An introduction to the study of diseases of the skin / by P.H. Pye-Smith.

Contributors

Pye-Smith, Philip Henry, 1840-1914.

Publication/Creation

London : J. & A. Churchill, 1893 (London : Adlard.)

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AN INTRODUCTION

TO THE STUDY OF

DISEASES OF THE SKIN

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AN INTRODUCTION

TO THE STUDY OF

BRITISH MEDICAL ASSOCIATION CANCELLED

DISEASES OF THE SKIN

BY

P. H. PYE-SMITH, M.D., F.R.S.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS AND PHYSICIAN TO GUY'S HOSPITAL.

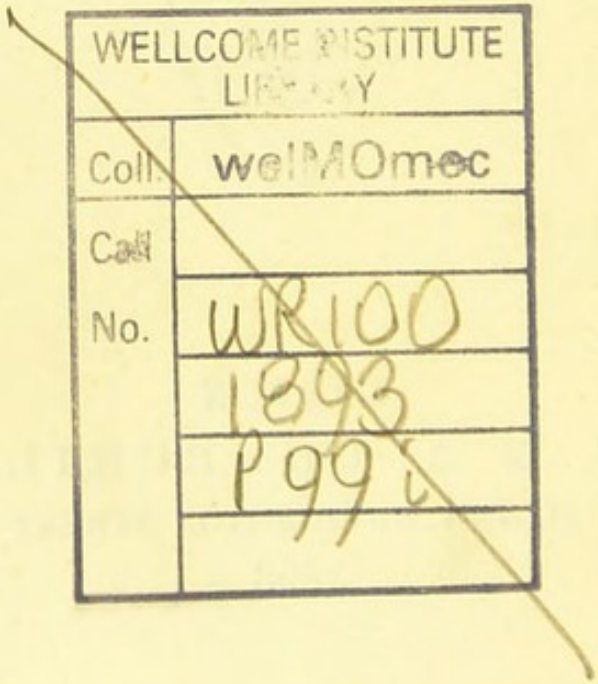


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PREFACE

THIS Handbook is a reprint, with some variations and additions, of the chapters dealing with Diseases of the Skin which I wrote in 1886, to complete the unfinished work on medicine left by my late colleague, Dr Hilton Fagge.

Having then, and for several years before and after, been in charge of the Department for Cutaneous Diseases in Guy's Hospital, I tried to make my description as much as possible an epitome of what I had myself observed. The work of 1886 was revised in the second edition (1888) and the third (1891), though less extensively than some other sections of the text-book.

In the present book I have incorporated the results of several papers on Xanthelasma, Pityriasis rubra, and other dermatological subjects, which have appeared in the 'Guy's Hospital Reports' and the 'Pathological' or 'Clinical Transactions.' I have added an Appendix of Formulæ, and I have inserted some woodcuts (strictly diagrammatic in form) which may serve to make certain points clearer and more easily remembered, particularly the local distribution of diseases of the skin—a character which has, I think, never received due recognition either from a pathological or diagnostic standpoint. I am indebted to my friend Dr. Perry, now in charge of the Skin Department in Guy's Hospital, for his kindness in reading the proofs.

P. H. P.-S.

48, BROOK STREET;
December, 1892.

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DISEASES OF THE SKIN

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It is now well known that diseases of the skin differ in their origin and significance no less than diseases of the tongue, the eye, or the bladder. Some of them are symptomatic of specific febrile diseases, of which they form a part ; others are produced by certain articles of food, by poisons, or by drugs. Some are examples of pathological processes which are familiar in other organs, as cancer, hypertrophy, atrophy, hæmorrhage, pigmentation ; and the majority are examples of the wide-spread morbid process called inflammation.

Dermatitis is sometimes the result of definite local irritation, but is often independent of such obvious cause, and therefore must at present be called primary or idiopathic. In this and in other respects it is analogous to the inflammations which affect the bronchial mucous membrane, the stomach, the intestines, and the urinary tract. Closely resembling these structures in its origin and development, its general anatomy, its vascular and nervous relations, and its glandular apparatus, the skin has also affinities with the mucous membranes in its pathological processes.

Diseases of the skin are best studied as examples of general morbid processes, modified by the peculiarities of the affected tissue.

Thus traumatic dermatitis differs from catarrhal inflammation of a mucous membrane in the presence of sebaceous and sudoriparous instead of muciparous glands, in exposure to the air, and in the peculiar sensitiveness to pain and capability of itching which belong to the skin.

Classification.—Any arrangement of diseases is valuable so far as it helps the memory to retain useful facts; any arrangement is useless or mischievous if it pretend to be a universal or "natural" or "scientific" system. Diseases are not natural objects; they are physiological states, which we sometimes define by their cause, as plumbism and scabies; sometimes by their histology, as sclerosis of the spinal cord and epithelial cancer of the lip; sometimes by their constancy in transmission, as measles and typhus; and sometimes by more or less constant concurrence of symptoms, as chorea and epilepsy.

The following examples show how cutaneous disorders may be classified on different principles, each of which is important but none exclusively eligible. Moreover, all arrangements are continually liable to be disturbed by the progress of knowledge.

i. *Diseases of the Skin regarded as Physiological Processes.* (*Pathological Arrangement.*)

Acute inflammations:

Diffuse, *e. g.* scarlatina, morbilli, syphilis, roseola.
With venous congestion—Erythema nodosum.
With œdema—Urticaria.
With necrosis—Furunculus, anthrax.
Localised in papules—Enterica, syphilis, eczema, prurigo.
in vesicles — Eczema, zona, variola, scabies, herpes, varicella.
in pustules—Impetigo, variola, scabies, syphilis, sycosis, acne.

Localised in blebs—Pemphigus, scabies, rupia.
Desquamating during involution—Scarlatina, &c.
Chronic inflammations:
With venous congestion—Acne rosacea, pernio.
With over-production of epidermis—Psoriasis, pityriasis rubra.
With œdema—Elephantiasis.
With fatty degeneration—Xanthelasma.
With hypertrophy—Elephantiasis.
With cicatrisation—Cheloid.
With ulceration—Lupus, syphilis, lepra.
New growths—Xanthelasma, lupus, lepra, syphilis, cancer.
Atrophy—The senile skin, lineæ gravidarum.
Hypertrophy—Ichthyosis, cornu cutaneum, clavus, verruca.
Hæmorrhage—Traumatic (*e. g.* fleabites), typhus, scurvy.
Pigmentation—Syphilitic maculæ, melasma, chloasma, icterus, ephelis.
Congenital malformations—Ichthyosis, cutaneous nævus.
Neurosis—Pruritus.
Anomalies of secretion:
Increased, diminished, or perverted—Seborrhœa, xerodermia; Hyperidrosis, anidrosis, chromidrosis, &c.
Obstructed—Comedo, milium, acne; Sudamina.

ii. *Diseases of the Skin regarded as the Result of Antecedents.* (*Ætiological Classification.*)

Due to the sun, wind, &c.—Eczema solare, ephelides.
Due to the irritation of friction—Intertrigo.
Due to the irritation of scratching—Much of scabies, urticaria, and prurigo.
Due to local applications, as mercury, mustard, arnica, antimony.
Due to the presence of poisons in the blood—The rashes caused by belladonna, copaiba, shell-fish, &c.; bromide-acne; hydroa from iodide.
Secondary to general disorders—The rashes of syphilis, scarlatina, morbilli, typhus, enterica, herpes labialis, the petechiæ of scurvy, rheumatic erythema.
Due to disturbance of innervation—Zona.

Due to animal parasites—Scabies, prurigo pedicularis, much of impetigo.
Due to vegetable parasites—Favus, ringworm, &c.
Due to the prolonged action of cold—Frostbite, chilblains.

iii. *Diseases of the Skin regarded as Objects of Cure. (Therapeutical Classification.)*

By external applications :
- Sulphur—Scabies.
- Mercurial ointment, &c.—Phthiriasis.
- Hyposulphites and other parasiticides—Ringworm, &c.
- Tar—Psoriasis, Lichen planus, and chronic scaly eczema.
- Solvents—Verrucæ, ichthyosis, &c.
- Caustics—Lupus.

By internal remedies :
- Mercury—Syphilodermia.
- Arsenic—Psoriasis, chronic eczema, lichen planus, pemphigus.

iv. *Diseases of the Skin regarded in their Subjective Effects.*

Peculiarly painful—Zona, erythema nodosum.
Itching—Scabies, prurigo, eczema, urticaria, icterus.
Negative—Syphilis, typhus, enterica.

v. *Diseases of the Skin regarded as Anatomical Conditions of certain Layers, Organs, or Regions.*

A. *Bathymetric Distribution* (*cf.* p. 14).

The horny cuticle—Ichthyosis, cornu, clavus, sudamina, xerodermia, psoriasis.
The Malpighian rete and papillæ—Eczema, scabies, secondary syphilis, exanthems, erysipelas ; psoriasis not leaving scars.
The deeper cutis and subcutaneous fascia—Zona, variola,

phlegmonous erysipelas, late syphilis, lupus, lepra, carcinoma . . . . . leaving scars.
Elephantiasis, xanthelasma, sclerodermia not ulcerating.

B. *Distribution to Organs.*

Sweat-glands—Sudamina.
Sebaceous glands—Milium, comedo, acne, molluscum, lupus erythematosus.
Hair-sacs—Ringworm, favus, sycosis, furunculus.
Nails—Onychia, onychomycosis, psoriasis, atrophy.

C. *Surface Distribution* (*cf.* p. 15).

Scalp—Eczema (especially impetigo), phthiriasis, favus, ringworm, area.
Face—Dermatitis from exposure, ephelis, erysipelas, lupus, acne, tinea circinata, eczema, rashes of smallpox, measles, and syphilis.
Forehead—Supra-orbital zona, chloasma.
Eyelids—Xanthelasma, milium and sebaceous cysts.
Nose—Lupus, gutta rosea.
Bridge of nose and cheeks—Lupus erythematosus.
Nose and lips—Eczema and impetigo of children.
Upper lip—Symptomatic herpes.
Lower lip—Epithelial cancer.
Beard—Sycosis, area.
Ears—Eczema, lupus erythematosus, xanthelasma tuberosum, tophi.
Neck, front—Intertrigo.
nucha—Furunculi.
Shoulders and back—Prurigo pedicularis, acne, anthrax.
Chest—Rashes of scarlatina, syphilis, and other exanthems; tinea versicolor.
Mammæ—Intertrigo, scabies.
Abdomen—Rash of enterica and other fevers.
Sides of trunk—Zona.
Genitals—Eczema, scabies, elephantiasis scroti, herpes præputialis.

Nates—Congenital syphilis, scabies (in children), furunculi, intertrigo.
Elbows, extensor side—Psoriasis, xanthelasma tuberosum.
flexor side—Eczema, xanthelasma planum.
Forearms and back of hand—Erythema iris.
Wrist and between fingers and toes—Scabies.
Fingers and toes—Pernio.
Palms and soles—Syphilis (especially squamosa and bullosa).
Axilla and groin—Eczema.
Knees, extensor side—Psoriasis.
flexor side—Eczema.
Legs—Chronic dermatitis, elephantiasis, erythema nodosum.

vi. *Diseases of the Skin as they specially affect Different Ages.*

Infancy—Syphilis, nævi, eczema, intertrigo, strophulus.
Childhood—Scarlatina, morbilli, roseola, erythema, ecthyma, molluscum sebaceum, impetigo of face and scalp, ringworm and favus, pernio.
Adolescence—Lupus, acne, erythema nodosum.
Early adult life—Enterica, secondary rashes, psoriasis, sycosis, lupus.
Old age—Rodent ulcer, epithelial cancer, prurigo pedicularis.

Nomenclature.—We must abandon the binominal terminology which once extended to the whole of medicine, as founded upon a misleading analogy between natural organisms like plants and animals, and heterogeneous objects like diseases. Next to false pathology and fruitless attempts at classification, nothing has been more injurious to the rational study of this group of diseases than a cumbrous, pedantic, and often barbarous nomenclature.

A good name should have the following characters:—(1) It must consist of a single word. (2) It must be distinctive, and easily recognised both by the eye and the ear. (3) It must be capable of forming an adjective. (4) Less essential points are that it should be short, and, if possible, familiar, of Latin or Greek origin, or capable of easy reproduction in the former tongue, and as classical and euphonious as may be. (5) It should be unmeaning, or at least arbitrary and con-

ventional in its application; or, if descriptive, should apply only to some obvious and constant feature of the malady.

Many recognised names are bad—barbarous or misleading, ambiguous or cumbersome. But in most cases it is hopeless to alter them, and when a name is generally recognised it makes worse confusion to attempt it.

Historical sketch.—The fact that many eruptions of the skin are closely attendant upon febrile and other general disorders early attracted notice; and the humoral pathology which pervaded medicine from classical times until almost the present day afforded a ready explanation of their occurrence. Hence cutaneous diseases were long regarded as evidence that the patient was suffering from some hypothetical "dyscrasia" (*i. e.* ill mixture or "temperament") of the four Galenical humours, viz. the blood, which took its origin in the liver, the phlegm secreted by the pituitary gland, the bile by the gall, and the black bile by the spleen. From the mixture of these humours arose the four natural "temperaments:" sanguine, in which the blood was predominant; phlegmatic or pituitous; bilious or choleric; atrabilious or melancholic: and from ill-mixture of these ingredients resulted dyscrasia, and new morbid humours such as produced scurvy, scrofula, and gout.

When the doctrine of the four humours was exploded, diseases of the skin were thought to be due to disorders of the blood; then, when better knowledge of the chemistry and morphology of the blood began to stand in the way of so easy an explanation, they were ascribed to "diatheses" or tendencies, of which the eruption was at once the evidence and the effect. Explanation by assumed causes still took the place of inquiry into anatomical and clinical facts. The skin was assumed to be a kind of chart or index to the state of the blood, as the tongue to the state of the stomach; indeed, eruptions are still so regarded by popular opinion.

During the eighteenth century the causes and indications for treatment of an eruption were readily determined by learned physicians to be due to a strumous cachexia, or a scorbutic state of the blood, or vitiated humours from obstruction of the primæ viæ, or lues venerea, but the actual physical conditions of the skin were scarcely noticed.

It was Willan's great merit (1808), shared in some degree by his predecessor, Plenck, of Vienna (1783), that he accurately described the *anatomy* of the morbid skin. His "orders," the elementary lesions of later dermatologists, are the alphabet of the subject, and correspond with the "physical signs" of the diseases of the lungs introduced by Auenbrugger and Laennec.

From the English or anatomical school of Willan and Bateman (1813) sprang the French school of dermatology, which may be generally described as *ætiological* in aim. Biett, its founder, was a pupil of Willan, and introduced his teacher's system into France (1833). He had the great merit of perceiving that syphilis does not merely act along with other predisposing causes in producing diseases of the skin, but that it has as its direct consequence definite, constant, and recognisable lesions, the knowledge of which is all-important for diagnosis and for cure. He was succeeded by Cazenave (1843), Devergie (1854), and other systematic writers, who continued the work of clinical investigation and accurate description. Unfortunately Biett's success in tracing certain cutaneous affections to syphilis led to the formation of similar groups of "scrofulides" and "maladies dartreuses."

The attempt to define cutaneous diseases by their true *nature and cause* instead of by anatomical lesions had been already made by Alibert, a contemporary of Biett. His eloquence and power of picturesque description had much influence, which was increased by the publication of a magnificent atlas of plates, illustrating his Arbre des Dermatoses (1814). His pathology, however, was erroneous, his descriptions superficial, his nomenclature inaccurate, capricious, and unclassical. The same attempt to explain rather than to investigate, and to supply the nature and causes of disease by hypothesis when proof is absent, pervades the voluminous writings of Bazin (1853–70), who carried the hypothesis of "diathesis" to its extreme limit. The same principles were illustrated in the interesting lectures of Professor Hardy (1858–64), so long connected with the great hospital of St. Louis.*

* M. Hardy has since returned to his dermatological studies, and has published a systematic treatise on the subject.

Meanwhile another school had arisen at Vienna, which was guided by the *pathological* doctrines of Rokitansky. Its founder was Ferdinand Hebra, whose writings have done more than those of any other man to put the study of dermatology on a sound basis and to extend its limits.*

The pathological school of Vienna represented by Hebra, the diathetic school of Paris represented by Hardy, and the anatomical and therapeutical school of England represented by Erasmus Wilson (1847–67) have all changed during the last twenty years. *Histological* investigation by the improved methods of the last twenty years has thrown much light upon the morbid processes of the skin, and the newest school of dermatology, that of America, is making important contributions to the subject.

In England, for long after Willan and Bateman's work, the late Erasmus Wilson alone made valuable contributions to dermatology ; but of late a new school has sprung up, and has produced such excellent works as those of Dr Liveing and Dr Crocker, besides the numerous important papers of Mr Hutchinson and many younger dermatologists.

Before entering upon the description of the several diseases to which the skin is subject, it will be well to notice the most important points in their description and diagnosis.

I. The Anatomical Lesions.—The following are the most characteristic and important :

1. *Hyperæmia* or *Congestion.*—(*a*) Mere over-fulness of the vessels from paralysis of the vaso-motor nerves with redness and heat, but without the exudation and tissue changes which accompany inflammation. This hyperæmic blush, readily produced in the physiological laboratory, is rarely seen as an uncomplicated morbid condition (*e. g.* Trousseau's *tache cérébrale*).

* His 'Acute Exantheme und Hautkrankheiten' was the third volume of the series of text-books of 'Pathology and Therapeutics' superintended by Virchow, and was published in parts between 1860 and 1874. Much of the latter portion is written by Hebra's son-in-law, Moritz Kohn, now better known as Kaposi. The translation into English for the New Sydenham Society (1866–75), begun by Dr Fagge and the present writer, was completed by Mr Waren Tay.

