodide of iron. N.B.—The liq. ferri iodidi is made by macerating in 3 pints of water, ℥ 4 of iron filings, ʒ 2½ of iodine, and ℥ 3 of glycerine. The *Chemical News* has criticized this form; it is not mine. I quote it from book.

Iron in combination with arsenic will be found under the head of Arsenical Solutions.

131. Citrate of iron ʒ 1, iodide of potassium gr. 18, tincture of cantharides and compound tincture of cardamoms, of each ʒ 2, water to ℥ 16 (Kinnier). Dose, a sixth part three times a day.

Use in *rupia*.

VARIÆ.

132. *Mist. Magnesiæ cum Colchico* (Startin).—Sulphate of magnesia ℥ 5, carbonate of magnesia ℥ ½, tincture of colchicum ℥ 1, oil of peppermint ♏ 10, water to a pint. Dose, ʒ 2 to ℥ ½.

Use in *erythematous*, *papular*, and acute forms of disease in loaded habits.

133. Zittmann decoction.—Sarsaparilla ℥ 12, water 24 pints; boil for 2 hours, and suspend in a linen bag ℥ 1½ of alum, ℥ ½ of calomel, ʒ 1 of oxysulphuret of antimony, ℥ 1½ of liquorice, ℥ 2 of senna leaves, ℥ ½ of aniseed; remove it from the fire, and allow it to infuse. Strain off 16 pints. (Decoction No. 1.) To make No. 2 decoction, take the residue of No 1, sarsaparilla ℥ 6, water 24 pints, orange-peel, cinnamon, cardamoms, of each ʒ 3, liquorice ʒ 6; infuse and strain off 16 pints.

Use in *tertiary syphilis*.

134. Tincture of guaiacum ʒ 8, tincture of aconite ♏ 20, camphor mixture ℥ 6. Dose, ℥ ½ three times a day in chronic skin diseases.

135. Turpentine rectified ʒ ½ to ʒ 1½, ♏ 3 of creasote, spirit of rosemary ♏ 40, acacia mixture ʒ 3, water to ℥ 4 (Budd). Dose, 2 spoonfuls every 3 or 4 hours.

Use in *purpura*.

136. Borax ʒ 1, bitartrate of potash ℥ ½, white sugar ʒ 2, water a pint (Neligan). Dose, 2 spoonfuls every 6 hours.

Use in *erythema nodosum*.

137. Almond oil ℥ ½, olive oil ℥ 2, iodine gr. ½ (Duncan). Dose, a third part three times a day.

Use in *scrofulous eruptions*.

138. Compound tincture of guaiacum ʒ 1, tincture of serpentary ʒ ½, mucilage ♏ 20, decoction of mezereon ʒ 7½, and decoction of dulcamara ℥ 1 (Neligan). To be taken three times a day in *psoriasis guttata*.

Phosphorus.

139. Phosphorus gr. 10, almond oil ℥ 1. Dose, ♏ 5 to ♏ 10 in emulsion.

140. Phosphorus 4 parts, ether 100 parts. Dose, ♏ 5 to ♏ 10.

Use in *acne* especially.

Strychnine.

141. Strychnine gr. 1, dilute phosphoric acid ʒ 3, tincture of orange-peel ℥ ½, infusion of cloves ℥ 11. Dose ℥ ½ three times a day (Fraser).

Use in *prurigo* and *lichen*.

PILLS, ETC.

Mercurial.

142. Iodo-chloride of mercury gr. 4, gum gr. 15, bread-crumbs ʒ 2½, orange-flower water enough to make up into 100 pills (Rochard). Dose, 1 to 3 daily.

Use in *acne*.

143. Biniodide of mercury gr. 1 to gr. 2, extract of gentian ℈ 2; to make 12 pills. Dose, 1 twice a day.

144. Protiodide of mercury gr. 16, extract of lettuce ʒ ½; to make 40 pills. Dose, 1 to 4 daily.

Use in *syphilodermata*.

145. Bicyanide of mercury gr. 24, hydrochlorate of ammonia ʒ 3, guaiacum ℥ 3, extract of aconite ʒ 3, oil of anise ♏ 24; to make 400 pills (Langston Parker). Dose, 1 three times a day. N.B.—One pill contains $\frac{1}{16}$ gr. of the bicyanide.

Use in *syphilis*.

Arsenical.

146. Arseniate of soda gr. 2, water enough to dissolve it, guaiacum powder ʒ ½, oxysulphuret of mercury ℈ 1, mucilage so as to make 24 pills (Wilson). 1 two or three times a day.

Use in *chronic skin diseases*.

147. Arseniate of soda, gr. 2, extract of hop gr. 20, sulphate of iron gr. 20, extract of nux vomica gr. 3; to make 24 pills. One thrice a day.

Use in *chronic eczema* and *lepra*.

148. Pil. arsenicalis composita (Startin). Levigated arsenious acid gr. 5, powdered acacia ʒ ½, cinnamon powder ʒ 3, extract of jalap ʒ 2, glycerine *q. s.* Make 100 pills. Dose, 1 or 2 a day. Each pill contains $\frac{1}{20}$ of a grain of arsenious acid.

149. Arsenite of iron gr. 3, extract of hop ʒ 1, powdered marshmallow ʒ ½, orange-flower water *q. s.* Make 48 pills (Biett). Dose, 1 to 2 daily.

Use in *chronic lepra*, *psoriasis*, and *lupus*.

150. Iodide of arsenic gr. 2, manna gr. 40, mucilage *q. s.* To make 20 pills. Dose, 1 three times a day.

Use in *lepra vulgaris*.

Variæ.

151. Aconite, extract of, and extract of taraxacum, of

each gr. 15. Make 40 pills (Cazenave). Dose, 2 night and morning.

Use in *prurigo*, in conjunction with starch baths and arseniate of iron.

151A. Extract of nux vomica gr. 3, inspissated ox gall gr. 6, extract of taraxacum gr. 24, powdered myrrh gr. 18; to make 24 pills (Neligan). Dose, 1 three times a day.

Use in *prurigo*.

152. Phosphorus gr. 3 to gr. 20, almond oil ♏ 10—60, powdered acacia *q. s.*; to make 12 pills (Burgess). Dose, 1 twice a day.

Use in lupus, *syphilitic tubercular disease*.