(*b*) *Active, arterial* or *inflammatory hyperæmia*, varying in colour from brilliant scarlet to rose-pink, and combined with heat, tingling, or other sensations. Such an early stage of inflammation is often called "erythema." The local swelling and the subjective symptoms distinguish it from the non-inflammatory hyperæmia just described.

(*c*) *Passive, venous* or *congestive hyperæmia*, dependent upon retarded circulation and distended venules. The colour is purple, bluish, or livid, the surface is cold, and there are no painful sensations. This passive congestion, frequently seen as the result of thrombosis, and also in long-standing affections of the heart and lungs, is often associated with the more chronic forms of inflammation in which œdema is present, and connective-tissue overgrowth is apt to result. The best example of this condition is in the congestive erythema of a chilblain.

2. *Pimple or Papule.*—A small, solid elevation of the skin. Under this name more than one pathological lesion is included.

(*a*) The acute inflammatory papule, more or less pointed, bright red, small, and very early seen with a lens to contain a minute drop of exudation. It is either abortive or ends in a vesicle or pustule.

(*b*) The chronic large inflammatory papule, never showing liquid exudation, and apt to become covered with minute scales. Sometimes, as in psoriasis, these papules increase so as to form a raised, scaly patch ; and sometimes, as in lichen planus, they coalesce with the same result. More often the papules remain discrete and without scales, as in prurigo.

(*c*) A solid non-inflammatory papule formed by true hypertrophy of the normal papillæ of the cutis. Such papillary growths produce the minute multiple warts which occasionally occur in immense numbers over wide surfaces of the body ; large local warts and condylomata are much more common.

(*d*) Solid elevations of the skin, which may be called false papules ; such as the heaped-up scales at the orifice of a hair-sac which form the so-called "lichen or pityriasis pilaris," and a sebaceous gland occluded by its own secretion, which is called a "comedo."

3. *Vesicle.*—A visible cavity in the skin filled with transparent liquid. In almost all cases the vesicle is inflammatory, and the liquid is exuded plasma, consisting of water, salts, albumen, and a few leucocytes with only a trace of fibrinogen. Where the epidermis is thin the vesicles rupture almost as soon as they form; but where it is thick, as in the palm and sole, they grow and coalesce into large bladders. Broad and flat vesicles, as those of zona, are usually distinguished from the smaller and more closely packed vesicles of eczema. The vesicles of smallpox are remarkable not only for their size and depth, but for the exudation being so effused into the meshes of the papillæ and Malpighian layer that the cavity is "pocketed," and shows a central depression or *umbilicus.*

Non-inflammatory vesicles consist of retained excretion either of sweat-glands (sudamina) or of mucous glands. The latter are practically the only vesicles seen on the mucous membranes; for under the moisture and friction of the mouth, though inflammatory vesicles form, they are scarcely ever seen before they burst.

4. *Pustule.*—A cutaneous abscess, that is a cavity in the skin containing inflammatory exudation, water, salts, albumen, and abundance of dead leucocytes in a state of fatty degeneration, with usually only traces of fibrinogen. The distinction between a vesicle and a pustule is therefore often one of time only, and rests upon the abundance of the corpuscular element in the exudation; but while most vesicles become pustules, the exudation remains serous in many cases of eczema. Again, in contagious impetigo, in furunculi, and in some other cases, the first visible exudation is opaque, yellow, and purulent. The distinction between large pustules with an inflamed base, the hot pustules of ecthyma, called *phlyzacia*, and the small cold pustules of impetigo called *psydracia*, is unmeaning, and the two terms in question may be forgotten.

5. *Bulla* or *bleb* is the name given to a very large vesicle. It is, as a rule, inflammatory, and of essentially the same pathology as a vesicle or pustule. It contains at first transparent serum, but this usually becomes more or less completely purulent. There are also almost always shreds of fibrin to

be seen. The anatomical distinction between ordinary inflammatory bullæ and those of pemphigus will be referred to in the chapter on the latter disease.

6. *Scab or Crust.*—A dried-up concretion of the contents of a vesicle, pustule, or bleb. Its form depends upon the inflammatory process ceasing; otherwise fresh exudation succeeds, and no dried-up mass is allowed to form. The size of a scab will always depend upon that of the pustule or bleb which formed it, its thickness upon the amount of fibrin and leucocytes in the exudation. Its colour is often characteristic; light brown or yellow when the exudation is serous, deeper yellow (compared by the elder anatomists to honey, whence the term *Porrigo favosa*) when formed from pus, greenish yellow in some cases when the pus is thick, brown or almost black when the exudation contains red blood-discs.

7. *Scale* (*squama*). —A dry flake of epidermic cells. When scales form in moderate amount and of small size as the result of inflammation which has passed, they are described as *furfuraceous* or branny; when large, adherent, imbricated, and glistening silver-white from the refractive power of air enclosed in the spaces, scales have the characteristic appearance seen in psoriasis. Large, thin, and very abundant scales, which have been compared with dry hop leaves, and are sometimes termed *squames*, are almost characteristic of pityriasis rubra. Beside the true epidermic scales, desquamation often consists of dried-up sebum or of dried exudation mixed with epidermis. The microscope distinguishes the amorphous fatty material of the former and the leucocytes of the latter from the flat horny cells of true scales.

8. *Wheal* (*pomphos*).—A flat, solid elevation of the skin much larger than a papule, and of ephemeral duration. Such wheals may be either traumatic or idiopathic; they are the characteristic effects of the poison of the stinging-nettle, and of the form of erythema hence called urticaria. They are formed by acute œdema of the true skin producing local anæmia from pressure.

9. *Scratch-mark.*—An injury to the skin of linear form and curved outline, usually marked by dried-up blood, and having a definite relation to the range of the patient's hands. They are of diagnostic value as proofs of pruritus.

10. *Raw.*—A surface which has lost its horny layer of epidermis, so that the moist and living Malpighian layer is exposed, from which more or less exudation oozes. Such a raw, weeping surface is characteristically seen after the blister formed by cantharides has been broken. It also results from the rapid rupture of a number of vesicles, as in the kind of dermatitis called eczema madidans.

11. *Chap* (*rima*).—A crack or fissure which goes through the epidermis to its Malpighian layer or to the vascular papillæ beneath. These *rimæ* or *rhagades* sometimes extend very deeply, are apt to bleed, and are always extremely painful.

12. *Sore* (*ulcus*).—The result of destruction by inflammation which has reached below the Malpighian layer and has destroyed the papillæ; characterised by the absence of any trace of epidermis, by the granulations which cover its floor, and the pus in which they are bathed.

13. *Scar* (*cicatrix*).—The result of the healing process after an injury or disease which has been deep enough to destroy the papillæ of the part. Accordingly the presence of a cicatrix, however superficial and slight, shows that the preceding process affected the deep layer of the cutis.

14. *Nodule.*—A solid elevation of the skin larger than a papule, and seated in its deep layer. The nodule was formerly called a tubercle, but the word "tubercle" should never be applied except with its present pathological meaning. A *node* is a large nodule, and there is no reason for restricting the term to syphilitic nodes or *gummata*.

15. *Stain* (*macula*).—A patch of increased pigmentation of the skin, either the result of long-continued preceding hyperæmia or occurring independently as a primary increase of pigment.

16. *Hæmorrhage* (*ecchymosis*).—When a blood-vessel of the cutis vera gives way, a dark red or purple mark is produced, which (like the macula) does not disappear on pressure. When small the punctiform spots resemble fleabites, and are hence called *petechiæ*: larger extravasations, particularly when elongated in form, resemble the bruises caused by a stick, and are termed *vibices*.

The *mode* of invasion should also be noticed, whether by

successive foci appearing and coalescing, or by a spreading *serpiginous* border. The earliest and most characteristic anatomical lesions will generally be found in this advancing edge.

Whatever the elementary lesions may be, it is important to observe whether they are all of one kind (*uniform*) or various (*multiform* or *polymorphous*), and in the latter case in what *order* they appear. Vesicles often follow congestion, pustules develop out of vesicles, and desquamation follows diffuse hyperæmia. Scabs, raws, scales, scratch-marks and ulcers are always secondary. Scars and maculæ appear latest.

II. Distribution.—After determining the morbid anatomy of a disease of the skin, the next step is to notice its distribution.

(A) *In depth.*—In its pathology the skin does not follow the anatomical and embryological division into epidermis and cutis vera. It may be physiologically divided into three layers :

(1) The *horny layer of epidermis* or *cuticle*, dead scales, the only affections of which are increased growth, atrophy, dryness, desquamation, and other results which really depend upon perverted growth in the living layer of cells which lies immediately beneath it.

(2) The *living Malpighian layer* of the epidermis, together with the *papillary layer* of the cutis. These two tissues are constantly and inseparably united in their pathology. Their inflammation constitutes the enormous group of diseases which come under the head of superficial dermatitis. Affections confined to this part never leave scars.

(3) The *deep layer of cutis* with the *subcutaneous connective tissue.* Inflammation or new growths beginning below the papillæ are prone to spread to the subcutaneous tissue, and not to stop until they reach subjacent muscle or bone or deep fascia. The deep affections of the skin which lie in this region are less numerous, but more severe, than those of the superficial layer, and are always marked by cicatrices.

(4) Lastly come the deep cutaneous affections which particularly affect the *sweat-glands*, the *sebaceous glands*, the *hairs* and hair-sacs, or the *nails.*

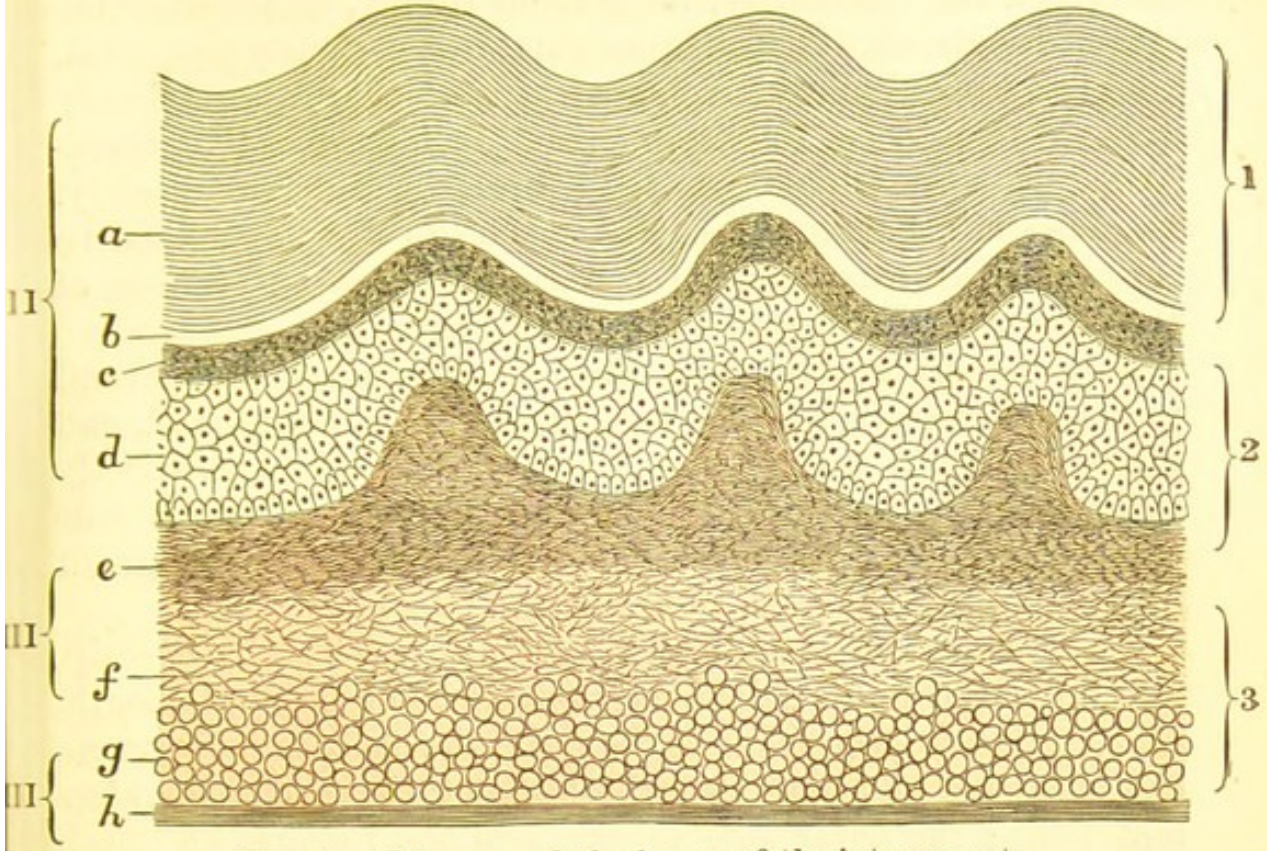


FIG. 1.—Diagram of the layers of the integument.

ANATOMICAL LAYERS.—I. Epidermis: *a*, cuticle; *b*, stratum lucidum; *c*, stratum granulosum; *d*, Malpighian layer. II. Cutis: *e*, papillary layer; *f*, deep layer. III. *g*, Subcutaneous adipose tissue: *h*, deep fascia.
PATHOLOGICAL LAYERS.—1. Dead horny layer. 2. Living epithelial and vascular papillary layer. 3. Deep layer of skin and superficial fascia.

(B) In their distribution over the *surface* of the body the diseases of the skin differ greatly. The earliest attempts at classification were between affections of the scalp and of the trunk. In Willan and Bateman's system this character did not receive due consideration; but it has met with still less at the hands of French and German dermatologists. Even in the best descriptions of Hebra and his successors it is sometimes impossible to learn what part of the body is affected by a particular disorder. But the fact is that very few diseases of the skin are indiscriminate in their extent, while many are at least as definitely and exclusively fixed to certain localities as the lesions of enteric fever in the intestine, of tubercle in the lung, or of tabes in the spinal cord. The skin is not uniform in its structure, the relative thickness of

its layers, its vascularity, its nervous supply, or the distribution of its glands. Its different parts are variously protected, both by natural and artificial coverings; they are variously exposed to injuries, to irritants, and to moisture. It is, therefore, not surprising that their diseases differ so greatly. Psoriasis of a flexor surface and scabies of the face should be regarded, like carcinoma of connective tissue or phthisis of the base of the lung, as altogether exceptional.

It must be remembered that in childhood the several regions of the skin are not yet completely differentiated, and hence the local distribution of its diseases is less strictly adhered to than in adults. We find precisely the same rule exemplified by the localisation of pneumonia, of malignant disease, and of tubercle, in children.

The principal dermatological regions are—The hairy scalp, the axilla and pubes; the face; the orifices of the eyes, mouth, nose, and ears; the front of the neck, the chest and abdomen, the perineum and genitals; the back of the neck, shoulders and loins; the outer side of the arm and forearm and back of hand; the bend of the elbow, the wrist, palm of hand and fingers; the buttocks, outer side of thigh and leg, and dorsum of foot; the inner side of the thigh and ham, the sole and the toes.

Symmetry in distribution has a special meaning. It is nothing to the point to call universal eruptions like that of scarlatina symmetrical; they are so only because the human body is itself bilaterally symmetrical. Nor is it enough that the same disease should be found in both right and left members, as is acute rheumatism. Symmetrical distribution means that exactly the corresponding parts on the right and left side are simultaneously affected, both ears, both elbows, the back of each hand, the under surface of each wrist, the popliteal space on each thigh, or the sole of each foot. This is bilateral symmetry, but we also see examples of serial symmetry in pathology, when the same condition is seen on the elbow and the knee, the wrist and the ankle, the palm and the sole.

III. Circumstances.—The third group of characters includes the natural history and surroundings of a case of

cutaneous disease. They help in diagnosis, they throw light upon pathology and causation, and they frequently supply hints for treatment. We have to consider under this head—

1. The *age* and *sex* of the patient. Some affections, like prurigo pedicularis, are scarcely seen except in the aged skin; others, like impetigo, are extremely common before puberty and extremely rare afterwards; while true acne begins, with rare exceptions, at the period of adolescence.

2. *General health*, and particularly the state of the stomach and bowels, the urine, and the temperature.

3. *Occupation*, especially when parts of the skin are exposed to cold, to great heat, to wet, or to chemical or mechanical irritation. *Intercourse* with other persons affected with a similar disease is sometimes an important part of the history of the patient.

4. *Clothing.*—Some cutaneous maladies are caused by the friction of under-garments, or by their being saturated with sweat, or coloured with deleterious dyes.

5. *Cleanliness.*—Pediculi and tinea versicolor are the result of dirt, and the same is true of some forms of eczema, intertrigo, and acne. But as a rule it is remarkable how little local mischief is done by uncleanly habits and neglect of the skin.

6. *Climate*, season, temperature, moisture or dryness of the air, sun, frost, and wind. Many diseases of the skin, as of other organs, which were formerly supposed to be endemic, are not really so; but some are peculiar to hot countries, and others, notably leprosy, have, within historical times, become more restricted in their range.

7. *History* of the *course* of the malady, its duration, the manner of its onset, and particularly, when obtainable, a knowledge of the primary lesion. The fact of recurrence is also of great importance.

8. *Subjective symptoms*, as pain or discomfort, itching, burning, smarting, tenderness, or neuralgic pains, alleviation by exposure to the air, or by covering, by heat or cold, by the application of water or oil, by pressure, or by friction.

9. *Concomitant symptoms:* pyrexia, insomnia, jaundice, albuminuria, and the varied lesions of past or present syphilitic or tuberculous disease.

10. Lastly, the effect of previous treatment, whether positive or negative, is sometimes a great help, not only in avoiding therapeutical errors, but in deciding doubtful diagnoses.