153. Sublimed sulphur ℥ 2, bitartrate of potash ℥ 1, powdered rhubarb ℥ 2, powder guaiacum ℥ 1, honey lb. 1. Mix. Dose, two tablespoonfuls three times a day.

Use in *chronic skin disease*.

REMEDIES FOR PARASITIC DISEASES.

Those agents which are destructive to parasites are termed Parasiticides.

A. Remedies of Special Use in Animal Parasitic Diseases—viz., Scabies and Prurigo.

154. Sulphuret of potassium ℥ 6, white soap lb. 2, olive oil 2 pints, oil of thyme ℥ 2 (Author?).

Use in *scabies* and *prurigo*.

155. Olive oil ℥ 2, sulphate of potash ℥ 15, sulphate of soda ℥ 15, precipitated sulphur ℥ 10 (Mollard).

Use in *scabies*.

156. Sulphur, tar, or oil of beech-nuts, of each ℥ 6, soft soap, axunge, of each lb. 1, chalk ℥ 4 (Hebra).

Use in *scabies*.

156A. Adeps ℥ 2, sulphur ℥ 5, carbonate of potash, water, of each ℥ 2 (Hardy).

Use in *scabies*.

157. Ammonio-chloride of mercury ointment ℥ 1, musk gr. 2, oil of lavender ♏ 2, almond oil ʒ 1 (Wilson.)
Use in *prurigo and scabies.*
158. Iodide of sulphur and iodide of potassium, of each ʒ 1½, water to two pints (Cazenave).
Use in *scabies.*
159. Olive oil ℥ ½, adeps ℥ ½, powdered stavesacre ʒ 2.
Use in *prurigo pedicularis.*
160. Chamomile powder, adeps, and olive oil, of each equal parts (Bazin). Use in *scabies.* Cures in three frictions, it is said.
161. Ung. sulphuris compositum (Startin). Sublimed sulphur ʒ ½, ammonio-chloride of mercury gr. 10, sulphuret of mercury with sulphur gr. 10. Mix and add olive oil ʒ 2, creosote ♏ 4, fresh lard ʒ 2.
Use in *scabies.*
162. Iodide of potassium ointment is very efficacious in *scabies.*
163. Sulphur ointment ℥ 4, oil of chamomile ♏ 20. (Wilson.) Use in *scabies.*

N.B.—For prurigo pedicularis, the ordinary white precipitate ointment of the Pharmacopœia is as good as any.

B. Remedies for Vegetable Parasitic Diseases.

1. Vesicating Parasiticides (*applied when it is desired at the outset to destroy the fungus in an early stage of disease*).

164. ℞ Hydrarg. bichloridi..... ℈ij.
Acidi hydrochlorici diluti ... ʒss.
Spirit. vini rectific. ..... ʒiv.
Use in the early stages of *tinea tonsurans.*
165. ℞ Hydrarg. bichloridi ..... gr. x—xx.
Ung. sambuci ..... ℥j.
Use for the early stage of *favus* and *tinea tonsurans.*

166. ℞ Tinct. iodin. comp. ..... ℥j.
Iodinii ..... gr. x.
Potassii iodidi ..... gr. xv.
Use in chronic stages of *parasitic disease.*

167. ℞ Acidi carbolici ..... ℥j.
Glycerinæ..... ℥ss.
168. ℞ Pulveris cantharidis..... ℥ij.
Acidi pyro-acetici concentrati ℥viij.
Acidi tannici ..... ℥j.
Misce et macera per hebdomadam et cola. (Startin.)
Use in *tinea decalvans.*

2. Milder Parasiticides (*for ordinary use*).

169. ℞ Potassii sulphureti ..... ℥iij.
Sapon. mollis ..... ℥j.
Aquæ calcis ..... ℥viij.
Spirit. vini rectif. ..... ℥ij. (Green.)
Use in *scabies, ringworms.*

170. ℞ Sodæ hyposulphitis..... ℥iij.
Acidi sulphurosi diluti..... ℥ss.
Aquæ ..... ad Oj.
Use *in all the forms of parasitic disease.* (Startin.)

171. ℞ Hydrargyri bichloridi..... gr. ij—iv.
Sp. vini rectif. ..... ℥iv.
Ammon. hydrochlorat. ..... ℥ss.
Aquæ rosæ ..... ad ℥vj.
Use in *scabies, prurigo, tinea versicolor.*

172. ℞ Sulphuris præcipitati ..... ℥ij.
Sp. camphoræ ..... ℥ss.
Glycerinæ..... ℥ss.
Hydrarg. bisulphureti..... ʒss.
Pulveris amyli..... ℥ij.
Aquæ ..... ad Oj.
Use in *ringworm of the scalp.* (Startin.)

173. ℞ Acidi carbolici ..... ℥ij.
Glycerinæ..... ℥j.
Aquæ rosæ ..... ad ℥viij.
Use in *ringworm of the surface especially.*

174. ℞ Sodæ biboratis ..... ℥ij.
Glycerinæ..... ℥j.
Adipis ..... ℥j.
Use in *ringworm of the surface.*

175. ℞ Hydrarg. subsulphatis flavi ℥ss.
Olei amygdal. dulcis ..... } āā ℥ij.
Glycerinæ destillatæ ..... }
Adipis purificatæ..... ℥ij.
M. ft. ungt. phyticidum (Bazin).
Use in *tinea.*

176. ℞ Olei juniperi pyrolig. ..... ℥ij—℥iv.
Adipis purificatæ..... ℥ijss.
M. ft. ungt. phyticidum (Bazin).
Use in *tinea.*

177. ℞ Sapo. mollis ..... ℥ij.
Ol junip. pyrolig ..... }
Sp. vin. rectif. ..... } āā ℥ss.
Glycerinæ..... }
Use in *tinea.* (Begbie.)

178. ℞ Sodæ hyposulphitis ..... ℥iv.
Glycerinæ..... ℥ij.
Aquæ ..... ad ℥vj.
Use in *tinea versicolor.*

180. ℞ Ung. hydrarg. nitratis..... ℥iv.
Sulphuris ..... ℥ij.
Creasoti..... ♏ x.
Adipis ..... ℥j vel ℥ij.
Use in ordinary *ringworm* and *tinea sycosis.*

181. ℞ Hydrarg. ammon. chloridi ..... gr. vj.
Hyd. nitrico-oxydi levigati..... gr. vj.
Adipis ..... ℥j. Misce.
(Startin.)