Arrangement.—Diseases of the skin should be arranged (as they should be named) like diseases of other organs; *i. e.* for convenience, either alphabetically or otherwise. In the present volume we begin with the most common inflammatory diseases, the superficial forms of dermatitis, eczema and its allies, psoriasis and its allies, erythema and its allies. Then follow affections of the hair-sacs and cutaneous glands, including ringworm. Next come the deep inflammations and the hypertrophic conditions which result therefrom. Closely allied to the deep chronic forms of dermatitis are the important and well-defined diseases known as lupus and leprosy, and the chapters which treat of these are naturally followed by one on tumours and new growths. Then comes a short section on abnormalities of the cutaneous pigment and of cutaneous innervation, and the subject concludes with a chapter on the practical diagnosis of diseases of the skin in general.

ECZEMA*

AND COMMON SUPERFICIAL DERMATITIS

Definition—Willan's—Hebra's—Its distinction from other forms of dermatitis—Histology—Anatomical lesions—Course—Distribution and local varieties—General symptoms—Ætiology—Diagnosis—Prognosis—General treatment—Local applications; ointments, lotions, and powders—Diet and regimen, baths, &c. —Internal remedies—Special treatment of local varieties.

Aberrant or spurious forms of eczema.

Impetigo—Its relation to eczema—to pediculi—to contagion—Its prognosis and treatment.

By far the most important of diseases of the skin, and one of the most important of all diseases which do not shorten life, from its frequency, its obstinacy, and the misery it occasions, is the affection now universally known as eczema (ἔκζεμα), the "outbreak" or "eruption," as the Greek physicians called it. In its commonest form it is familiar to the profession and the public, and cannot escape instant recognition, but under many circumstances it is difficult to diagnose; and opinions have differed widely as to its pathology, its definition, and the extent to which dermatoses bearing other names are allied to or identical with it.

Definition.—Common superficial inflammation of the skin, not of traumatic origin, going on to the stage of serous exudation, symmetrical, irritable, and recurrent.

Willan classed eczema among *vesicular* diseases, and this is a proof of his acumen and judgment; for, although the vesicles of eczema are so small and numerous, so short-lived

* *Synonyms.*—Moist Tetter—Common idiopathic superficial dermatitis.—*Fr.* Eczème.—*Germ.* Ekzem—Die nässende Flechte.

and speedily supplanted by pustules or weeping surfaces or scales that one may see hundreds of cases before the vesicular stage can be demonstrated, yet there is no doubt that vesicles are characteristic and, if not a constant, the most nearly constant anatomical lesion of eczema.

The most important step in the pathology of this disease was Hebra's statement that eczema can be produced at will, for it is in fact identical with the *common superficial dermatitis* which is the result of ordinary irritants. As a result of this important statement, Hebra not only described under eczema much of erythema, intertrigo, the pustular form of dermatitis known as impetigo, and most cases of papular dermatitis previously classed under various species of lichen and strophulus, but he boldly included scabies itself as also a common inflammation of the skin, and therefore a true eczema. All succeeding dermatologists have more or less followed Hebra in extending the bounds of eczema far beyond the definitions of Willan and Bateman.

But invaluable as was the new doctrine of Hebra, it has become clear that for clinical purposes we must seek again to narrow the definition of the word eczema. Inflammation, the reaction of the living tissues to injury, is the key-note of pathology. If to the doctrine of inflammation we add that of degeneration and new growths, of parasites and of contagia, almost the whole range of modern pathology is covered. It is quite true that the vast majority of diseases of the skin, like those of the rest of the body, are inflammatory, but for prognosis and cure we need much more than this elementary fact. Hebra himself had too much sagacity and practical sense to be led far astray by his own reform.

(1) Syphilitic diseases are most of them undoubtedly inflammations of the skin, but, however closely they might approach in symptoms and appearances to some forms of eczema, he separated them very widely. Scarlatina is a dermatitis not unlike some stages of eczema. Variola and varicella often approach impetigo still more closely in appearance, but neither Hebra nor any of his disciples have classed the exanthemata of Willan with eczema. These diseases are all separated by our knowledge of their ætiology, by their combination with definite symptoms in other organs than the

skin, by their course, and by the practical measures for which they call.

(2) Scabies, again, is distinguished from all other forms of dermatitis, not by the pathological process, but by the peculiarity of the irritating agent, by the consequent characteristic distribution, and by the special mode of treatment.

(3) Lastly, we must separate from true eczema diseases like psoriasis, which, though undoubtedly inflammatory, are special in their characters, in their anatomy, in their chemical products, in their results, and (above all) which cannot be produced or even simulated by an external irritation. In other words, they are not "common superficial dermatitis," such as results from the natural reaction of the healthy skin against a common mechanical, thermal, or chemical irritant.

But now comes a more fundamental definition of the term, which is absolutely necessary for those practical objects which are the end and justification of all refinements of nomenclature. If we call eczema common superficial dermatitis, and assert with Hebra that we can produce eczema at will by rubbing in an irritant ointment or by exposure to the sun, we run the danger of forgetting what is, after all, a very important character of the disease which we agree to call eczema, whatever else may be included under the name. Undoubtedly "wet tetter" is in the majority of cases *not* the direct and immediate result of local irritation. It is therefore preferable to say that a scorching sun or a mustard plaster may produce a common superficial weeping dermatitis which is histologically and chemically absolutely identical with eczema, which may, if we please, be called artificial or traumatic eczema, but which yet differs from the true disease by the very fact that it is the physiological reaction of the healthy skin to a definite known irritant; that it further differs in its course, in its distribution, in its whole natural history, from idiopathic, typical, true eczema, and demands as a consequence a different prognosis and different therapeutics. The distinction, however subtle in theory or difficult to draw in practice, is of direct and paramount importance.

For instance, the surgeon of a gaol is shown an eruption on a prisoner's arm, which by every anatomical character is a "common superficial dermatitis"—is what might have been

made by Hebra's eczema-producing liniment. He diagnoses eczema, prophesies the course it will take, its obstinacy, and its probable recurrence, and prescribes what he calls appropriate treatment. But whether verbally correct or not, he has made as great a practical blunder as is possible. The common superficial dermatitis is traumatic; the eczema is not *like* that produced by an irritant, but was actually and designedly so produced; the subject of it is not a patient with a disease, but a skilful impostor who has inflicted injury upon his skin; the course of the eruption will not be guided by the natural history of eczema, but by the will of the patient; it will not recur except by his wish, and will not be cured by "appropriate treatment." Since, therefore, the name which follows a diagnosis should connote as much knowledge as possible in brief, it is much better not to name factitious dermatitis "eczema."

In the same way we should exclude all common superficial dermatitis which is the direct and immediate result of local irritation; for what is remarkable is not that the skin should inflame when irritated, but that the skin of many people is liable to undergo the exact pathological changes produced by irritation *without* any demonstrable irritant.

Eczema, therefore, may be defined as "idiopathic, common, superficial dermatitis." We must, however, fully admit the difficulty or impossibility of drawing a line in every case. We can only classify diseases as they more or less naturally are connected with certain typical forms. At one end of the scale we have purely traumatic dermatitis produced by a demonstrable external irritant, limited to its immediate effects, and disappearing not to return when the cause is once removed; at the other end we have dermatitis appearing on parts of the skin which are not exposed to any known irritation, following a distribution which is independent of irritants, recurring without external cause after it has once disappeared, and only curable by measures other than those addressed to the local irritation. But in every case of dermatitis, however idiopathic, there is no doubt an *irritans*, if we could only recognise it, and in every case, however traumatic, there is an *irritabile* in the patient's tissues. Inflammation can never be truly "idiopathic," that is, uncaused; for, like every other

event, it depends upon antecedents. No heat of the sun, no activity of cantharides or of croton oil can produce a pustule or a bleb upon the skin of a corpse. All eczema is common superficial dermatitis, but every common superficial dermatitis has not the characters in its origin, its distribution, and its course; in fact, in its whole natural history, which entitles it to the name of eczema. In order practically to identify eczema we must, therefore, look for the clinical characters to be presently prescribed.

Eczema is dermatitis at the stage of *exudation:* it is well called "moist tetter." Cases of dry eczema no doubt occur, but they are either abortive or residual. When we use the term eczema we imply that the eruption is moist, or will be moist, or has been moist; or that at least it occurs in a person who has previously been, or will hereafter be, subject to another outbreak of the same thing, when exudation will be apparent.

Slight degrees of inflammation, when the result of irritants, fall under the minor degrees of superficial traumatic dermatitis. Slight degrees of idiopathic inflammation which do not reach the stage of exudation—hyperæmia, roseola, erythema of the skin—when not shown to be abortive eczema by their locality and course, belong to very different pathological groups. They may be, first, symptomatic rashes like those of measles and scarlatina, which are true dermatitis with all the characters of inflammation, and followed by desquamation. Under the same head of exanthemata should be included, secondly, the roseolar, erythematous, or papular rashes of enterica, cholera, and syphilis. Again, there are superficial forms of dermatitis which never assume the characteristic exanthematous aspect, which differ entirely in locality, in the persons they are most prone to affect, in their local and general symptoms, and in their constantly subacute character. These superficial inflammations, of which erythema nodosum is perhaps the best type, are clinically and pathologically to be separated from eczema, and will be treated of in a separate chapter.

Histology.—The pathology of eczema is that of inflammation generally. Its signs are the four classical characters of

pain, heat, redness, and swelling, to which we now add a fifth, pyrexia or febrile reaction. Of its cause we know no more than of inflammation in other parts. Traumatic inflammation follows injury or local death of a tissue; idiopathic inflammation we assume must have some corresponding lesion, but of its nature we are ignorant. The order of events is vaso-motor paralysis, dilatation of the small arteries and capillaries, stagnation of the blood-stream, diapedesis of leucocytes through the stomata of the capillaries, and exudation of the plasma or liquor sanguinis.

If a section of eczematous skin be made the cuticle is found unaffected, the Malpighian layer swollen, the papillæ œdematous with dilated blood-vessels, and multitudes of leucocytes clustered round them; the deep layer of the cutis

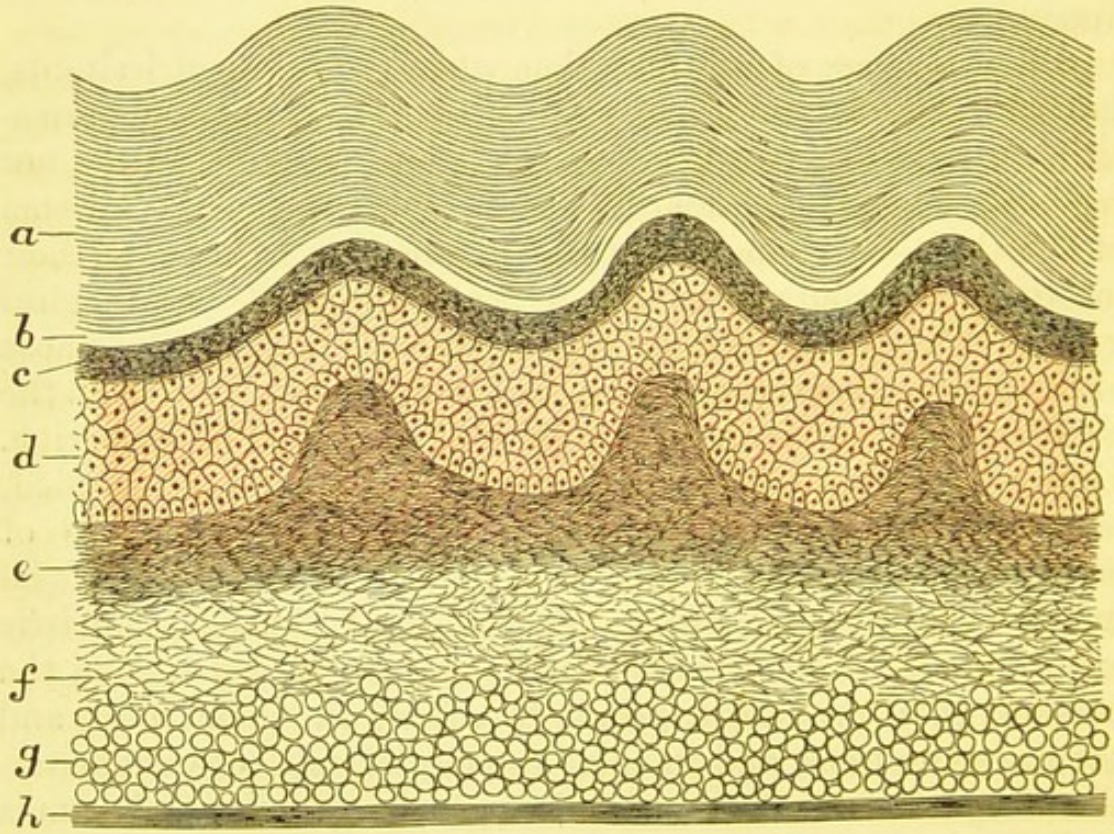


FIG. 2.—Bathymetric distribution of eczema.

and the subcutaneous tissues are unaffected. Looking at the living skin, we see, so soon as a sense of slight irritation with some pain of a tingling or smarting character has drawn the

patient's attention to the spot, that there is already an inflammatory blush. This usually has from the beginning a brighter, more arterial hue than the rose-coloured tint of true erythema. A more important distinction is that the erythematous blush is diffused and fades off at the edge. It is scarcely ever disposed in blotches, circumscribed or mottled patches or figures of definite outline. The swelling from œdema is very slight. On close inspection, particularly if a lens be used, one can see that the apparently uniform redness is produced by a number of isolated deeper-coloured points. In this and in other respects the early stage of eczema resembles scarlatina as true erythema resembles measles.

Before long, but never without a precedent stage of hyperæmia, there appear minute vesicles. Frequently, however, they are preceded by little red elevations, which for some time show no bright transparent spot of fluid ; and such inflammatory papules may appear early and continue for a long time before becoming vesicular. Such papular forms of eczema must be regarded as abortive, and very seldom will a careful scrutiny fail to discover the evidence of liquid exudation at one period or another of the case. Soon after the vesicles have formed the remarkably thin roof of the cuticle ruptures, and they run together, forming a raw weeping surface—eczema madidans ; or they may previously have sunk somewhat deeper, and acquired more or less purulent contents before their thicker roof bursts. Such pustular forms of eczema usually produce, not weeping surfaces, but more or less extensive scabs, though intermediate stages are very frequent. In the most typical form of eczema the weeping stage continues until a great abundance of clear watery exudation is poured out. It consists chiefly of serum, to which the salines give its irritating property and the albumen its characteristic effect in stiffening linen. On the raw weeping surface it is easy to distinguish more injected points which mark the seat of ruptured vesicles. This *état ponctué*, as the French writers call it, is very characteristic, and may be sometimes seen before and even after the moist stage. The involution of eczema is accomplished by the exudation diminishing, and at last drying up, the weeping ceases, or scabs take the place of pustules. Finally, the cuticle again

covers the abraded surface, and a branny desquamation, formerly described as psoriasis diffusa, and also as eczema squamosum, covers the lately inflamed parts. The itching still continues, and is sometimes troublesome up to the very last.

In chronic eczema the skin becomes exceedingly thickened, a result which is readily appreciated on pinching up a fold. It is constantly covered with branny desquamation, acquires a deep red instead of a brilliant scarlet colour, and in certain parts is marked by deep fissures or rhagades, which often penetrate to the true skin and give rise to bleeding and excessive pain. This eczema rimosum is most frequent in the palms or the soles, and in its hæmorrhagic form on the nipples and the lips.

Distribution.—One of the distinctions between eczema, or idiopathic dermatitis, and that which is traumatic in origin is that, while the latter corresponds more or less exactly to the irritant, typical eczema has its own peculiar laws of local distribution. Speaking generally, it is a disease of the thinner parts of the skin, of the flexures of the joints, and of the head and limbs rather than of the trunk.

Eczema, as above defined, is an extremely symmetrical disease, more so than any other affection of the skin excepting psoriasis.

The most characteristic locality for eczema is behind each *auricle*, not only because it is so frequently seen here when it affects other parts, but also because this spot is but little liable to other diseases. The *face* is more frequently affected with the pustular form of eczema (which we shall presently describe as impetigo) than any other part of the body; and this particularly applies to the lips, nostrils, and cheeks. In adults the face is often the seat of traumatic eczema or dermatitis from secretion, but idiopathic eczema is much less common. The same remarks apply still more strongly to the *scalp*, where impetigo is an extremely common affection in childhood, but where ordinary eczema is comparatively rare except on the bald scalp of infancy or age. Eczema does not frequently affect the skin which is covered by the *beard*, and when it does is not usually remarkable for obstinacy; but sometimes the

inflammation can be unmistakably seen to penetrate the hair-sacs, and there become a deep instead of a superficial dermatitis. Its clinical features and treatment are then so different that it is properly known as a separate disease, Sycosis. It may in like manner spread to the sacs of the *eyelashes*, and become localised as what used to be called tinea tarsi.

The *neck* is very frequently the seat of eczema, especially the front and sides. On the *trunk* the shoulders, back, and loins are but rarely the seat of the disease; and the same statement applies to the gluteal region, which is so frequently the seat of isolated pustules, not only in scabies, but in the impetigo and ecthyma of children. The flanks, though covered with soft and delicate skin, are not often affected with eczema, which when present has usually spread from the axillæ or from the neck; and the same applies to the chest. In women, however, eczema of the *breast* is common, either as eczema intertrigo beginning in the fold under the mammæ, or as so-called eczema of the nipple (*cf.* p. 56). The *abdomen* is more often the seat of eczema than other parts of the trunk, especially of that variety which begins at the *navel*. The *genital organs* by the thinness of the skin are readily disposed to dermatitis, but are certainly less often affected with ordinary eczema than either the face or the limbs. Either the inflammation begins as *intertrigo* (chafing) of the scrotum and thigh, especially common in infants, or it is an acute weeping eczema which extends to the abdomen, thighs, and other parts as well, or it is a chronic and extremely pruriginous eczema of the vulva or scrotum. The last form even more frequently affects the neighbourhood of the *anus*, particularly in elderly persons, and is a most distressing malady. The cleft of the nates is extremely liable to eczema intertrigo, particularly when these parts are fat and muscular, under the irritation of long walking and free perspiration. In many cases eczema of the anus, perinæum, genital organs, and thighs forms a well-marked local variety, which must be carefully distinguished from the so-called "eczema marginatum" of the same regions, to be afterwards described as a form of tinea.

On the *arms*, eczema is scarcely ever seen over the deltoid, and though common in the axilla, and particularly its anterior fold, is much less so than at the elbow. The bend of the

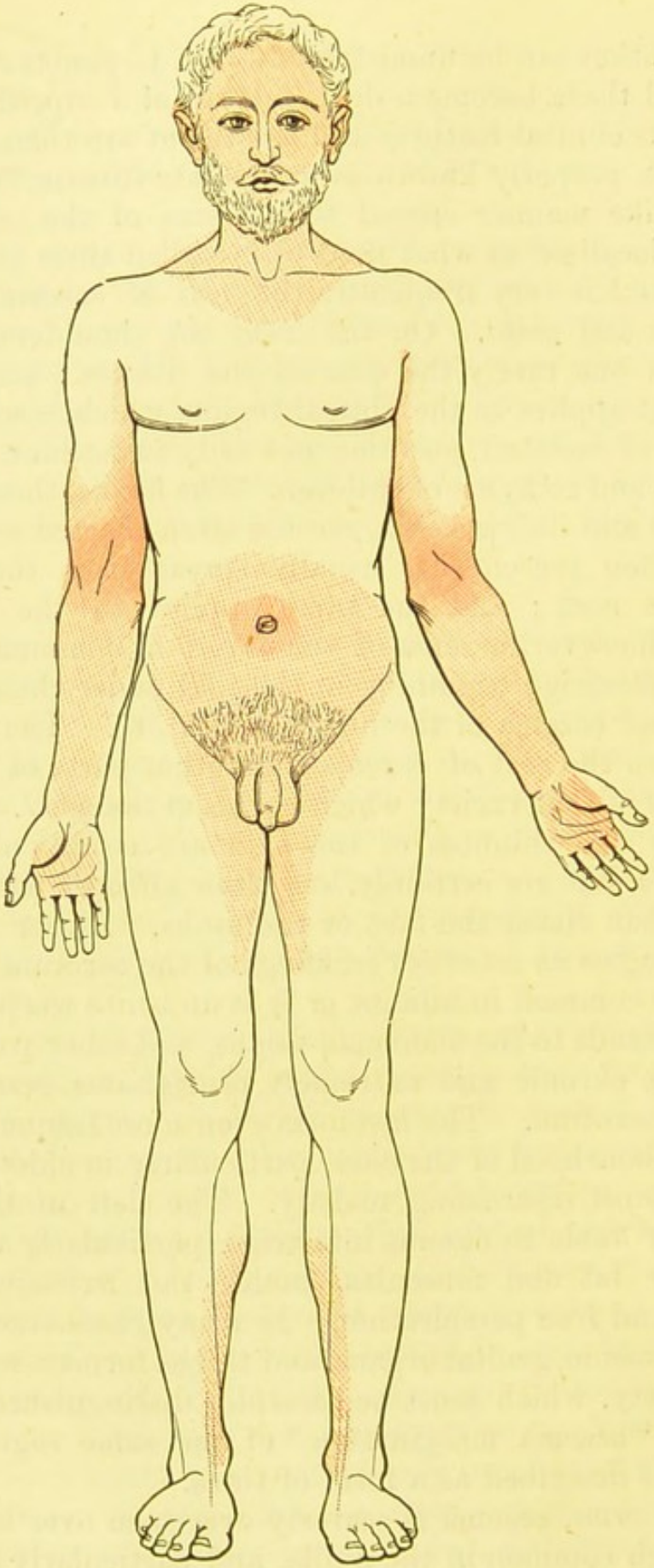


FIG. 3.—Distribution of eczema.

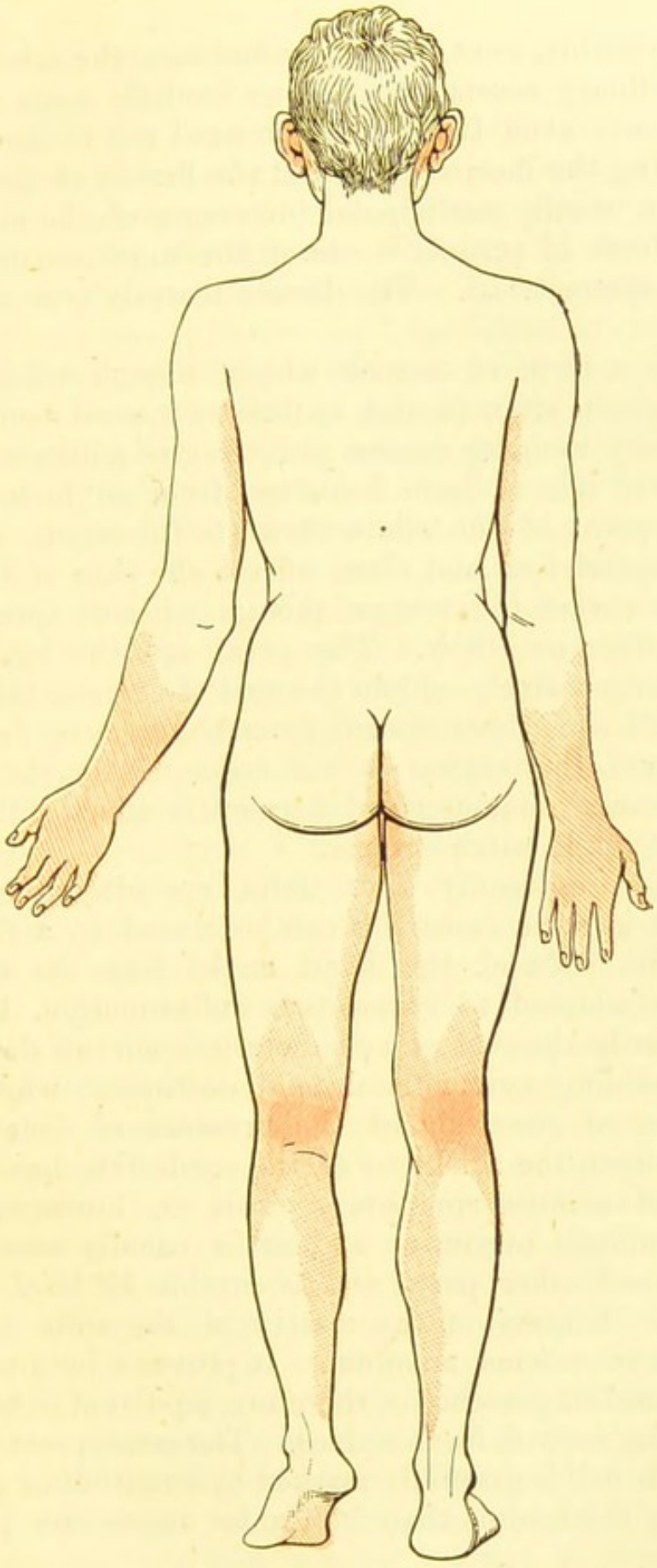


FIG. 4.—Distribution of eczema.

elbow is probably, next to the face and ears, the most frequent seat of ordinary eczema, and if we exclude cases occurring under puberty even that exception need not be made. The skin covering the biceps cubiti and the flexors of the front of the forearm usually participates in eczema of the elbow, and this local form of eczema is one of the most constantly and accurately symmetrical. The disease scarcely ever affects the olecranon.

There is a form of eczema which, though relatively uncommon, is seen often enough to deserve special mention. It is an ordinary weeping eczema occurring in adults and affecting the outer side of both forearms, from an inch or more below the point of the elbow down to the wrist. It is extremely symmetrical, and often affects the skin of the upper arm which covers the triceps, though without spreading to either shoulder or elbow. The *wrists* and the back of the hand are comparatively seldom the seat of eczema, though the affection will sometimes spread from the arm as far as the knuckles, and this region is not unfrequently the seat of the dry chronic circumscribed dermatitis which will be described as "single patch eczema."

The *fingers*, especially their clefts, are often the seat of eczema, but in most cases this can be traced to a traumatic origin. The *palm* of the hand might from its thickness seem little adapted to eczematous inflammation, but it is very frequently the seat of a characteristic chronic dermatitis, painful, disabling, symmetrical, and obstinate; which, from the absence of vesicles and the presence of deep fissures dependent upon the thickness of the epidermis, has received the name of eczema rimosum. This is, however, either of local traumatic origin, or at least is usually unassociated with eczema of other parts, and is curable by local applications alone. Eczema of the matrix of the *nails* is almost always part of eczema manuum. It proves a long period of dermatitis, and its presence is, therefore, a point of diagnosis in distinguishing eczema from scabies. The consequent malformation of the nail is generally marked by longitudinal grooves, and by less thickening than in the far more rare psoriasis unguium.

In the *lower extremities* eczema of the groin and inner part

of the thigh is very common in adults, and is either associated with eczema of the arms or with eczema of the abdomen and genitals. The outer side of the thigh is not often the seat of ordinary eczema, and the patella, like the olecranon, is practically exempt; but the popliteal space is almost as favourite a seat of the disease as the bend of the elbow, and the inflammation spreads thence more or less extensively over the thighs and legs. Below the knee, however, eczema is on the whole less frequent than below the elbow, and most often appears in one of two forms. (1) Eczema of the calf and peroneal region of an ordinary weeping and irritable type frequently accompanies the corresponding affection just described of the outer side of the forearms, and, like it, is almost always symmetrical. (2) Varicose eczema, a local dermatitis often unconnected with eczema of other parts, is obviously the result of ordinary irritation acting upon a skin congested by varicose veins. It affects the inner side of the leg from the internal malleolus upward, that is to say, from the point where, as Hilton showed, the least considerable anastomosis takes place, between the internal saphenous and the posterior tibial veins. This form of dermatitis is known by its purplish tint and frequent association with ulcers as well as by its locality.

The *foot* is less often affected with eczema than the hand, but follows its serial homologue very closely. When not of traumatic origin and not due to scabies or to intertrigo, that is to say, when dermatitis of the foot is true eczema, it either affects the dorsum in association with eczema of the outer side of the leg, or the soles as a chronic eczema rimosum much resembling that of the hand, or it is an eczema intertrigo digitorum sometimes leading to deep clefts between the toes. This last form is as common as eczema of the fingers, if not more so. It is rarely associated with the disease in other localities, and must be treated entirely by topical measures.

Chronic eczema of the soles sometimes assumes the characters of hypertrophic dermatitis, with accumulation of horny epithelium a quarter or even half an inch thick, very painful, and of a sickening caseous odour. This is quite distinct from the similar condition occasionally produced by syphilis.

The *mucous membranes* are not subject to eczema; there is no foundation for such names as eczematous gastritis,

enteritis, or bronchitis. The pathology of the digestive, pulmonary, and urinary mucous tracts is quite different from that of the skin. We have no right to assume an eczema of membranes which we cannot see when we cannot demonstrate eczema of those which we can. The writer has never seen eczema of the lips spread to the mouth or tongue, eczema of the anus to the rectum, eczema of the eyelids to the conjunctiva, or eczema of the penis to the urethra and bladder.

Symptoms and natural history.—Eczema provokes extreme itching, more perhaps than any other cutaneous disease except prurigo and scabies. Indeed, although, unlike these two, there are many cases of eczema which are almost free from irritation, yet in others the pruritus seems to be at least as intense, constant, and obstinate a symptom as in the worst of any other disease. Itching is usually less in the weeping and acute than in the dry, papular, or chronic and scaly conditions, and it is very rarely marked in the pustular form of eczema. It is most intense in ordinary eczema of children and in that of old persons, and of all local varieties is most constant and most severe in eczema ani et vulvæ.

Smarting, tingling, and some amount of local tenderness are common symptoms of the more acute and ordinary forms of eczema, and are associated with a peculiar sense of burning and tension. There is slight fever at the onset of the disease, particularly when large surfaces are invaded at once; even when the thermometer shows no appreciable elevation of temperature there is thirst, loss of appetite, and a slightly furred tongue.

Except for anorexia produced by the slight pyrexia at the onset of eczema, the appetite and digestion are unaffected in this disease. Dyspepsia is so common that many persons suffering from eczema are also dyspeptic; but there is no reason to regard the latter condition as the result of the former. The bowels also are unaffected by eczema.

One would expect beforehand that when large surfaces of the skin are inflamed, the urine would be altered in amount or in kind, but there does not seem to be evidence of any constant change. The fact that in most cases of eczema the patients are not confined to bed, or even to the house, makes

it difficult to obtain observations of the amount or average condition of the urine in this disease. Any deviation from health observed may be explained from causes unconnected with the eczema, so that, as far as we know at present, the urine must be stated to be unaffected in eczema.

Course.—Eczema is very rarely acute in origin, development, and recovery; in what appear to be acute cases it will be found that the patient has been subject to previous attacks, and that in the intervals small patches of the disease linger behind the ear or on the face or hands or some other isolated part. Moreover, when the acuteness of the attack has passed off it is rare for the whole of the skin to return to its normal condition. Fresh smaller outbreaks occur again and again, so that with scarcely an exception, however acutely the first attack of eczema may sometimes begin, its course is chronic.

Another characteristic of eczema is its strong tendency to *recurrence.* It is rare for a person to suffer from a single attack in the course of his life. Again and again when the disease appears in a quiescent condition a fresh acute outbreak will occur, or one attack will scarcely have passed off when another supervenes. Happily the majority of cases are not lifelong in duration; but they often extend over several years, getting gradually better and suddenly worse, or disappearing for a few weeks to recur with or without ascertainable cause. It is not unusual for recurrence to take place even after long intervals of complete freedom.

Ætiology.—We have already stated what appears to be the true relation between traumatic dermatitis and idiopathic eczema. When the inflammation directly follows an irritant, is not prolonged after its cessation, does not spread to other than the irritated region, does not recur without fresh irritation, and does not follow the local distribution of eczema, then it is best called common superficial dermatitis of traumatic origin. But some skins, whether by natural stability or by habit, are insensible to sun and friction and sweat, and the other irritants which in ordinary persons produce inflammation. In others a hot day, or bathing in sea water, or an east

wind, or a long walk, will produce eczema solare or eczema intertrigo, or some other form of local traumatic dermatitis—which when once established becomes chronic, persists long after its original cause has ceased to act, and localises itself in the bends of the joints and in the symmetrical positions which have been above described as characteristic of eczema. Admitting, therefore, local irritation of various kinds as an exciting cause of eczema, we must also admit a certain proneness of the skin to inflammation, and in more than half our cases this predisposition causes the disease without our being able to fix upon any probable irritant.

It has been widely supposed that we are to seek the predisposing, and in most cases the efficient cause of eczema in a diathesis or disposition of the whole body, which can be recognised independently of the presence of the eczema, and which produces other recognisable diseases. This diathesis has been called dartrous, arthritic, and gouty, while the ever-ready explanation of a strumous disposition has been invoked when the other failed. The reader is referred to the works of Hardy and Bazin, of Gigot-Suard, and other French writers, for their exposition of the dartrous doctrine; while all that can be said for the more particularly gouty relations of eczema will be found in the writings of Erasmus Wilson, Hutchinson, and the late Dr Tilbury Fox. The present writer can only express unbelief in the whole doctrine of temperaments and diatheses, which appears to him to be the residuum of the exploded physiology of Galen, and seriously to impede the advance of medicine. It appears to him that although persons with gout are often subject to very irritable and obstinate eczema, in the vast majority of cases of eczema there is not the faintest reason for the belief that gout—that is, the deposit of uric acid in the joints—has been present in the patient or his immediate relatives; that there is no pathological connection between gout and true rheumatism, arthritis deformans, or gonorrhœal arthritis, and that none of the latter forms of multiple arthritis have any demonstrable connection with eczema; that eczema rarely co-exists with psoriasis, pemphigus, or other supposed manifestations of the dartrous diathesis; that no one can give an intelligible account of the characters by which this predisposition can be recognised; that there is

no evidence that eczema has more than accidental connection with diseases of other parts of the body, or that it is anything but a common superficial dermatitis; and lastly, that the diathetic hypothesis is practically misleading in prognosis and treatment, no less than scientifically unsound.*

The efficient cause of eczema, apart from local irritation, is as much, or as little known, as the efficient cause of bronchitis or of cystitis. All we can say is that in some persons the skin is naturally sensitive, or delicate, or irritable. Such persons are in other respects like their neighbours, and the predisposition of their skin to inflammation can only be prophesied after the event.

General eczema is sometimes set up by an accidental and very local irritation, and this is probably the explanation of the undoubted though rare occurrence of vaccination leading to eczema: much more frequently their relation is purely accidental. It seems waste of time to discuss the vague speculations, at once unscientific and unpractical, which ascribe eczema to such common disorders as dyspepsia, or to such *idola theatri* as constitutional predisposition, assimilative debility, nervous debility, perverted innervation, renal inadequacy, strumous cachexia, scurvy in the blood, acidity of the *primæ viæ*, or *la diathèse dartreuse*.

There is no doubt that eczema is in some cases very decidedly *hereditary*, but it is certainly much less so than psoriasis, and in the great majority of cases there is no reason to admit hereditary predisposition. The exudation of eczema is not contagious so long as it is transparent. When purulent it probably shares in the infective characters more or less common to all pus, and occasionally the pustular eczema which we shall presently describe as impetigo capitis is as contagious as gonorrhœa.

Eczema affects both *sexes* indifferently. It is common at all *ages*, but differs in its most frequent characters. In the infant it is of the ordinary papular and vesicular kind. The same form is seen in older children, but much more frequent in them is impetigo, or pustular eczema, which is compara-

* The writer may be allowed to refer to papers on this subject in the 'British and Foreign Medical Review' for January, 1874, and in the 'Guy's Hospital Reports' for 1880.

tively rare before the first dentition and after puberty. In adults the commonest form is ordinary weeping eczema of the limbs and face. In old age, the dry, very chronic, and extremely pruriginous forms are the most characteristic.