Use, in all forms of *ringworm*.

182. ℞ Sulphuris ..... } āā ℥j.
Unguent. picis ..... }
Glycerinæ..... ℥iv.
Ung. hydrarg. fort. ..... ℥iij.
Use, same.

183. ℞ Cupri carbonatis ..... ℥ij.
Adipis ..... ℥j.
Use in parasitic disease generally, especially *tinea sycosis*.
(Devergie.)

Depilatories.

184. ℞ Calcis recentis ..... ℥ij.
Sodæ subcarbonatis..... ℥iij.
Unguenti ..... ℥ij. (Rayer.)

185. ℞ Calcis ..... ℥iss.
Arsenici sulphureti ..... ℥j.
Amyli ..... ℥x.

Soothing Applications.

186. ℞ Ung. zinci oxydi benz..... ℥ij.
Glycerinæ..... ℥iij.
Sp. rosmarini ..... ♏ xv.

187. ℞ Tinct. opii ..... } āā ℥ij—℥iij.
Liq. plumbi diacet. ..... }
Ung. sambuci ..... ℥ij.

Special Stimulants of the Scalp.

188. ℞ Glycerinæ..... ℥iij.
Linim. aquæ calcis ..... ℥iv.
Tinct. cantharid. ..... ℥iij.

189. ℞ Aceti destill..... ℥iiiss.
Tinct. cantharid. ..... ℥vj—℥viij.
Aquæ rosæ ..... ℥iiiss.

190. ℞ Liq. ammon. fort. ..... ℥ss.
Ol. ricini ..... ℥ss.
Sp. terebinth. rect. ..... ℥ss.
Hydr. am. chlor. ..... gr. xv.
Use, to be brushed into scalp with a hard nailbrush till irritation is set up.

Note.—The arrangement of the remedies for vegetable parasitic disease under Latin terms has been accidental.

GLOSSARIAL INDEX.

Achor (ἀχὼρ scurf) is a term at one time applied to a small acuminated pustule of the scalp, containing straw-coloured pus, and succeeded by a thin brown or yellowish scab. The word has now fallen quite into disuse, 16.

Achorion. The generic name given to the vegetable parasite in tinea favosa. It is probably a form of penicillium glaucum, 326.

Acarus. A genus of minute insects belonging to the acarides in the division of arachnides. The following two varieties are found on man:—(1) acarus autumnalis—the harvest-bug—p. 293; (2) acarus scabiei, or itch insect, p. 307. The so-called acarus Stockholmii is probably a species of tick, and the acarus folliculorum is now termed steatozoon folliculorum, 394.

Acarus scabiei (difference of sex), 307.
" habits of, 303.
" selective seat of, 304.
" male, 307.
" female, 313.

Acne should really be acme, from the Greek ἀκμὴ. Dr. Greenhill believes that in the word "acne" the *n* is by mistake placed for *m*, and that this error arose with Aetius. By acne is meant an inflammation of the sebaceous follicles due to retention of sebaceous matter, and this was thought to occur at the *acme* of the system, 397.

Acne, general description of, &c., 397.
" syphilitic, 232.

Acrochordon (ἄκρος extreme, and χορδή a string). A wart which has a pedicle or a thin neck by which it hangs from the skin: a pedunculated wart, 266.

Acrodynia (ἄκρον the extremity, and ὀδύνη pain). The name given by Alibert to an epidemic erythema as occurring in Paris some years since, in which there were severe pains of rheumatic character about the wrists and ankles, 72.

Acute Specific Diseases (eruptions of), 48-64.

Addison's keloid, 275.

Age (influence of), 39.

Agrius, an adjective signifying inflamed, derived from αγριος angry, fierce, &c. *See* LICHEN AGRIUS, 123.
Aleppo evil, 173.
Alopecia signifies baldness—derived from ἀλώπηξ a fox, in whom the hair falls out in mangy places, 403.
Alopecia areata, 345.
„ syphilitic, 240.
Allosteatodes (ἄλλος other, στέαρ fat), altered sebaceous secretion, 391.
Alphos (ἀλφός white), a term applied to lepra vulgaris because of its abundant white scales, 193.
Alphous diseases (lepra vulgaris), 193.
Anæsthetic leprosy, 250.
Angeiectasis (ἀγγεῖον a vessel, ἔκτασις extension), a term applied to hypertrophy of the vessels of the skin, or nævoid growths, 286.
Angeioleucitis (ἀγγεῖον a vessel, λευκὸς white, *itis* signifying inflammation), inflammation of the lymphatics.
Anidrosis (α not, ἵδρωσις perspiration), deficiency or even absence of perspiration, 385.
Anomalous exanthem, a term applied to those rosy rashes which are like measles and scarlatina. False measles, rubella, 62.
Anthrax (ἄνθραξ a burning coal), a term applied to carbuncle, from its dark coal-like appearance. It is also thought that the word carbuncle was used to designate the disease from the supposed resemblance of the inflammatory swelling to the stone carbuncle, 156.
Area, a bald spot (from *areo*, to be dried up). It has the same significance as alopecia. The ordinary bald spots on the head are called alopecia areata, 345.
Army itch, *see* APPENDIX, 419.
Arsenical remedies, *see* FORMULARY, 446, 450.
„ caustics, *see* FORMULARY, 435.
Asteatodes (α not, στέαρ fat), deficient secretion of sebaceous matter, 390.
Atrophia (α not, τροφὴ nourishment), deficient nourishment, atrophy.

BACCHIA, a synonym of acne rosacea (from Bacchus, the god of wine); it being supposed that the too free use of spirits was the cause of the disease, 398.
Bakers' itch, 124.
Baldness, 403.
Baras, an Arabian designation for leprosy, 251.
Barbadoes leg (bucnemia tropica, or elephantiasis Arabum), hypertrophy of the fibrous tissues of the legs, commences with inflammation of the lymphatics, 277.
Baths, *see* FORMULARY, 433.
Berat, one of the ancient terms used to designate the true leprosy;

it signifies "bright spot." Berat lebena was the bright white leprosy, or the leuce of the Greeks, and berat cecha the dark leprosy, or the melas of the Greeks.
Biesiadecki's observations on cell changes, 22, 108.
Biskra bouton, 170.
Blebs, 15.
Boak, the Hebrew term for the lepra vulgaris, or alphos of Celsus.
Boils, 156.
Bots, 294.
Bouton d'Alep, 168.
Bricklayer's itch, 124.
Bromidrosis (βρῶμος a stench; ἱδρὼς sweat), fetid perspiration.
Bucnemia (βοῦ, a Greek augmentative, κνήμη the leg), the same as Barbadoes leg. Literally, as Hoblyn has it, bulky or tumid leg, 277.
Bucnemia tropica, 277.
Bug, 293.
Bulla, from the Latin *bulla*, a bubble. It is the term applied to blisters or large vesicles, as seen in herpes and pemphigus, 15 (*see* also APPENDIX, 418).
Bullous diseases, 175.
" " of syphilitic nature, 179, 187.