The geographical distribution of eczema appears to be universal. It is certainly not more frequent where gout is prevalent, as in London, than where it is almost unknown, as in Vienna and New York. Typical chronic weeping eczema is believed to be less frequent in the tropics than in Europe and America.

The traumatic forms of eczema naturally occur in those *occupations* where the hands are exposed to constant irritation. Hence we have the eczema of the hands which has long been recognised as frequent in washerwomen, grocers, and other hand-workers.

It is a popular opinion that skin diseases generally, and particularly eczema, as the most common of them, are most prone to occur at certain *seasons*—the spring and fall. Like most popular beliefs, this was probably not founded upon experience, but chiefly upon theory, and partly perhaps upon analogy. The period of change in the seasons seems "naturally" to be the most likely period for change in the human economy, and changes are proverbially hazardous. It is possible also that the insalubrity of Southern Europe in the autumn, from the prevalence of malaria, led to a belief in the same result in northern countries, while even in England malaria was far from uncommon until recent times. However this may be, it is true that, as a matter of experience, one meets with eczema of the ordinary irritative and inflammatory kind more often in the spring than at other times, and this may be fairly attributed to the dry east winds which then prevail.

Diagnosis.—Keeping to the definition of eczema as above stated, the only difficulty is first to distinguish between idiopathic and traumatic dermatitis, or rather to detect the decided and efficient presence of a traumatic cause; and secondly, to draw the line between eczema and certain other forms of superficial dermatitis, the distinctive characters of which, and the justification for their separation, will be considered under each

head (see Lichen ruber, Universal acute dermatitis, and Pityriasis rubra). The distinction between eczema and intertrigo, eczema and impetigo, eczema and some forms of lichen, and even eczema and scabies, depends ultimately, as all distinctions in medicine should, upon practical utility. What it appears to me we must recognise is that all superficial inflammations of the skin may be grouped around certain types, and that the most common and important of these, which we call eczema, is characterised by being *common*, that is to say, the same as is produced by ordinary mechanical or chemical irritants, *idiopathic*, that is to say, not directly co-extensive with irritation, *moist* from visible inflammatory exudation, *symmetrical*, *selecting* certain favourite parts of the skin, and *prone to recur* after disappearance.

Factitious or any directly traumatic dermatitis may be detected by its unusual localisation, particularly on the face, upper extremities, and other parts readily got at. Intertrigo is recognised by its locality and by its rapid disappearance when the parts are kept from touching.

Scabies is distinguished by its peculiar distribution and by the presence of mite-burrows.

Other special forms of superficial dermatitis have each peculiar anatomical characters: large persistent vesicles, thick heaped-up scales, papules which grow larger without becoming vesicular, or profuse desquamation. Or they have a distribution which differs from that of eczema. Or they are universal, which true eczema is not. Or they run an acute course.

From *scarlatina* and other rashes, eczema differs in being never truly universal, in its moisture, in its duration, and in being unaccompanied by marked febrile symptoms. From *erysipelas* it is distinguished by the colour, the minute vesicles, the locality, and by the absence of a defined margin, of œdema,* and of fever. *Erythema exudativum* is more rosy in tint, and though it may form papules or even bullæ, never shows the small vesicles or the weeping surface of eczema: its distribution is different, and it is never chronic in its course. Eczema has no resemblance to *psorsiasis* except in very old cases of the latter disease, when the scales have disappeared and the locality is obscured.

* An exception often occurs when eczema affects the eyelids.

Prognosis.—Eczema is extremely amenable to treatment, that is to say, we scarcely ever see a case in which no improvement can be produced, and still more rarely one which finally resists all therapeutical measures. Moreover, it is scarcely ever dangerous to life. There are, however, exceptions to each of these statements. In the outbreak of acute vesicular and weeping eczema, whether primary, or, as far more often happens, occurring in a chronic or nearly cured attack, we can do little or nothing to stop its violence. Abortive treatment is unfortunately rarely successful in any acute disease. In some cases, again, eczema, though treated until very little remains, cannot be driven entirely away but remains in a quiescent state here and there, to burst forth again after a longer or shorter interval.

Lastly, though it is remarkable how little the general health is affected even by very extensive, troublesome, and long-continued eczema, yet occasionally, in infants, or in aged persons, broken rest and loss of appetite cause wasting and muscular weakness, which may at last end fatally. The only cases of the kind which have occurred in the writer's practice were, first, an infant which became emaciated, pale, and unable to take the breast, and secondly, an old gentleman considerably over seventy, who after being much relieved by constant tepid baths and other treatment from a very extensive and extremely irritable eczema, sank rapidly and died without any evidence of organic disease. On the other hand, everyone must have seen scores of little children who appeared worn to a skeleton and almost moribund through severe eczema, who nevertheless, by treatment or by time, completely recovered. Very general eczema in a person over seventy, especially if complicated with gout or with chronic Bright's disease, should always suggest a guarded prognosis.

Treatment.—In the first place, it is our duty to treat and if possible to cure every case of eczema as quickly, safely, and pleasantly as we can. The supposed danger of driving in eczematous eruptions upon internal organs appears to be without any foundation. It arose partly from theoretical views of the sympathy of organs, party from the well-known fact that cutaneous hyperæmia diminishes or disappears

during acute febrile affections, partly from observing the benefit of counter-irritation of the skin in synovitis or bronchitis, and possibly, as Hebra unkindly suggests, from the difficulty of curing some cases of eczema. In little children, however ill, one may again and again observe that as soon as cutaneous exudation is checked and the irritation subsides, their general health begins to mend. Ths only caution I would give is to be very careful to ascertain the condition of the heart, the arteries, and the kidneys in aged persons suffering from eczema, lest the treatment or cure of their cutaneous disease should be credited with the fatal result which is really the consequence of degenerated viscera.

Prophylaxis and general protective treatment.—The irritants which excite or keep up and renew ezcema are chiefly mechanical, thermal, and contact with water. Of mechanical irritants the most important are rough clothing, friction against adjacent parts of skin (intertrigo), prolonged contact with decomposing sweat, and also with dirt and various chemical irritants which are incidental to certain trades. But the most difficult mechanical irritant of all to get rid of is that which is the result of the disease itself. Eczema always itches and itching is sure to produce scratching. Hence our first attempt is to prevent this by the persuasion of an adult patient, by muffling the hands of infants, and by such local applications as will at least relieve the intolerable irritation.

With the same object, we forbid cold bathing, we forbid the application of either cold or heat, the latter for its immediate, and the former for its consecutive, effects on the circulation of the part. Contact with air is, in many cases, a decided stimulant, and one important use of the various ointments with which the eczematous skin is smeared is to protect it from air. With weeping eczema, we obtain the same end by covering it with wetted rags, or, as is often more efficient, by dusting it with absorbent powders.

But even more important as a cause of irritation is moisture. It is not that mere contact with water is an irritant; probably a slight alkaline and weak saline solution with a little colloid material, such as gum or size, or the albuminous part of oatmeal, is the least irritating medium with which an inflamed and excoriated skin can come in contact.

A continuous bath, even of ordinary water, is a most useful and perfectly safe means of treatment in some cases of very general eczema, with profuse exudation and great irritability. To Hebra is due the merit of proving that patients can be kept continuously in a bath of suitable temperature, not only for hours, but for days—indeed, for any indefinite period, without leaving it for any purpose whatever. The writer saw this plan carried out at Vienna, and has more than once adopted it himself. The practical difficulties are obvious, and it is fortunately not often that we need resort to it.

Though *continuous* contact with water is by no means irritating, bathing and washing mean *intermittent* wetting of the skin. The change from dry to wet, from higher to lower temperature, and the reverse change on withdrawing the eczematous surface from the bath, the necessary friction of the towel, the saline constituents of most waters, and most of all, the evaporation which even great care cannot entirely prevent, and which, after careless washing, goes on abundantly from the half-dried surface—these form altogether a most efficient series of irritations.

It is even possible that the frequent and systematic cleansing of the skin from dead epidermis and from sebaceous secretion, which is the result of the artificial condition of extreme cleanliness to which modern civilised society more and more tends, may itself render the skin more susceptible to slight irritants, and certainly with tender skins the use of soaps, of nail brushes, of rough towels, and of flesh gloves, may sometimes aid in exciting dermatitis—a small set off against the advantage to general health of mind and body to which a clean and active skin undoubtedly conduces.* Important rules of treatment in eczema, therefore, are that the inflamed parts must not be washed with soap, must not be washed with either hot or very cold water, must not be washed frequently, and must be very carefully dried after washing with soft, dry, and warm towels. In order to prevent the "chapping" of the hands which is so common in children during the winter, it is important to take care that

* See an amusing article by Hebra on the dangerous consequences of being overmuch clean, which the writer translated in the 'London Medical Record,' March 15th, 1877.

they are thoroughly dried on towels which are not already damp. In large schools for poor children, a good plan is to make them dry their hands by dipping and rubbing them in a tub full of bran, instead of upon towels, which are sure to be wet for all but the first comers. They should also be given olive oil, or any other neutral fatty compound, to rub into the hands after washing, when there is the least appearance of dermatitis. With severe and chronic eczema rimosum of the hands it is necessary absolutely to forbid washing, and to protect from contact with air or moisture by ointment and a well-fitting kid glove. The best plan in chronic eczema is to advise that once a week, or more frequently as may be thought safe, a complete warm bath and thorough cleansing of the whole surface should be used, taking care to keep the skin immersed from the time of its being first wetted, and to dry it thoroughly when the washing is over. Washing, with unscented, pure yellow soap and lukewarm water, if done seldom and followed by careful drying and inunction, is less injurious to an eczematous skin than more frequent and careless ablution with no soap at all. For the exceedingly irritable skin of the face and hands, it is sometimes desirable, however, absolutely to forbid all contact with water, and cleansing can then be accomplished by friction with dry and stale bread crumbs. When there is eczema of the scalp the best cleansing agent is white of egg diluted with water.

Poultices are almost always injurious, and scarcely less so is the modified form which is the usual result of the application of water dressing, a piece of lint dipped in water or lotion, and closely covered with oiled silk or gutta percha. The impermeable covering soon raises the temperature, and the result is the combined warmth and moisture of a poultice, most valuable for relaxing tension, promoting suppuration, and relieving deep-seated inflammation, but most injurious in superficial dermatitis.

Eczema is common dermatitis and must be treated like other inflammations. Cold, however, is not often practically applicable, powerful as is its influence on inflammation; the surface affected is too extensive, the difficulty of continuously applying adequate cold too great, and the ill-effects of con-

siderable depression of the temperature of the surface too serious, for us to attempt treatment by ice or by cold baths. Moreover, intermittent application of cold by the reaction which ensues proves worse than useless. Eczema in the majority of cases which come before us has passed its acute or subacute stage, and irritation rather than heat is the common symptom. It is, however, always well for patients with eczema to avoid the heat of the sun or exposure to fires or to the heated atmosphere of crowded rooms. The affected parts should not be covered with thick woollen garments, and the patient should be lightly covered at night; the bedroom should be well ventilated, the temperature kept somewhat low, and much relief is experienced by keeping the feet or arms uncovered except with a thin rag dipped in lotion.

Local medicinal treatment.—We next come to the treatment of eczema by chemical applications. Our object is, first to diminish the hyperæmia and exudation by *astringents;* secondly, to diminish irritability and to prevent scratching by *sedatives;* thirdly, to substitute for a chronic and interminable process of inflammation a more directly traumatic, acute, and self-limiting process, or else, it may be, by less stimulus to produce an effect short of this but serving to quicken the natural process of physiological repair. Such agents have received the vague title of *alteratives.*

The most powerful chemical astringent which can conveniently be used is probably lead. Salts of copper, zinc, and iron, nitrate of silver, boracic acid and borax are also efficient astringents. So are galls, tannin, and similar vegetable preparations, though these are less applicable to the skin than to mucous membranes. As local sedatives we may use belladonna, opium, chloroform, hydrocyanic acid, but these are generally unsuitable to eczema on account of its extent and raw, denuded surface, both which characters make absorption too probable for these narcotics to be safe. More efficient as remedies against itching, and free from any but local action, are preparations of zinc, which combine antiphlogistic and antipruriginous qualities. Dilute solutions of carbolic acid, 2 per cent. in water, 1 in 20 in oil, are very useful. Weak tarry preparations are also efficacious, especially in the drier forms of eczema; as diluted oil of cade (juniper tar) or liquor

carbonis detergens with vaseline in the proportion of two drachms to an ounce. (See Appendix of Formulæ.)

For chronic and no longer very irritable eczema more stimulant applications are necessary; sometimes stronger tarry preparations, unguentum picis liquidæ or liquor carbonis detergens. They are most useful in limited patches of scaly and very chronic dermatitis with much thickening of the skin; those, in fact, which approach most nearly in appearance and pathology to psoriasis. The colour and smell are objectionable, but the staining of both skin and clothes by chrysarobin ointment is much more unpleasant.

A still more energetic method, recommended by Dr McAll Anderson, of Glasgow, is painting the eczematous surface with liquor potassæ. This must be done with much caution, for it gives rise to considerable pain, though in many cases this is less complained of than might be expected; but the writer can bear witness to the efficacy and safety of the treatment when applied tentatively on limited surfaces of old and obstinate eczema, especially of the dry kind. With moist secreting surfaces of unusual obstinacy, one finds more useful in application of a solution of nitrate of silver varying from a scruple to as much as a drachm to the ounce. It must be occasionally painted on, not kept in constant contact, and often proves most efficient as an astringent and a sedative, as well as an alterative.

But more often there is too much active inflammation for us to venture on such treatment, and more generally applicable alteratives are the various preparations of mercury, corrosive sublimate in solution, white precipitate ointment, red oxide ointment, and dilute nitrate of mercury ointment. Mercury in some form is particularly adapted to pustular forms of eczema, and is seldom suitable to those which profusely secrete serum.

Most often, however, the cases of eczema which come before us combine the characters of inflammation, itching, and chronicity, so that for perhaps the majority of cases, at least if we include those of impetigo of the scalp, there is no more useful preparation than a combination of zinc, lead, and mercury. This may be varied by substituting the red oxide for the nitrate of mercury ointment, and by

varying the proportion of the three constituents ; often again lead and zinc act better without mercury, or the carbonate better than the alkaline acetate of lead.

Whatever be the chemical application used, it is important to decide whether the vehicle should be watery or oleaginous. An excellent general rule was that of the late Dr Hughes Bennett, of Edinburgh ; for dry affections of the skin, use ointments ; for moist, use lotions. If an ointment is applied to a profusely secreting eczema the drug and its vehicle are washed away by free exudation and never reach the subjacent skin. Lotions, on the other hand, have but little power of penetrating the epidermis, and if carefully watched will be seen to run from the surface, which is greasy by its natural sebaceous secretions. With raw surfaces which do not secrete profusely, either lotions or ointments may be appropriately used. Practical considerations teach us that lotions are better suited to diseases of exposed parts like the face and hands, that they are readily applied to young children, that they are more efficiently used by persons confined to bed or by women living indooors than by those who are engaged in active work, that they are more cleanly and pleasant to most people, but that they also give more trouble and demand more time in their application, and lastly, that in the summer, when the skin is frequently covered with sweat, they are particularly grateful and efficient. We must remember that lotions should in most cases be used with exposed skin or with the surface only covered by a thin rag into which the lotion has soaked. If applied in the morning and covered up till night they speedily become water dressings, and probably in less than an hour mere applications of rag with no further therapeutical power. On the whole, therefore, notwithstanding the rule quoted above and the fact that eczema is pre-eminently a moist tetter, it will be found that with the majority of our out-patients, whether private or at the hospital, ointments are practically the more eligible vehicle. It is important to make sure that the lard or other oleaginous material is not in the least rancid, and that it is free from salt. The addition of benzoic acid as now ordered in the British Pharmacopœia makes as good a vehicle in most cases as can be wished. The mineral oils have the advan-

tage of not decomposing, and for some reason ointments made up of vaseline suit certain cases of eczema better than those prepared with animal fats.

Unmedicated oily applications, vaseline, cold cream, olive oil, have in themselves the good effect of protecting from air and of softening rough, harsh skin, inspissated sebum and dried secretions. Lanoline is better fitted for psoriasis and other affections in which it is desired to rub the oily vehicle thoroughly into the skin. Glycerine, from its strong affinity with water, is well known to be a direct stimulus to a nerve-trunk. It is, except when dilute, a decided irritant in eczema, and has far from the same soothing effects as cold cream or zinc ointment, in cases of intertrigo, chilblains, and eczema solare. In very small quantities, however, it may be added to lotions with the view of securing some of the advantages of an oily preparation.

Weak alkaline lotions have often been recommended to relieve the burning pain and irritation of acute eczema, and they were extensively used by Professor Hardy at St Louis. But in the very cases of acute weeping eczema in children to which such treatment seems applicable, the parts are so excessively tender that even a 1 per cent. solution of bicarbonate of soda is ill borne, so that in such cases the lead lotion (liq. plumbi subacetatis dilutus of the British Pharmacopœia) is more useful. At all events, if soda is used at all it should be in quantities only just sufficient to react to test paper.

Quite apart from the ordinary use of a lotion, the whole object of which is to keep the part continually wet, is that of a solution which when painted on is allowed to dry. For this purpose nitrate of silver or other strong astringent solutions may be used.

Another useful method is to suspend insoluble powders like oxide of zinc, starch, or sulphate of lime or bismuth in water by help of a little mucilage or tragacanth, without, however, attempting to form a perfect emulsion. The milky liquid is applied freely with a large camel-hair brush or sponge, and is allowed to dry over the weeping surface, and in some cases of irritable and profusely secreting eczema, as also in pemphigus, this is found to be the most effective application. Care must be taken not to have too much of the colloid ingredient, or

hard cakes are apt to form which crack and become painful. In fact, chalk or gypsum shaken up with water and applied like whitewash is sometimes the simplest and pleasantest method.

Lastly, we may apply our remedies directly as dry powders. In this way oxide of zinc, chalk, and other fine insoluble powders may be used, and such applications are usually better than starch. They dry up discharges, protect from the air, and are often the best application in cases of intertrigo. On the other hand, they are unsuitable for pustular eczema, where they would form massive and troublesome crusts.

It must, however, be admitted that nothing but experience, insight, and previous knowledge of particular cases will guide one aright in the selection either of appropriate astringents, in the strength of the application, or in the kind of vehicle. Some patients assure one (and prove right again and again) that they cannot bear any kind of ointment. With others all lotions are apt to produce pustules, or even boils. Not infrequently, especially in the acute stage of eczema, an inert powder or unmedicated vaseline, according as the surface is moist or dry, will do more good than anything else. In all cases we should remember that the ointments are not to be rubbed in, but gently smeared on the skin, and afterwards kept in continual contact by well-adjusted soft linen bandages; that the lotions should never be allowed to get hot, and must be frequently renewed; and that the strength of our applications should be small in the acuter stages, and greater as the case becomes inveterate.

The writer, in accordance with Hebra's teaching, and contrary to that of most English writers, believes that the majority of cases of eczema can be cured by well-directed local measures of the kind above indicated; but it must be admitted that in the great reforms he established, Hebra undervalued the treatment by internal measures, which undoubtedly holds an important though a secondary place.

Diet.—In the acuter stages of eczema the patient should be put upon almost fever diet, but should be encouraged to drink freely of any cooling beverage. He should take no stimulants or meat, and eat sparingly, chiefly of bread, milky dishes, green vegetables, and ripe or stewed fruit.

In ordinary chronic eczema no such strict diet is necessary. It is, however, usual to forbid certain articles of food, and I think that the experience of patients shows that, at least in some persons, one or all of these really aggravate the disease, chiefly perhaps by producing thirst, increased irritation of the skin, and scratching. The kinds of food referred to are salt meats of all kinds, including ham and cured fish, cheese, pepper, spices, and other hot condiments. The stronger wines and malt liquors are also usually forbidden, but although in the necessarily generalised treatment of hospital out-patients this is doubtless good advice, there does not appear to be any evidence that the moderate use of malt liquors or wine (with food) does harm in eczema or any other affection of the skin—except in cases where, independently of dermatitis, even moderate stimulants provoke dyspepsia with flushing of the face. In many patients, especially those in middle and later life, wine or beer with the principal meal of the day helps digestion, and certainly does no harm to the eczema, while a little spirit and water at bedtime will help sleep, and in that respect prove a useful adjunct to other treatment. Sometimes, however, even weak whisky and water produces heat and discomfort after retiring to bed, and must then of course be interdicted. In almost all cases a somewhat free supply of unstimulating diluents should be taken between meals, and a glass of water while dressing of a morning, and again the last thing at night, is almost always useful.

Climate and watering-places. — In chronic and obstinate diseases like eczema, patients frequently ask whether change of air would do them good. They are usually recommended to go into the country if they live in town, or go to the sea-side if they live in the country, or, if they can afford it, to go to Scotland, or Switzerland, or some other attractive place of resort. One may, however, say with confidence that, just as eczema is aggravated by the east winds of an English spring, so it is more difficult to cure in the eastern counties of England and Scotland, and is often favourably influenced by removal to the moist and soft air of the western Highlands, of Devonshire, or of Ireland. As, however, in many other diseases, it is the change which does the good, and this is most

apparent when the change is from an unfavourable climate. Again, there is no doubt that in many cases of the more irritable forms of eczema, sea air proves injurious. It is only now and then, in chronic and non-pruriginous eczema or in the impetigo of childhood, that sea air and even sea bathing do good instead of harm.

With respect to baths generally we have already sufficiently insisted upon the evil effects of frequent contact with water, but there is no doubt that in the very chronic and intractable forms of eczema, saline and sulphurous baths act beneficially, probable like the stimulant and alterative applications above described. When the period has arrived for their use it is difficult to say, and each case must be judged by the tact and experience of the physician. A single bath may bring back in all its virulence an eczema which had nearly disappeared. Long-standing dryness, thickening of the skin, and absence of excessive irritability are the features which should generally weigh with us in advising or permitting this mode of treatment. The baths best adapted for the purpose are perhaps those of Harrogate, but the effect of the water itself and of its temperature is usually more important than that of its constituents in solution.

Internal treatment.—Lastly, we come to the treatment of eczema by drugs, which I regard as less important than that by external applications and by what may be generally called the hygenic treatment of the skin. Still there is no doubt that while we could better dispense with this group of remedies than with the others we should often fail for want of them, or the success of our treatment would at least be less rapid and complete.

In the acute stage of eczema with profuse exudation and much irritation, it is the practice of the French school to purge freely, and most English physicians adopt the same plan, though perhaps less systematically. Saline laxative are, perhaps, the most useful in these cases. The old-fashioned white mixture of sulphate and carbonate of magnesia taken three times a day, or the pleasanter combination of Epsom salts with carbonate of soda in peppermint or cinnamon water, are useful and popular medicines. A seidlitz powder or a dose of Rochelle salts or Carlsbad salts every morning is

suitable for less acute or less extensive cases. Often it is sufficient for the patient to take a draught of Püllna, Friedrichshall, or Hungarian bitter water. Of these three Friedrichshall is, perhaps, most often suitable, particularly when the eczema occurs in a gouty subject. Sometimes, however, it is less efficient than a seidlitz powder, and occasionally it produces much griping without satisfactory result. In such cases it may be changed for the Hunyadi Janos with advantage. This Hungarian bitter water seems as a rule to agree better with women than with men. Whichever form of laxative is selected, it should be taken with a large draught of warm water early in the morning and on an empty stomach. Such a dose should give one or two loose motions after breakfast without griping or subsequent irritability, whereas even larger doses, if undiluted with water or taken with the stomach already full, are more slowly absorbed and produce more frequent and less effectual irritation. In cases of eczema in which the patient has other independent evidence of gout, it is well to combine with moderate laxatives the exhibition of a pill containing colchicum and aloes or rhubarb every or every other night. In persons who have lived freely and who are subject to hepatic dyspepsia, beside restricted diet both in food and drink and moderate laxatives, it is important to prescribe small doses of mercury, either a single grain of blue pill with a little nux vomica and rhubarb before dinner, or two, three, or four grains with an equal quantity of the compound rhubarb pill every other night or twice a week.

In many cases, especially in women affected with eczema, there is considerable anæmia, and then steel must be added to the laxative medicine. There is no better combination for this purpose than that of sulphate of iron, given in doses gradually increased from two to five or even ten grains, with a scruple or more of sulphate of magnesia, and five or ten drops of dilute sulphuric acid in peppermint, cinnamon, or chloroform water.

Along with laxatives it is usual in cases of chronic eczema to prescribe acetate of potash and other diuretics. Their action is somewhat uncertain, more so than digitalis, squill, or the resin of copaiba ; but salines, and especially those of potash, have other actions beside that upon the kidneys, and

in ordinary cases of eczema with much secretion and extensive inflammation, citrate of potash or acetate of potash is often found more beneficial as well as more agreeable than the alkaline carbonates.

We have seen above how important a point it is to relieve the itching of eczema, not only for the comfort of the patient, but to secure the physiological rest which the night should bring to all inflammatory processes, and also to save him from the serious aggravation of his disease which scratching and rubbing the eczematous parts infallibly cause. Moreover, it is at night (even during sleep) that the irritation, increased by the warmth of the bed, reaches its maximum, and that the self-control of the patient is weakened or abolished. Beside the various measures above mentioned for securing coolness, protection from the air, and such help as local sedatives can give, it is often necessary to call in the aid of internal narcotics. Of these opium and its preparations should generally be avoided. Unless given in large doses they are apt to increase rather than to quell the irritation of the surface; they also check secretion and bind up the bowels. It is therefore better to prescribe chloral hydrate or bromide of potassium, or the two together.

Chloral should be avoided with old people, and with patients who may have disease of the heart or atheromatous arteries. On the other hand, it is extremely well adapted to young children, and I have found a dose of syrup of chloral the most harmless and useful sedative in the case of infantile eczema. The safest plan is to give a moderate dose when the child is put to bed, and repeat it towards midnight, and, if necessary, again towards morning. Fifteen or twenty drops (about two or three grains) may be given with perfect safety to a child of six months; half a drachm twice or even thrice repeated in the night may if necessary be given to a child of twelve or eighteen months; and after infancy, say from two to five or six years old, half a drachm, or for older children a drachm of the syrup may be given at bedtime with safety. Again and again this treatment has been followed by the best results. In the first place the child gets rest, and in the morning is ready for food, and all its organs have profited by the natural refreshment of the night. Next, the skin has been free from

fresh irritation, and instead of being marked with the little patient's nails, is paler and less angry than the night before. All the processes of repair have had opportunity to go on ; the habit of pruritus is broken for the time, and the nervous apparatus concerned has escaped from a vicious circle of inflammation, itching, scratching, and increased irritation.

The bromides are unsuitable to infants, but with older children five or ten grains of the bromide of potassium may be sometimes added with advantage to the chloral draught, if suitably covered with syrup of lemon or orange. With adults nocturnal irritation is not usually so severe as with children, and a draught of bromide of potassium or sodium, with or without the addition of chloral hydrate, is usually sufficient when a sedative is required. Fifteen or twenty grains of ammonium bromide, with ten of the potassium salt, and twenty drops of aromatic spirits of ammonia in an ounce of camphor water, forms an effectual and not unpleasant sleeping draught.

In some cases, especially in old persons, neither bromide, nor chloral, nor a combination of them acts well. Henbane may then be prescribed with advantage, but in doses of not less than a drachm of the tincture, either alone or with a little compound tincture of chloroform in camphor water, or the tincture of hyoscyamus may be combined with that of hop. Indeed, in old persons where the irritation is not severe, and the want of sleep is rather dependent on general conditions of their age than upon pain and pruritus, two to four drachms of tinctura lupuli is a pleasant form of sedative, and may take the place of whiskey and water which the ascetic habits of the patient may render distasteful, or which habits of the opposite kind may render too agreeable. In the happily rare cases of severe and intractable pruriginous eczema in aged persons we are sometimes compelled to resort to full doses of opium as the only means of obtaining rest.

The exhibition of antimony has been recommended in the acuter forms of eczema, and in the writer's experience has sometimes proved useful by subduing vascular excitement and hastening the passage of the acute into the chronic stage of the disease.

In many cases of eczema, especially in children, the patient is thin and pale, with a poor appetite, and a frequent and

feeble pulse. It is in these cases that a little wine or malt liquor is not only admissible but often extremely useful; and here it is that the exhibition of iron finds its proper place. In the case of anæmic women with constipation the best combination is that of sulphates of magnesia and iron. For children the syrup of the phosphate, the saccharine carbonate, or the citrate of iron and quinine, are all valuable remedies. For infants steel wine is also a popular and valuable remedy, but after eight or ten years old effectual doses are too large to be convenient. In cases of great anæmia in children, especially where there is diarrhœa, no preparation of iron is so useful as the tinct. ferri perchlor., guarded, if necessary, by twice the number of drops of glycerine, or its taste concealed by a little syrup. It would almost seem as if the astringent quality of the drug had an effect upon the profuse secretion of the eczema. The result, at all events, is often striking as well as beneficial.

With the exception of iron, the group of so-called tonics are not generally indicated in the treatment of eczema. Quinine, however, has a very distinct effect, particularly in the case of infants, children, and persons below adult age, in preventing itching. Half a grain of sulphate of quinine may be given for this purpose to a child a year old an hour before bedtime, a grain if a year older, and as much as five grains to a boy or girl of fifteen. This effect of quinine I learned from the late Dr Fagge, and it is strongly recommended by Dr Eustace Smith in his work on 'Disease in Children.' This writer also recommends guaiacum in the treatment of eczema, especially where there is reason to suspect a disposition to gout.

There remains a drug which, in England especially, has been very largely and often far too indiscriminately used in the treatment of eczema, as of all other diseases of the skin, namely, arsenic. It is undoubtedly a therapeutical agent of the utmost value in psoriasis, in pemphigus, and in certain other cutaneous diseases to be afterwards described, and no one of experience can doubt its efficacy in certain cases of chronic deforming arthritis, neuralgia, idiopathic anæmia, leuchæmia, and anæmia lymphatica; but, like all powerful medicines, it may do harm as well as good. In the acute stages of eczema, in most cases where there is extensive

and active inflammation, and in most cases accompanied by severe pruritus, arsenic is decidedly injurious. In other cases, however, its success is so marked, that in spite of its frequent failures it has never lost a certain reputation in the treatment of eczema.

The first indication for the exhibition of arsenic is that the eczema must be in a chronic condition—the greatest benefit is obtained in cases which have persisted for years. Secondly, the more dry and scaly the surface, the more infiltrated and indurated the skin, the less there is of active inflammation and the less disturbance of the stomach and intestines, the more likely is arsenic to be beneficial. As a rule, children with eczema do not need it, but some of the most striking instances of its value are in very obstinate and long-continued cases in young patients. One was a boy of fourteen, who from five years old had been the subject of what by his own and his mother's testimony was really uninterrupted eczema, spreading from time to time with excessive violence from its favourite seats over almost the whole body, but never absent from the scalp, the ears, and the limbs. When he was taken into the hospital there was dry scaly eczema of the head, face, and neck, and the hair was very thin. There was eczema rimosum of the ears and axillæ, papular dermatitis of the arms and back, and eczema rubrum madidans of the abdomen, genitals, perinæum, nates, and thighs. The only parts of the whole surface free from the disease were the palms, the soles, and the shoulder. He was thin, worn, and miserable, and the whole skin was so deeply pigmented that he looked like a mulatto; but the urine was perfectly healthy, and he had no other disease than this severe dermatitis. He was carefully treated with zinc and lead ointment and unguentum metallorum as he had been before while an out-patient, but he was also given arsenic in steadily increasing doses, from three drops up to fifteen three times a day. Under this treatment the inflammation gradually subsided, and at the end of five weeks it was reduced to a little ordinary eczema of the arms. This also gradually disappeared. Meantime he had become a stout, healthy-looking lad. He from time to time appeared again with slight return of eczema, chiefly in the scalp and arms, but it never approached its former severity, and the skin

generally, instead of being thick, rough, hard, and infiltrated, with almost entire absence of subcutaneous fat, was smooth, soft, plump, and elastic, while his head was covered with a thick growth of hair.

In prescribing arsenic the following rules will be found useful:—To begin with a small dose, and gradually but steadily increase it until either obvious benefit results, or the physiological action of the drug is shown by itching of the eyes or slight nausea. When these occur the arsenic should be at once stopped, and then resumed in somewhat smaller proportion, and if necessary again cautiously increased. Secondly, it should always be given either with, or immediately after, food and sufficiently diluted with water. There appears to be no advantage in any other form of the drug over Fowler's solution. The arseniate of soda may be given in somewhat larger doses, but is probably converted into the same form during digestion. The liq. arsenici hydrochloricus is useful if we wish to combine with perchloride of iron. The "Asiatic pills" of Vienna are in every respect less eligible.

Troublesome and difficult to treat as many cases of eczema are, sometimes rebellious to the very treatment which in apparently similar cases has proved effectual, and always liable to relapses which are most trying both to patient and physician, it is nevertheless very rare for us to fail in at least relieving the miseries of an attack, and in a great majority of cases we may be fairly said to cure a disease which, without skilled treatment, would linger on almost indefinitely. Hebra concludes one of the most masterly and original chapters in his great work by saying that he who having once decided upon his plan of treatment, follows it out with patience and determination, will attain his object sooner than he who often changes the measures that he uses. We may venture to add that while keeping steadily in view the broad principles of treatment based upon rational pathology and tested by experience, the most successful practitioner will be he who knows how to vary their application in accordance with the perpetually varying needs of each individual patient.

There remain certain practical points in the treatment of local varieties of eczema which must be briefly mentioned.

Eczema of the ears is one of the commonest local forms of eczema, and is sometimes extremely troublesome. Ointments will be found almost always to suit better than lotions—lead, zinc, or equal parts of the two, or in some cases weak carbolic oil, 1 in 40. When extremely moist, powders suspended in thin gum are better than dry powders, which are almost sure to form thick crusts and produce bleeding.

Chronic *eczema of the meatus* may cause deafness by swelling or the accumulation of its products. This must be treated by syringing with soap and water and, if necessary, application of an alkaline wash followed by unguentum plumbi or unguentum metallorum made soft by an equal part of carbolic oil.

Eczema of the scalp is complicated by the presence of hair and of sebaceous secretion, and is apt to become more or less pustular. The hair should always be kept short, but shaving is unnecessary. Unguentum metallorum is commonly a good application. In the drier form of eczema of the scalp with scarcely any exudation, which is often combined with seborrhœa sicca under the name of pityriasis capitis, tarry applications are most efficient; and none is better than liquor carbonis detergens, either diluted to form a lotion, or, as I have found better, with vaseline in the proportion of a drachm or half a drachm to the ounce. Impetigo capitis will be presently considered separately.

Eczema of the eyelids and adjacent parts is apt to cause considerable inflammatory œdema which resembles erysipelas, but the colour, undefined edge, and the absence of marked febrile symptoms, together with the almost certain presence of ordinary eczema in other parts, distinguish the two.

Eczema of the lips is sometimes confined to that part, and has then a peculiar aspect, there being very little serous or purulent secretion, great swelling, deep cracks, thin scabs, and considerable hæmorrhage. When chronic, large thin scales, partly epithelial and partly dry secretion, are formed, which have led to its being called psoriasis labialis. The difficulty is to keep the parts from movement. Very mild ointments—vaseline with zinc, yellow oxide of mercury, or honey and borax—will be found useful. Deep and painful fissures should be touched with nitrate of silver, either in

strong solution or (what is less painful) with a pointed pencil.