CACOCHYMIA (κακὸς bad, and χυμὸς juice), literally badness of juices. It is a term applied to any disease of the skin consequent upon alteration of the fluids of the body.
Cacotrophia (κακὴ bad, and τροφὴ food), ill-nourishment.
Calvities, from *calvus* bald, a term generally signifying the baldness of old age, 43, 213.
Camp measles (Appendix), 426.
Cancer, Latin for a crab, 43, 213.
Cancroid, cancer, and εἶδος likeness, is the term applied to diseases like cancer, or semi-malignant affections like kelis.
Canities (*canus* hoary), whiteness of the hair.
Catarrhal inflammation, 97.
Carate (from the Portuguese *carâs*, complexion), a pigment disease (deficiency) seen in New Granada.
Carbuncle, differently derived by authors, from *carbo* charcoal, because of the black slough, or carbuncle, because of the red and fiery nature of the disease itself, 156.
Carcinoma (καρκίνωμα = κὰρκινος, cancer).
Causes, general summary of, 25.
" Hebra on, 26.
" Wilson on, 26.
Caustics, *see* FORMULARY.
Chalazion (χάλαζα hail or sleet). It is the term sometimes applied to the little sebaceous cysts found in the eyelids, and which look like a hail-stone.

Cheloid (χηλή a crab's claw, and εἶδος likeness), the disease usually called keloid, which consists of an indurated mass putting forth processes at its edge that resemble a crab's claw. *See* KELOID.
Chigoe, 294.
Chionyphe Carteri, 355.
Chloasma (χλοάζω to be pale green), generally applied to the brownish stain of pityriasis (or tinea) versicolor, one of the ringworms, but used by Hebra to signify pigmentary discoloration, 349.
Chromatogenous (χρῶμα, χρώματος colour, γένναω to produce), a term applied to the group of diseases in which the colour of the skin is changed, 377.
Chromidrosis (χρῶμα and ἵδροσις sweating), coloured sweating, 387.
Cicatrices, 19.
Cimex lectularius, or bed bug, 293.
Cingulum, the Latin for a girdle, and applied to herpes zoster or shingles.
Classification, 32—36, 408.
,, Willan's, 32.
Clavus (a nail), a term signifying a corn or callosity, 266.
Cnidosis (κνίδωσις an itching, caused by the nettle or κνίδη), the term used by Alibert to designate nettle-rash.
Cochin China ulcer, 173.
Colour, alterations of, in disease, 377.
Comedones (*comedo* a glutton), the small sebaceous plugs or concretions that form in acne; they are also called *grubs*, 394.
Condylomata, 268.
Contagious impetigo, 146.
Corns, 267.
Couperose, the French for *copperas*. *Goutte rose*, signifying acne, in which the colour is reddish.
Cow-pox, a synonym of vaccinia.
Crusts, 19.
Crusta lactea, literally milk crust. This is a term that is generally applied to an impetiginous eczema in children, in which the crusting is free and light-coloured; but it has been made to include many different affections, and has no definite signification. *See* ECZEMA.
Cyanoderma (κυάνεος blue, δέρμα skin), a blue discoloration of the skin. *See* CHROMIDROSIS.
Cyanopathia (κυάνεος blue, πάθος disease), the blue disease, or cyanosis.
Cysts of perspiratory glands, 388.
,, sebaceous glands, 394.

DANDRIFF, or Dandruff, signifies scurfiness, pityriasis of the scalp, 292.

Dartre (δαρτός, flayed), a term applied by the French to the group of diseases including eczema, lepra vulgaris, lichen, and pityriasis. These are supposed to depend upon a "dartrous diathesis." The word *dartre* is equivalent to tetter.
Dartrous diathesis, 105.
Demodex folliculorum (δημὸς fat, δάκνω, δηξομαὶ, to bite (Hoblyn). The term given by Owen to the insect found in the sebaceous matter; called by Wilson steatozoon folliculorum, 394.
Delhi Boil, 168.
Dengue, or Dandy fever, 61.
Depilatory (*de* from, *pilus* a hair), a remedy which causes the hair to fall off; it is usually made up of quicklime, subcarbonate of potash, and sulphuret of antimony. *See* FORMULARY, 455.
Dermatitis (δέρμα skin, and *itis* signifying inflammation), inflammation of the skin.
Dermatalgia (δέρμα skin, and ἄλγος pain), neuralgia of the skin.
Dermatolysis (δέρμα skin, and λύσις looseness), of the skin when it hangs in folds, 283.
Dermatology (δέρμα skin, and λόγος a discourse); that branch of science which concerns the physiology and pathology of the skin.
Dermatophyton (δέρμα skin, φυτὸν a plant, a vegetable parasite). The diseases in which these occur are called dermatophytic, 314.
Dermatophytic diseases, 314.
Dermatospasmus, means spasms of the skin.
Dermatopathia, diseases of the skin in general.
Dermatosis is used in the same way to designate diseases of the skin as a whole.
Dermatozoa (δέρμα skin, ζῶον an animal), animal parasites, 293.
Dermic means relating to the skin; Dermoid, skin-like.
Diagnosis (διάγνωσις, a distinguishing), the art of distinguishing diseases.
Diagnosis of skin diseases (generally), 37.
" indications from mode of onset, 38.
" temperament of patient, 38.
" duration of disease, 38.
" recurrence, 38.
" occupation of attacked, 38.
" age of patient, 39.
" seat of disease, 39.
Diagnostic features of eruptions, 40.
" of syphilitic eruptions, 224.
Diathesis (διάθεσις a placing in order, a disposition), the general term for certain constitutional tendencies, such as the rheumatic, scrofulous, hæmorrhagic.
Discolorations, or maculæ, varieties of, 10.
Dracunculus (deriv. of *draco*, a dragon), the Guinea-worm, 296.
Dyschroma (δὺσχροια), discoloration of the skin.
Dyscrasis (δὺσκρασια bad state of body), a faulty state of the fluids of the blood.