Eczema of the palms is usually bilateral and confined to these parts, or it may persist here after it has disappeared from the rest of the body. As above mentioned, it is often directly dependent upon irritants. Having made sure that the case is not one of syphilis, the first and essential point of treatment is to protect the hand from contact with all other irritants, and especially with soap and water. For this purpose scabs, scales, and crusts should be carefully removed with sweet oil, or if necessary by poulticing. The cleansed surface should then be anointed with unguentum metallorum, and thin rags covered with the same ointment should be closely applied to each affected part. A well-fitting thin kid glove should then be worn over the whole, and the dressings should be changed night and morning only. At the end of a week the improvement will generally be striking, or if not it will be due to some neglect of the patient in uncovering his hands or in washing them. If the parts are very irritable it is better to use diluted white precipitate or yellow oxide ointment, or occasionally unmedicated vaseline will be most effectual of all. In chronic indolent cases, on the other hand, a little of the red oxide ointment will often stimulate most usefully. If there is great accumulation of epidermis it must be removed with soft soap or Hebra's diachylon ointment. Deep and painful fissures should be touched at once with lunar caustic.

Chronic *eczema of the sole* is not nearly so common. It must be carefully distinguished from a syphiloderm of those parts by the greater pain, deeper fissures, and more exclusive range. Sometimes it is accompanied by enormous hypertrophy of the epidermis, with deep bleeding cracks and horrible odour. Such cases may be cured by the application of salicylic acid in an ointment (ʒss ad ℥j) until the horny masses are removed, and then assiduous treatment with the *empl. plumbi.*

Eczema of the matrix of the nail is still more local than eczema of the palms. It is comparatively rare as a complication of ordinary eczema, and a precisely similar inflammation of the matrix of several nails is sometimes seen where

there is no other evidence of its eczematous character. The ill-formed nail may be scraped, but its removal is unnecessary and painful. The grooves around it should be carefully anointed with some form of mercurial ointment.

Eczema of the mamma is not infrequent as a local variety of intertrigo. It begins in the lower part of the breast, when it comes in contact with the adjacent skin, and is most common in stout women with pendulous breasts. The surface is raw, weeping, and irritable. The treatment suitable is extreme cleanliness, and the application of drying powders, such as fuller's-earth, bismuth, or zinc, with separation of the inflamed surfaces by a bandage supporting the breast. Eczema of the nipple will be described separately.

Eczema of the anus, perinæum, and genitals is sometimes confined to the immediate neighbourhood of the rectum. This eczema ani, prurigo podicis of Willan, lichen podicis of Hardy, is, as these names imply, most frequently dry and papular, and is apt to be intolerably itching; the irritation is sometimes most severe, especially while in bed, while the disturbance of the rest, and the remarkable effect of mental depression which is common to most of the disorders of this region, make it sometimes a truly miserable complaint. French writers describe it as sometimes associated with a profuse and almost paroxysmal discharge of mucus from the rectum. This form of eczema is most common in elderly persons, and is often associated with portal congestion, hæmorrhoids, flatulence, and constipation. In children it most commonly depends upon the presence of threadworms. Occasionally it is started by fissure of the anus, and disappears when this has been cured by division of the sphincter.

The scrotum and penis are frequently the seat of eczema, most often of the weeping form. Eczema vulvæ closely resembles eczema ani in its symptoms, and, like it, most frequently affects persons beyond middle life. It is sometimes associated with, and probably dependent upon, diabetes, and sometimes appears clearly due to inflammation, new growths, or degenerative changes in the uterus or bladder.

Eczema of the anus, perinæum, or genitals often proves very rebellious, and leads to great thickening and induration of the

parts affected. Borax lotion or lead ointment, according to the degree of moisture, relieve, perhaps, more frequently than other applications, but this is one of the forms in which one must be content with tentative measures in each patient. Dilute tarry lotions (*e. g.* liq. carb. det., ʒss ; aq. rosæ, ℥j) are often useful, or dilute hydrocyanic acid. In some obstinate cases a drying lotion of nitrate of silver proves effectual when other means fail.

For the *intertrigo* of infants, finely powdered starch and oxide of zinc or chalk with a little boric acid is the best application. When it affects the fold of the nates in adults it is better treated by extreme cleanliness and the application of vaseline or diluted white precipitate ointment. Glycerine to most skins proves an irritant rather than a healer.

Eczema of *the legs* due to *varicose veins* must be treated like varicose ulcers, by elevation and bandaging. An old-fashioned flannel bandage often proves a cheap and efficient method. Martin's elastic bandage often produces the most valuable results, but in wearing it or an elastic stocking care should be taken that the pressure is not too great.

Eczema of the nipple, Dermatitis mamillæ.—Most cases which were formerly described under this title were probably examples of what is now generally known as "Paget's disease of the nipple." Its characters were graphically delineated by Sir James Paget in the 'St. Bartholomew's Hospital Reports' for 1874. In his original fifteen cases, cancer developed as a sequela within two years, marked by retracted nipple and its other symptoms.

The appearance of the affected nipples is at first that of superficial dermatitis, with an intensely red, raw surface, minutely granular, and pouring out "a copious, clear, yellowish, viscid exudation." The border is more sharply defined than is usual with eczema, and it is said to be thickened from the first, feeling, as Mr Henry Morris puts it, like a penny in a fold of cloth. In any case this induration of the edge is present in the later stages of the malady, and is the precursor of invasion of the ducts and the whole glandular tissue by ordinary alveolar carcinoma. The supervention of cancer has sometimes been delayed until more

than two—six or even ten—years have elapsed after the eczema appeared; so that it is doubtful whether the cancerous growth should be regarded as more than a frequent result of the chronic cutaneous irritation.

A parallel case has been reported by Dr Crocker, where a patch of eczema of the scrotum in a man of sixty ended in the development of cancerous nodules ('Path. Trans.,' 1890); and the process is familiar to surgeons in the case of cancer of the glans penis, of the lower lip, and of the tongue, following chronic and apparently innocent inflammations of the same parts.

The anatomy of the disease has been investigated by Butlin, Thin, Bowlby, and other histologists ('Med.-Chir. Trans.,' vol. lxxiv, 1891), and many cases have been published on the Continent and in the United States (see 'American Journal of Med. Sc.,' July, 1884).

M. Darier brought before the Congress of Dermatology which met at Paris in 1889, remarkable microscopical observations of the presence of psorosperms (*coccidia*) in the epithelial cells of this disease, before as well as after cancerous changes begin. The amœba-like parasite is described by Louis Wickham in his *Thèse de Paris* (1890) as recognisable in an early stage by appropriate staining in the substance of the cells, and as subsequently becoming encysted, glistening, and readily seen. The development and transformations of these organisms have, however, not yet been worked out: they do not appear to be identical with the psorospermia of the liver in rabbits, and some good histologists still doubt their parasitic nature.

The patients are usually women who have arrived at, or passed, the climacteric age. There is at first no special pain, and but little irriration.

It is most important to treat every case of eczema of the nipple as early and sedulously as possible, even when it does not offer the non-characteristic features above described; but when the raised and indurated edge is present, the best plan is probably complete destruction of the diseased surface by caustic.

Eczema marginatum.—The affection of the thighs and

buttocks so called is really a form of ringworm, and will be described under parasitic diseases.

Epidemic eczema, Infective dermatitis.—Acute eczema running a self-limited course and affecting many persons in a house at once has been described on several occasions. It is better to separate such cases from ordinary eczema, and they will be again described under Pityriasis rubra.

Pustular Dermatitis.—*Impetigo capitis, Pustular eczema of the scalp,** is one of the most frequent diseases in children. It was known to our forefathers as "scald-head," but has happily become far less common than it was when children's heads were more neglected than at present, and especially when the bad habit prevailed of covering the scalp with caps and linen hoods, indoors as well as out, by night as well as by day. The majority of cases perhaps are due to the irritation of pediculi capitis, but there remain a large number where no such cause can be found, and where a similar eruption upon the face or other parts establishes its independent character. There is no doubt that we are right pathologically in counting these forms of dermatitis as belonging to eczema.† They are superficial and never leave scars; they are often associated with ordinary characteristic eczema of the ears, the limbs, or the trunk, and the same child may be affected at one time with what will be called impetigo of the face or scalp, and at another with eczema of the same parts; or in an infant with ordinary eczema of the scalp the dermatitis will be seen to become more pustular as the hair grows thicker over the head until it has assumed all the characters of the porrigo favosa of older writers. Nor need the fact that this dermatitis of the scalp is often dependent upon dirt, lice, and other irritants, prevent our regarding it as true eczema, if the principles above laid down (p. 20) are correct. That something beside a traumatic cause, an *irritabile* as well as an

* *Syn.*—Porrigo—Eczema impetiginoides.

† Even Willan says, "The affinity of impetigo with the vesicular diseases is manifested by a common variety of it in the upper extremities, in which the psydracious (p. 11) pustules are mingled with transparent vesicles resembling the pustules in size and form."

irritans, is necessary for the production of impetigo, is proved by the fact that some children and most adults may have pediculi capitis for many years, and may even suffer from the irritation and yet be free from impetigo.

We have already mentioned the best treatment for impetigo of the scalp when associated with ordinary eczema. The children who are the subjects of it are often rosy, plump, and in every way healthy, though here as in other cases it is necessary to judge by the trunk and limbs as well as by the

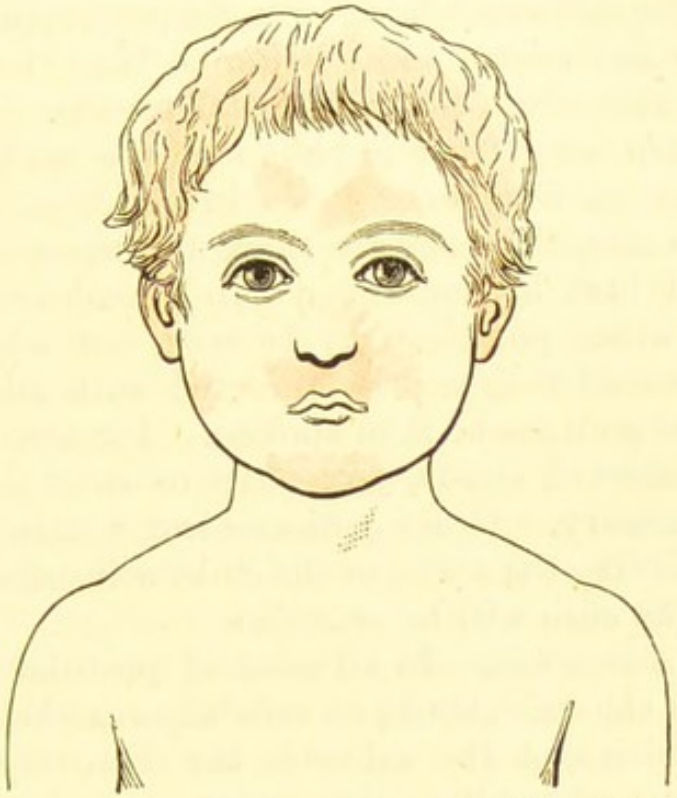


FIG. 5.—Distribution of impetigo in a child.

face. If, notwithstanding fat cheeks and ruddy complexion, the child is found to have flat shoulders and nates, thin arms and thighs, apparently disproportioned knees, and ill-developed pectoral muscles, his impetigo should be treated not only with equal parts of ung. zinci and ung. plumb. acet. or ung. metallorum, but also by careful attention to diet, by Gregory's powder, with or without a little grey powder, and when the digestive disorder is corrected, by cod-liver oil.

Impetigo affecting the scalp or face alone without ordinary eczema, and in a healthy child, is happily not difficult of cure. Indeed, apart from the purely pustular secretion, from

the eruption being discrete and with a defined margin, and from the absence of severe itching, these typical cases of impetigo are separated from eczema by the fact that they are not prone to recur. Zinc ointment is a popular remedy for the eruption, but its efficacy is much increased by the addition of equal parts of white precipitate ointment or by the substitution of unguentum metallorum. The hair should be cut short, but there is no need to shave it, and the parents may be assured that it will grow all the better afterwards. It is only in extremely rare cases after the inflammation has penetrated to the hair-sacs, owing to a deeper suppuration of the scalp from too strong local irritants, that the hair-sacs are destroyed, and a bald cicatricial patch results. Such an event is more often seen from impetigo of the scalp in an adult than in the far commoner cases in children. When, as is usually the case, the scabs are thick and massive, they should be removed first by poulticing. In circumscribed cases the bread and water poultice may be used, but where the whole scalp is covered it should be anointed with linseed oil and a large linseed poultice be then applied. For circumscribed and strongly adherent crusts, soft soap or even liquor potassæ may be necessary. Great patience and gentleness should be used in removing the scabs, or the child will suffer considerable pain, and the cure will be retarded.

Impetigo a pediculis.—In all cases of pustular inflammation of the scalp the hair should be carefully searched for pediculi. Equally decisive of the cause is the discovery of the nits, which consist of small triangular cases containing the eggs made of hard material, in colour and consistence like dried size, adhering to the hairs by one side of the triangle, and visible to the naked eye. The impetigo which results from their presence is produced more by the scratching of the patient than by the irritation of the lice. It affects the back of the scalp chiefly or exclusively, and is attended with great consecutive swelling of the posterior cervical lymph-glands. Indeed, occipital impetigo is almost synonymous with impetigo a pediculis.

The prognosis is good ; for, with efficient treatment, this local pustular dermatitis from an irritant disappears like scabies, instead of persisting like idiopathic eczema.

The treatment is decisive and efficient. In bad cases the whole of the long, tangled, and filthy elf-locks should be cut off, and the head washed with soap and water; but in slighter cases it is not necessary to cut the hair at all. The noxious insects are readily destroyed by mercurial washes, but an equally efficient and harmless remedy is the stavesacre ointment (℥ij ad ℥j). Common petroleum oil is also a cheap and efficient parasiticide, or if the hair is cut short, as is much the best plan in hospital practice, the white precipitate ointment which cures the disease will also kill the vermin. The egg cases are less easily attacked, and might be sources of future trouble. They must be either combed off, or removed with spirits of wine, or cut off, hair and all. The impetigo which results from pediculi will sometimes heal spontaneously as soon as they are removed, but usually unguentum metallorum, or white precipitate ointment, diluted to 1 in 3, hastens recovery.

Contagious porrigo.—This form of impetigo of the scalp has been separately described, and some authors have laid much stress on its distinction both from pustular eczema and from impetigo from pediculi, but no sharp line can be drawn. All impetigo is more or less traumatic and more or less eczematous, and all impetigo is more or less contagious. Nor is it in the scalp alone that contagious pus is secreted. The most virulent of all is the pus of a gonorrhœa; but no one can doubt that even it is of varying degrees of activity, when we consider the frequency of the urethral inflammation compared with the comparative rarity of gonorrhœal ophthalmia. Leucorrhœa is supposed as a rule to be non-contagious, and no doubt with justice, but the most experienced surgeons admit the possibility of infection from an idiopathic and apparently innocent discharge. Again, the pus of boils is extremely contagious, and is often the source of what is called ecthyma. The pus of scabies, too, is contagious. So also a whitlow on a child's finger or a "gathering" on a barked shin may cause by contagion impetigo of the hand, of the nates, and sometimes of the scalp. Impetigo *a pediculis* often secretes pus of a most actively contagious kind, the proof being not only in the outbreak of similar pustules on other parts of the child's body, especially the fingers and the buttocks, but also in the

spread of the disease to other children of the same household. Most cases of impetigo are only slightly if at all infectious, whereas in others a whole family or a whole street may be infected from a single case. It is said that the most contagious forms of impetigo are characterised by thick yellow scabs, by a sharp line of demarcation, and by readiness of cure by local means, as well as by absence of itching, by restriction to the scalp and face, and by being practically confined to children; but these are only the characters of impetigo generally, as distinct from ordinary eczema. The contagious quality of pus depends on the presence of one or more species of *Staphylococcus*.

*Impetigo of the face and elsewhere.**—Groups of small pustules are often seen on the face of children with no similar affection of the scalp. They are more common about the nostrils and lips, but are also seen on the cheek, ear, chin, or forehead. The disease may spread to the trunk and the fingers, no doubt by contagion. It occurs in healthy children, and there is no evidence that "their blood is out of order," and that "they have eaten too many sweets." If pale and thin they should be given steel; but usually without such help, the application of dilute white precipitate or red oxide ointment (see Appendix) or ung. metallorum effects a speedy cure.

* Impetigo figurata, Porrigo larvalis (when the pustules run together and form a more or less continuous crust like a mask over the child's face), Porrigo favosa (when the exudation is sticky like honey).

SCABIES*

History—Importance of the disease—Its nature—The acarus—The superficial dermatitis it produces—The distribution of the parasite and of the inflammation—Diagnosis—Treatment.

THE last variety of common superficial dermatitis is one which may be called traumatic or parasitic eczema, for it is anatomically identical with eczema and impetigo as described in the last chapter. But it depends directly and exclusively on the presence of an irritant, namely, the invasion of the skin by a parasitic insect (or rather mite). Hence its distribution, ætiology, prognosis, and treatment are different from those of idiopathic or true eczema as above defined; and on clinical grounds—which should always decide classification—we accordingly place it apart.

Definition.—Superficial dermatitis, set up by the presence of a parasitic acarus and the patient's scratching; papular, vesicular, and pustular, with intense irritation and characteristic distribution.

History.—This curious disorder is extremely common, almost as common as phthiriasis over the whole globe, and has been well known from the earliest times, though its origin has only recently been discovered. It was called Scabies by the Romans, though no doubt the term was applied to many itching disorders of the skin in men and animals which were not parasitic.