Ecchymosis (ἐκχύμωσις), extravasation of blood.
Ecphyma (ἔκφυμα), a pimply eruption. Mason Good applied the term to corns, warts, and the like.
Ecthyma (ἔκθυμα a pustule), a variety of pustular disease, 150—155.
Ectrotic (ἐκτρωτικός abortive), a term applied to remedies that arrest the development of disease—make it to abort—as the nitrate of silver in small-pox pustulation, or erysipelas.
Eczema (ἔκζεμα, from ἐκζειν to boil over), a variety of cutaneous disease of vesicular nature, 97—120.
Eczema. Wilson's views, 105.
" Hardy's " 105.
" Hebra's view, 106.
" Diagnosis, 109—114.
" Treatment, 114—120.
Elementary lesions, the types of form assumed by skin diseases, 10.
Elephantiasis (ἐλέφας an elephant). This designation is applied to two different diseases in which the skin is swollen and indurated like an elephant's skin. The one is elephantiasis Græcorum or true leprosy (p. 246), the other elephantiasis Arabum (Barbadoes leg), or more generally now known as bucnemia tropica, or spargosis, 277.
Ephelis (ἐπὶ upon, ἔλεως the sun), sunburn or freckles, 379.
Ephidrosis (ἐφίδρωσις slight perspiration), moderate sweating.
Epidermophyton (ἐπιδερμίς epidermis, φυτὸν a plant), a fungus attacking the epidermic cells.
Epinyctis (ἐπὶ upon, νύξ the night), a pustule painful at night. The term was applied by Sauvages to ecthyma.
Epiphyta (ἐπὶ upon, φυτὸν a plant, epiphytes), fungi found on the surface, 314.
Epithelioma, epithelial cancer, 43, 213.
Epizoa (ἐπὶ upon, ζῶον an animal), animal parasites living upon the surface, such as acari, lice &c., 293.
Equinia (*equus* the horse), the equine disease.
Erysipelas (ἐρυθρὸς red, πελλα skin), a peculiar kind of skin inflammation dependent on a special poison, 56.
Erythema (ἐρύθημα redness), simple redness of the skin, 66.
" an elementary lesion, 11.
Erythemata, diagnostic features of, 40.
Erythematous diseases, 65.
Esthiomenon (from ἐσθίω to eat), eating; an ulcerating or eating out sore; generally applied to lupus in olden time.
Etiology of skin diseases, 21.
Exanthem (ἐξάνθημα a breaking out). A term applied to febrile diseases which are accompanied by erythematous eruptions.
Exanthem, syphilitic, 227.
Exormia (ἐξορμή a going or breaking out). This is an old appellation of ecthyma, probably.

FARCY (from *farcio* to stuff). The disease is a variety of equinia or glanders, *see* APPENDIX.
Farcy and glanders (*see* APPENDIX), 429.
Favus (a honeycomb), one of the parasitic diseases in which the fungus grows up into mass like honeycomb; it is properly called tinea favosa, 325.
Ferruginous mixtures, *see* FORMULÆ.
Fibroma (*fibra* a fibre), the disease in which tubercles formed by hypertrophy of the white fibrous tissue of the skin occurs. This is often called fibroma molluscum, 281.
Filaria medinensis, the guinea-worm, 296.
Fish-skin disease—*i.e.*, ichthyosis, 298.
Framboesia or yaws, a disease seen in hot climates, in which tubercles like raspberries appear; hence the derivation, *framboise* a raspberry, 63.
Flannel, its action as an irritant, 27.
Freckles, 379.
Frequency, relative, of skin diseases, 30.
Fungi, parasitic, detection of, structure, &c., 316.
„ of favus, 325.
„ tinea tonsurans, 329.
„ tinea circinata, 338—9.
„ tinea sycosis, 343.
„ tinea versicolor (chloasma,) 349.
„ decalvans, 345.
Fungus foot of India, Madura foot or podelkoma, or ulcus grave. A disease of the foot and hand, due to the presence and development of a fungus allied to a mucor, and named Chionyphe Carteri, 352.
Furfuraceous (from *furfur*, bran), branny, scaliness.
Furunculus (a boil), supposed to be derived from *fur*, a thief, 156.
Furuncular affections, 155.

GALE, the French for itch.
Gelatio (from *gelare*, to freeze), frost-bite.
Gown-red, tooth rash or strophulus.
Grando (a hailstone). *See* CHALAZION, a small sebaceous cyst of the eyelid, like a hailstone.
Grocer's itch, 124.
Grutum, the term signifying grit, and meant to express the millet-seed or grit-like appearance of enlargements of the sebaceous glands of the face.
Glands, diseases of—
„ sebaceous, 389.
„ perspiratory, 383.
Guinea-worm disease, 296.
Gum-red, a synonym of strophulus.
Gutta rosacea, literally a rosy drop; in French, *goutte rose*; Latin, *gutta*, a drop; a term applied to acne rosacea.

Hæmatodyscrasia (αἷμα, αἵματος, blood; δὺσκρασία bad temperament), an unwholesome condition of blood.
Hæmatoma (αἱματοω to make bloody), a sanguineous cyst.
Hæmidrosis (αἷμα blood, ἵδρωσις sweating), blood perspiration.
Hair, diseases of, 402.
Harvest-bug, the acarus autumnalis.
Herpes (ἕρπω or ερπειν to creep), originally signifying a creeping or spreading eruption, and applied to ulcerating diseases such as lupus. Now it is limited to an eruption of vesicles seated upon a red base, 175.
Herpes, its varieties, &c., 176—180.
„ syphilitic, 177—179.
Heterologous (ἕτερος other, and λόγος an account), a term applied to new formations differing in nature from those which already exist normally in the body, such as cancer, tubercle.
Heteroplasia (πλασις formation). It has the same signification as the last word—literally abnormal structure.
Hidroa and Hidrosis (ἱδρὼς sweat, ἵδρωσις sweating): the first is a term for miliaria, the second for excessive sweating, 384.
Hives, the popular name for chicken-pox.
Hordeolum (a diminutive of *hordeum* barley), a sty or inflamed Meibomian gland in the eyelid, so named from its resemblance to a *barley-corn*, 157.
Horn-pock, the modified form of small-pox, in which the vari or spots abort, and dry up into hardish papulations.
Horns, 268.
Hydrargyria (ὑδράργυρος mercury), the erythema produced by mercury applied locally; it is sometimes called *eczema mercuriale*.
Hydroa (ὕδωρ, water) is the same as *hidroa*.
Hydro-adenitis (ὕδωρ and *adenitis*, gland inflammation), inflammation of the sweat glands, 388.
Hyperæmia (ὑπέρ, over or above, and αἷμα, blood), excess of blood; congestive; of an active kind.
Hyperæsthesia (αἴσθησις, sensation), exalted sensibility of a part, 360.
Hyperidrosis (ὑπέρ in excess, and ἵδρωσις, sweating), excessive sweating, 388.
Hyperplasia (ὑπέρ above, and πλάσις, conformation), excessive formation of tissue.
Hypertrophy (ὑπέρ and τροφὴ, nutrition), an excess over and above the standard nourishment of a part, by which change of size and form are brought about—in a word, excessive growth.
Hypertrophia venarum, 287.
Hypertrophic and atrophic affections, 260.

Iatraleptic method (ἰατρός, surgeon, ἀλείφω, to anoint), the mode of medication by friction of medicines.

Ichthyosis (ἰχθὺς a fish), the fish-skin disease, from the resemblance of the scales of the disease to those of a fish, 289.
Idrosis, same as Hydrosis.
Impetigo (*impeto* to attack, or *impetire* to infest). It has been applied to very many different diseases in past times. It is now used as designating one of the pustular diseases, 141—150.
Impetigo contagiosa, 146.
Importance of studying skin diseases, 1.
Inflammation, cutaneous, 9.
Intertrigo (*inter* between, *tero* to chafe), a chafe gall or fret. The excoriated surface produced by the friction of two surfaces of the skin, 67.
Introduction, 1.
Ionthos (from ἴονθος the root of the hair, allied to ἀνθεώ to bloom, according to some, from ιον violet, and ἄνθος a flower). It was applied to the acne of the face that appears at puberty when the hair of the beard is forming.
Iron, preparations of, *see* FORMULARY, 447.
Italian leprosy, 88.
Itch, *psora* of the Greeks, *scabies* of the Latins, 302.
„ insect, the acarus scabiei, 307.
„ bakers', bricklayers', grocers', washerwomans' itch, *see* LICHEN AGRIUS, 129.

KELIS, KELOID (κηλή a tumour, and εἶδος like). Others derive the words from χηλὴ, a seabank or mole, or κηλίς, a stain. By these terms are signified a hypertrophous growth of the fibrocellular tissue of the skin, 274. *See* also CHELOID.
Keloid of cicatrices, 274.
Kerion (κηριόν, a honeycomb), a form of vegetable parasitic disease allied to tinea tonsurans. The follicles are inflamed and pour out a viscid secretion, 333.

LENTIGO, LENTICULA (*lens, lentis*, a lentil), a freckle; lentil-shaped maculæ; they are not seasonal like sunburn, 379.
Leontiasis (λέοντιασις, lion-like), a term applied to the lion-like aspect of the face in tubercular leprosy.
Lepra (λέπρα leprosy, from λεπρός scaly). A term applied at one time to true leprosy, but now to the scaly disease lepra vulgaris, 193—203.
Leprosy, 246.
Leucasmus (λευκὸς white), the same as *leucoderma*, a whitening of the skin from deficiency of pigment, 377.
Leuce (λευκὸς white), *lepra leuce*, the white anæsthetic patch of true leprosy, 251.
Leucoderma, 377.
Leucopathia (λευκὸς and πάθος affection), pigment deficiency. It generally is applied to albinism, 377.
Lichen (λειχήν lichen, a true moss). The Greeks applied the

plural lichenes to scaly diseases. Lichen is now used to signify one of the papular diseases, 121—135.
Lichen ruber, 127.
„ scrofulosus, 125.
Liver-spot, a term applied to pigmentary stains or to chloasma, which is a parasitic disease.
Linear atrophy, 270.
Lotions, *see* FORMULARY.
Lupus (Latin for a wolf), so called from the ulcerating or devouring character of the disease. It is regarded as a scrofulous inflammation and ulceration, 205.

MACULÆ (*macula* a stain), a discoloration of the skin, mostly pigmentary, 10.
Maculæ syphiliticæ, 226.
Madura foot, a synonym for fungus foot of India, common at Madura.
Malignant pustule, 165.
Medicinal rashes, 94.
„ „ silver discoloration, 94.
„ „ arsenic, 94.
„ „ copaiba, 95.
„ „ iodine, 95.
„ „ belladonna, 95.
„ „ sulphur, 95.
Mercurial remedies, *see* FORMULARY.
Melanoderma (μέλας, μέλανος black, δέρμα skin), black discoloration, 378.
Melanopathia, same as the last, black disease, 378.
Melas (μέλας black), the term applied to the black anæsthetic patch in true leprosy—*i.e.*, lepra melas.
Melasma (μέλασμα a black spot), the same meaning as melanoderma, 378.
Meliceris (μέλι honey, κηρός wax) the same as kerion.
Metilagra (ἄγρα seizure) honey-like eruption, or eczema impetiginodes in some of its aspects.
Mentagra (mentum chin, ἄγρα seizure), a term applied to sycosis, 341.
Mentagrophyton (φυτὸν a plant), parasitic sycosis, *see* Mentagra, 343.
Mercury in syphilis, 241.
Mercurial formulæ, *see* FORMULÆ.
Microsporon (μικρός little, σπόρος a seed), a generic term for certain vegetable parasitic fungi found in chloasma and alopecia areata.
Microsporon Audouini, the fungus of tinea decalvans, 346.
„ furfur, the fungus of chloasma, 350.
Miliaria (*milium* a millet seed), 387.
Miliary fever, an eruption of spots the size of millet seeds, due

to vesicles produced as the result of excessive perspiration. *Sudamina* is the same disease, 387.
Molluscum (*molluscus, mollis*, soft), small soft tumours produced by distension of the sebaceous glands by secretion. The resemblance to molluscous animals is stated to have suggested the application of the term, 281.
Molluscum contagiosum, 395.
Morbilli (*morbillus* distemper), measles.
Mineral waters in skin diseases, *see* APPENDIX, 429.
Morphœa (μορφὴ form), special diseases of the skin, in which a substance like hard wax is formed in the skin, 269.
Morve, a synonym of glanders.
Mycosis (μύκης a fungus), a synonym of frambœsia or yaws; so used by Alibert.
Mycetoma, the fungus foot of India, 352.
Myrmecia (μύρμηξ an ant), warts on the palms of the hand, or soles of the feet.

NÆVUS, a mark; they are hairy, 287; vascular, 287; or pigmentary, 287.
Nails, diseases of, 401.
„ parasitic, 356.
Neoplasma (νέος new, πλάσμα formation), a new formation.
Ngerengere, the leprosy of New Zealand, 257.
Neurosis, nerve disorder, 360.
Nigrities, Nigredo (*niger* black), darkness of the skin.
Noli me tangere (touch me not), lupus exedens.
Noma (νομή, from νέμω to spread), a general term for sloughing ulcers.
Norwegian scabies, 332.
Nosophyta (νόσος disease, φυτὸν a plant), vegetable parasitic diseases, 314.

OCCUPATION and disease, 38.
Œstrus, 294.
Ointments, *see* Formulary.
Onychia (ὄνυξ the nail), inflammation of the nail, 402.
Onychomycosis (ὄνυξ a nail, μύκης a fungus), parasitic disease of the nails, 357.
Ophiasis (ὀφίασις, from ὄφις a serpent), serpentine. A bald place, in irregular band-like form.
Osmidrosis (ὀσμὴ odour, and ἵδρωσις sweating), fœtid perspiration, 385.

PACHYDERMIA (παχὺς thick, δέρμα skin), a thickened state of skin.
Pachydermatocele (Pachydermia, which see, and κήλη tumour), hypertrophy of the skin forming a tumour, 283.
Pachylosis (παχύλος thickish), the same as pachydermia.

Papula (a pimple), a solid elevation of the skin of minute size, 13.
Papula. Diagnostic features of different papulæ, 13.
Papular diseases, 421.
Parasitic diseases, nature of, 292.
„ animal, 293.
„ vegetable, 314.
Parasites (*see* FUNGI), 315.
Paratrimma (παρατρίβω to rub together), intertrigo, 67.
Paronychia (παρὰ about, ὄνυξ the nail).
„ whitlow, 401.
„ syphilitic, 240.
Pathology, general remarks on, 8.
Pediculus, the louse, 300.
„ body, 301.
„ pubis, 302.
„ head, 301.
Pellagra (Italian, *pelle* skin, *agra* rough), Italian leprosy, 88.
Pemphigus (πέμφιξ a bladder or blister), one of the bullous diseases, 185.
Pemphigus, syphilitic, 187.
Pernio (πτέρνα the heel), a chilblain.
Perspiration, alteration of, 383.
Petechia (*petechie*, Italian, a flea-bite), minute points of extravasated blood seen in purpura, 374.
Phlyctæna (φλύκταινα a vesicle), a general term for vesiculæ and bladders.
Phlyctenosis, an eruption of phlyctenæ.
Phlyzacion (φλυζάκεον, φλύζω to be hot), a pustule with a hard and inflamed base with a vivid red colour, and succeeded by a hard, dark, thick scab.
Phtheiriasis (φθειρίασις, from φθείρ a louse), the lousy disease, or morbus pedicularis, 300, 367.
Phyma (φῦμα a tumour, or φύω to spring forth), a small boil.
Phytoderma (φυτὸν a plant, δέρμα skin), any vegetable parasite that grows on the skin, hence phytodermata, the diseases in which fungi occur, 314.
Pian (a raspberry), the same as frambœsia, 63.
Pigment alterations, 377.
Pityriasis (πίτῦρον bran), a branny or scaly disease, 261.
„ pilaris, 263.
Plastic inflammation, 121.
Plica polonica (*plico* to knit together), the Polish plait, a disease seen in Poland especially, in which the hair is much matted together, 356.
Podelkoma, a synonym for the fungus foot of India, 352.
Pomphi, wheals, *see* next.
Pompholyx (πομφόλυξ a water bubble), the same disease as pemphigus.

Porrigo, a term applied to so many different diseases that it should be at once discarded to avoid endless confusion.
Porrigo scutulata, an old term for tinea tonsurans.
Prurigo and Pruritus (*prurio* to itch). The first is a particularly itchy and rashy disease; the second the sensation of itching, 362.
Psora (ψωρά the itch), scabies. The Greeks used the term to eczema.
Psoriasis, literally an itchy disease. Some apply the term to lepra vulgaris; Mr. Wilson to the scaly stage of chronic eczema, 193-203.
Psydracia (ψυδράκιον, ψύδραξ a blister on the tongue tip, from ψυδρειν to lie, or ψυχρὰ ὐδράκια cold blisters.) An inflammatory pustule, less deep and red than phlyzacious pustules.
Pterygium (πτέρυξ a wing, *unguis* a nail), epidermis growing over the nail.
Pulex irritans, 293.
„ penetrans, 294.
Purpura (*purpureus* purple), the purple eruption caused by hæmorrhage into the skin, 374.
Pustula or Pustule, an elevation of skin produced by a collection of pus, 16.
Pustular Diseases, 140.
Pyogenic (πῦον pus, γέννεσις creation) pus producing.

Radeseye. This, according to Boeck, is a bad form of syphilis.
Rhagades (ῥαγάς a rent or chink), a scab, fissure or chap.
Rodent ulcer (*rodo* to gnaw), a chronic ulcerating disease, of the nature of fibroid degeneration, with subsequent ulceration, 43, 216.
Rosalia (*rosa* a rose), rose rash, an ally of scarlatina, 80.
Roseola (*roseus* rose-coloured), an acute febrile disease, accompanied by the development of a rash of rosy hue, 76.
Roseola syphilitica, 227.
Rotheln, a German term for rubella, or false measles, 62.
Rubella, a name given to a bastard form of measles by Dr. Veale, 62.
Rubeola (*ruber* red), measles, 54.
Rupia (ρυπος dirt), a syphilitic crusting disease, 230.

Sarcoptes, a synonym of the acarus scabici, 307.
Sarcocele, 278.
Satyriasis (Σὰτυρος a satyr), a synonym of elephantiasis, from the fact that the countenance presents the aspect of a Satyr.
Sauroderma (σαῦρος a Saurian reptile, δέρμα skin), ichthyosis in which the plates or scales are like the outer covering of the Saurian reptiles.

Scabies (*scabere* to scratch), the itch, 302.
„ Norvegica, 312.
Scabities (*scaber* rough), thinness of the nails.
Scales, 17.
Scall (*scala* a scale), a term very variously applied; it has no precise signification now-a-days.
Scarlatina (*scarlatto*, Italian, a red-coloured cloth). Scarlet fever, 55.
Scleroderma (σκληρός hard, δέρμα skin), a disease in which the skin hardens and indurates, 270.
Scleroma and Scleriasis. The same as the last, 270.
Scratching, effect of, 28.
Scrofuloderma, explains itself as scrofulous disease of the skin, 204.
Sebaceous cysts, 394.
Seborrhœa (*sebum* or *sevum* suet, and ῥέω to flow), sebaceous flux.
Sex, influence of, on disease, 27.
Shingles (*cingulum* a girdle), herpes zoster, 177.
Sibbens (from siwin, Celtic for raspberry, or sivvens wild rash), frambœsia.
Soaps (*see* FORMULARY).
Spargosis (σπάργοσις swelling). The same disease as bucnemia tropica, 277.
Spedalskhed, a Norwegian term for true leprosy or elephantiasis Græcorum.
Spilus (σπίλος a spot), a mole or pigmentary nævus.
Squamæ, 16.
Squamous Diseases, syphilide.
Stearrhœa (στέαρ fat, ῥέω to flow), the same as seborrhœa, excessive sebaceous secretion, 389.
Steatoma (στέαρ fat), a fatty tumour, 394.
Steatozoon (ξῶον animal), the animalcule found in the sebaceous ducts, 394.
Stimulant remedies, *see* FORMULÆ.
Strophulus (στρόφος a twisted band), ordinarily described as the lichen of children. It is the "red gum," "red gown," 135–139.
Strumous diseases, 204.
Sty (stihan, Saxon, springing-up), a small boil, formed by one of the suppurating Meibomian glands of the eyelids, 157.
Sudamina (sudo, to sweat), a vesicular eruption, the result of excessive sweating, the same as miliaria, 387.
Sulphur rash, 95.
Suppurating inflammation, 140.
Sycosis (σύκωσις fig-like, from σῦκον a fig), inflammation of the sebaceous follicles of the beard, 341.
Syphilodermata (σίφλος defect, δέρμα skin), syphilitic skin eruptions, 222.
Syphilitic acne, 232.

Syphilitic lepra, 235.
„ lichen, 228.
„ maculæ, 226.
„ onychia, 240.
„ pemphigus, 230.
„ roseola, 227.
„ tubercles, 236.
„ ulcers, 239.

TELEANGEIECTASIS, (τέλειος complete, ἀγγεῖον a vessel, ἔκτασις extension), tumour formed by an excessive growth of vessels.
Temperament, effect of, 38.
Terminthus (τέρμινθος or τέρεβινθος, the turpentine tree), a carbuncle in shape and size like the ripe core of the turpentine tree.
Tetter, of uncertain application, analogous to the word dartre.
Therapeutics, general remarks on, 45.
Tinea (a moth or woodworm), the generic term for vegetable parasitic diseases, 324.
Tinea favosa, 325.
„ „ its fungus, 326.
„ tonsurans, 328.
„ „ its fungus, 330.
„ circinata, 337.
„ sycosis, 341.
„ „ its fungus, 342.
„ decalvans, 345.
„ „ its fungus, 346.
„ versicolor, 349.
„ „ its fungus, 350.
„ kerion, 332.
Trichogenous (θρὶξ the hair, γένναω to generate), hair-producing.
Trichomyces (θρὶξ, τριχὸς hair, μύκης a fungus), any parasite of the hair.
Trichinosis (νόσος disease), disease of the hair.
Trichophyton (φυτὸν a plant), a vegetable parasite of the hair.
„ tonsurans, 330.
Tubercula (*tuber* a swelling), the plural of tuberculum, signifying a small swelling. Tubercula is applied to the group of diseases including cancer, lupus, fibroma, which commence by small indurations, 18.
Tubercula gummata, 239.
Tubercular leprosy, 247.
„ syphilide, 236.
Tylosis (τυλωσις, τύλος, a knot), callus callosity, 54.
Typhoid fever, eruptions in, 54.
Typhus „ „ 53.

Urticaria (*urtica* a nettle), nettle-rash, 80.

Vaccinia (*vacca* a cow), cowpox, 52.
Varicella (varicula, dim. of varus, a pimple), chicken-pox, 51.
Varus (uneven), a rash on the face, especially acne.
Vascular supply, alteration of, 286.
Vessels, blood, alteration of, 286.
Verruca, a wart, 266.
,, necrogenica, 267.
Vesiculæ (*vesica*, a bladder), small bladders, a vesicle, 14.
Vesicular disease, 97.
,, syphilis, 229.
Vibices (*vibex*, a wheal), large petechiæ.
Vitiligo (vitium, a blemish, or vitulus, a calf). The term is used very differently, some meaning thereby leucoderma, others the white scars left after ulcerative disease.
Vitiligoidea (vitiligo, εἶδος), a general term, meant to designate a yellow discoloration under the eyelids (*see* Xanthelasma).

Wheals, nature of, 83.

Xanthelasma (ξανθός, yellow, ἔλασμα, lamina), yellow hypertrophy of the epithelial lining of the sebaceous ducts in the under eyelid, 391.
Xanthoderma, yellow skin, 380.
Xeroderma (ξηρὸς dry, δέρμα), a disease characterized by dryness and scaliness of the skin, 289.

Yaws (a raspberry, Afric.), frambœsia, 63.

Zittman treatment, 244.
Zona (ζώνη, a belt) herpes zoster, 177.
Zoster (ζωστὴρ a belt) herpes zoster, shingles, 177.
Zymotic (ζύμη, leaven) acute contagious diseases, supposed to be due to the action of animal ferments or viruses.

THE END.

WELLCOME LIBRARY INSTITUTE

74

y Dunn & Wilson Ltd
RT CONSERVATORS & BOOKBINDERS