It is possible that the Greeks were acquainted with the acarus, for Aristotle describes φθείρες (*i. e.* pediculi) as coming out of little pimples which contain no pus ('Hist. Anim.,' v, 138). He applies the special term ἀκαρί to the cheese-mite (*ibid.*, v, 144). The *Acarus scabiei* was recognised in the

* *Synonyms.*—The itch.—*Gr.* ψώρα.—*Lat.* Scabies, psora.—*Fr.* La gale.—*Germ.* Die Krätze.

sixteenth century. Thus Rabelais (1483—1553): "*Mais d'ou me vient ce ciron icy entre ces deux doigtz?*" Ingrassias (1570—1580) described "lice which burrowed under the skin;" and Hebra quotes a passage from the famous French surgeon Ambrose Paré, living at the same time (1570—1590): "*Les cirons sont petits animaux toujours cachez sous le cuir, sous lequel ils se trainent, rampent et le rongent petit à petit, excitant une fascheuse démangeaison et gratelle.*" In Thos. Moufet's 'Insectorum Theatrum' (Lond., 1634) he writes, "Latine *pediculi*, gallice *des cirons*, . . . Anglice *mites* in caseo, foliis, ligno arido, atque cera; sed in homine *whealewormes* dicuntur. Sunt pediculi, subter manuum crurumque et pedum cutem serpentes, et pustulas ibidem excitantes aqua plenas: tam parva animalia ut vix visu perspicaci discerni valeant." This account seems to have been taken from an Arabian writer, Abenzoar (Ebn Zohr).

Though once scarcely accounted worthy of a place in nosology, and though without the interest of danger, scabies is really one of the most important diseases from a scientific point of view; for it illustrates the whole progress of scientific medicine,—the ancient method which still survives of inventing explanations instead of investigating circumstances, the fallacy of ascribing results to dyscrasiæ of which the existence has never been proved, the survival of doctrines in pathology which have long been exploded in physiology, the value of apparently useless knowledge, the bearing of pure sciences like zoology upon practical therapeutics, the nature of inflammation and the relation between an irritant and an irritable tissue, the radiation of sensations, the pathology of pruritus, and the importance of a patient's nails in the production of cutaneous lesions. Finally, scabies is the typical example of a disease which is now as fully known as we can, perhaps, know any disease—for we know its pathology and cause, we can explain its symptoms, we can diagnose it with certainty, and, although the hypothetical *vis medicatrix naturæ* is utterly powerless, we can cure it by definite and rational means, quickly, safely, and completely.

Scabies, like the affections which have hitherto occupied us, is a superficial dermatitis: in the character of its lesions

it may even be called a common superficial dermatitis, for they do not essentially differ from those which will be produced by any common mechanical or chemical irritant of sufficient energy, and are exactly comparable in their anatomy to the vesicles of eczema, the papules of lichen or prurigo, the bullæ of pemphigus, and the pustules of impetigo. Hebra, therefore, since, as we have seen, he called all common superficial dermatitis of traumatic origin "eczema," logically describes scabies as a form of eczema. But, as explained on a previous page, eczema is not a mere traumatic dermatitis, and scabies must be separated from all other diseases because its cause, its prognosis, and, above all, its treatment, are totally different.

The itch-mite.—The living cause of this disease is the female itch-mite now known as the *Sarcoptes hominis*, formerly as the *Acarus scabiei*, belonging to the acarine division of the class Arachnida. It has four pairs of legs (which at once distinguish it from parasitic insects), and is clothed in a chitinous integument furnished with abundant bristles. The male acari, which are smaller in size and much fewer in numbers, live upon the surface of the body, but do not burrow. The female, after impregnation, digs her way into the integument, forming a straight, curved, or sinuous *cuniculus* (mite-burrow, *Milbengang*, *sillon*, or "run"), which is visible to the naked eye as a slightly raised ridge, with a dark depression at one end (the entrance clogged with dirt) and a papule or small vesicle at the other, where the parasite lies.* This is the deeper part of the burrow in the Malpighian layer of the epidermis; the acarus never penetrates the vascular cutis. A lens of low power shows these characters more clearly, but it is comparatively rare to see the runs perfectly developed, for they are injured by the inflammation set up, by the patient's scratching, by friction, and by dirt. When fresh they are best seen in the soft skin between the fingers and on the ulnar and palmar side of the wrist, still better when present in the skin of the prepuce and

* Compare the figures given by Dr Bristowe in his 'Practice of Medicine' with those of M. Hardy in his recent 'Traité des Maladies de la Peau.' The writer's experience is that short straight runs are more frequent than would appear from either of these figures.

penis, or in that of the mammary gland in women. In children their locality is less certain, and they are much less easily found. With quick eyes and a little dexterity the burrow may be laid open with a needle from the entrance to its blind extremity, and the acarus extracted, a minute white grain just visible to the naked eye. It generally clings to the point of the needle, but a microscopic slide with a drop of water, glycerine, or liquor potassæ should be ready to receive it. The needle should be sharp, stout, and not too long or elastic ; some prefer the broader needle of the oculist. Another plan is to excise the parasite, burrow and all, by means of a sharp pair of scissors curved on the flat. The winding passage can then be demonstrated, with the black granular fæces of its inhabitant, and often with a row of oval eggs in chitinous cells, which are laid one by one as the acarus bores deeper into the skin. Sometimes the scissors fails to secure the parasite, but proves its presence by that of one or more of its ova.

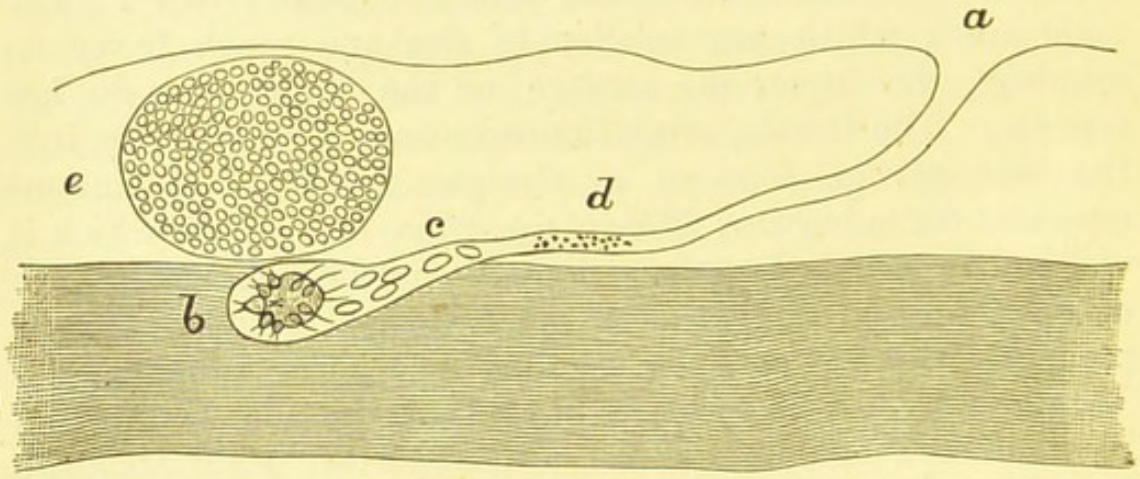


FIG. 6.—Diagram of a mite-run in section. *a*. Funnel of entrance. *b*. Extremity with female acarus. *c*. Ova. *d*. Droppings. *e*. Inflammatory vesicle.

The dermatitis.—The presence of the acarus produces irritation which in most cases is intense, equal to that of the most irritable eczema or the worst kinds of prurigo ; but often it is comparatively slight, only annoying the patient after he is warm in bed, when the skin is more vascular, the papillæ more sensitive, and possibly the acarus more lively, while the patient has nothing to divert his attention from his

own sensations. The degree of inflammation also varies extremely, and cannot always be explained by the more or less severe scratching of the patient. As above stated, there is usually a small vesicle formed at the end of each run; but beside these, large vesicles, bullæ, and pustules frequently follow, first on the hands and then (probably through transfer of pus and serum by the patient's fingers) on various other parts of the body. Small acuminate papules are also very characteristic, and not less so are the scratch-marks, often accompanied, especially in children, by wheals like those of urticaria. In severe cases of scabies the dermatitis may be intense, both hands and arms swelling as if with phlegmonous erysipelas; or arms, hands, legs, and feet may be the seat of weeping, raw surfaces like those of eczema madidans; the lymph-glands of the axillæ and the groin become swollen and painful, and the excessive itching is at last replaced by the smarting and tingling of acute dermatitis. More often, especially in children, the pustules resemble impetigo or ecthyma, and form as they dry up thick scabs and crusts. In chronic cases—for unhappily we often see scabies which has lasted for weeks and months without detection, and has been therefore ineffectually treated—the skin becomes thickened, indurated, hard, scaly, and fissured, resembling the condition of the more chronic forms of dry eczema. Bullæ as large as those of pemphigus are less frequent lesions of scabies, but are not uncommon in children. A case was described in the 'Guy's Hospital Reports' for 1877, p. 164. In fact, we may say that any of the inflammatory lesions of eczema, erythema, urticaria, pemphigus, impetigo, ecthyma, and lichen, may be more or less perfectly represented. The large, flat, and discrete papules of prurigo, the imbricated scales of psoriasis, and the thin, dry, abundant squames of pityriasis rubra are never simulated by scabies.

Localisation.—The acarus itself infests the thin skin of the hands between the fingers, the flexure of the wrist, particularly its ulnar side, the flexor surface of the front of the forearm less frequently, the foot and ankle occasionally, the axilla and the groin, the genital organs, the inner part of the thigh, and the fold of the nates. But the lesions indirectly caused by its presence have a far more extensive though perfectly

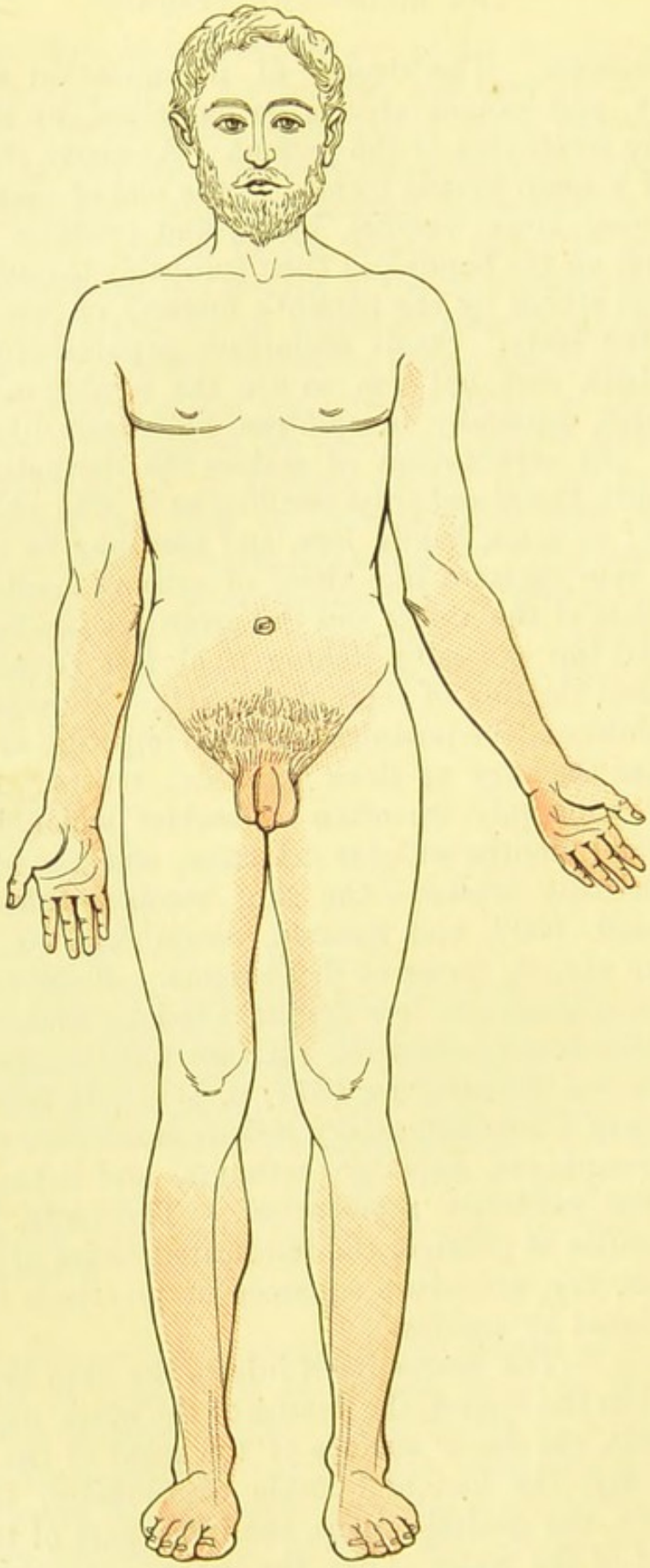


FIG. 7.—Distribution of scabies in the adult.

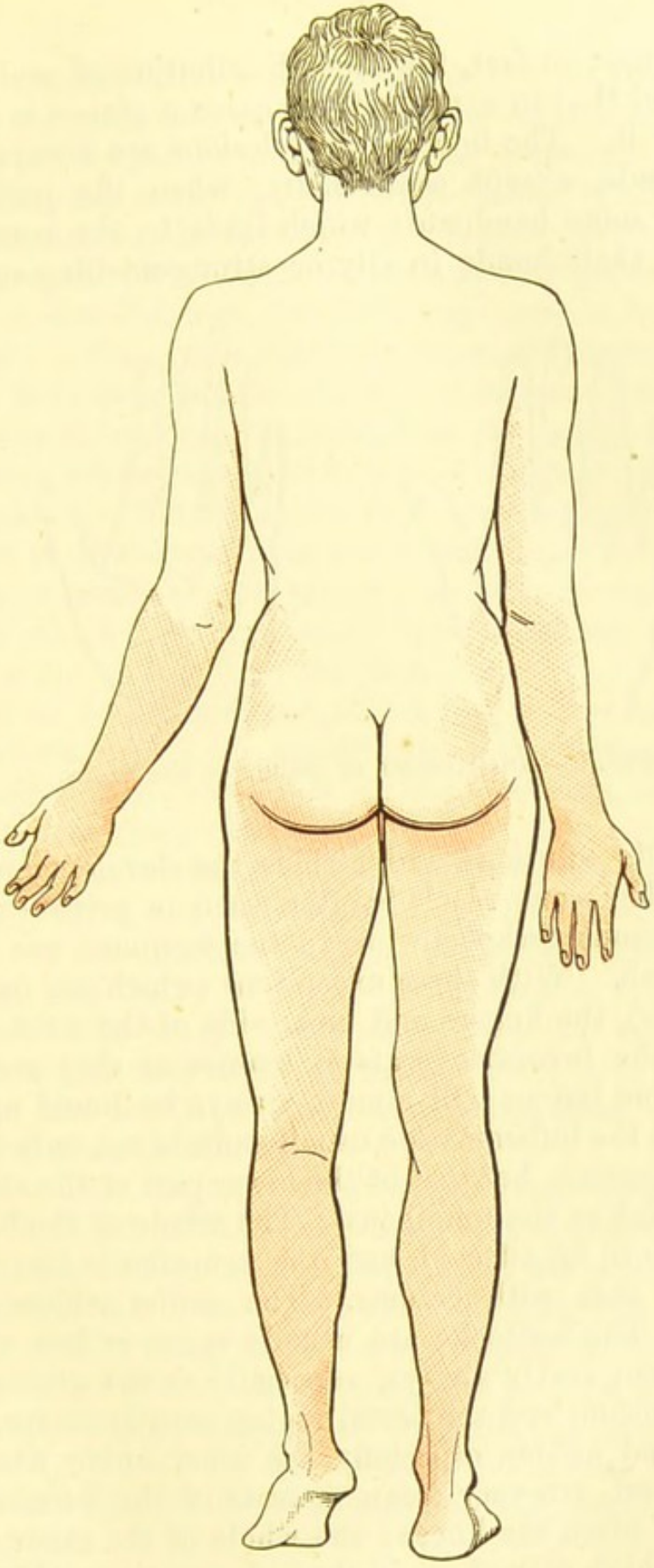


FIG. 8.—Distribution of scabies in the adult.

definite range; in fact, the local distribution of scabies is so well marked that in a majority of cases a glance is sufficient to identify it. The inflammatory lesions are always present on the hands, except occasionally, when the patients are engaged in some handicraft which leads to the constant immersion of their hands in oily or strong-smelling substances

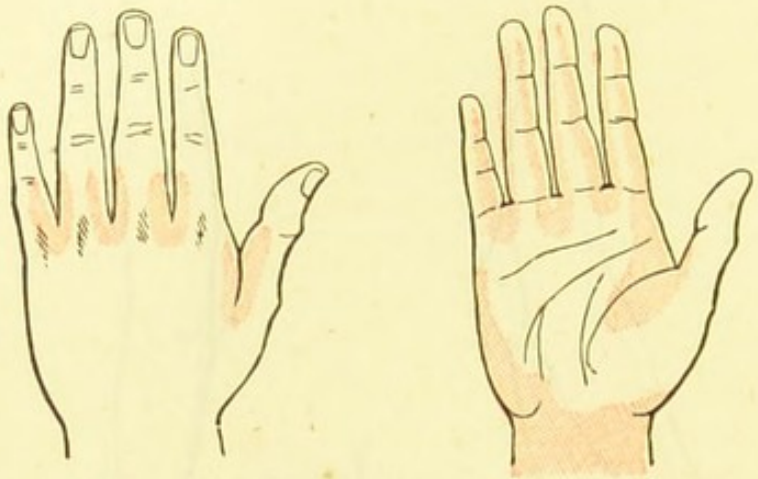


FIG. 9.—Distribution of scabies on the hands.

or in metallic solutions, and forbids the development of the parasite. The same result is often seen in private patients, where the hands escape owing to the frequent use of soap and nail-brush. With these exceptions (which are important for diagnosis), the fingers and ulnar side of the wrist may be said to be the favourite seats of scabies as they are of the acarus. Some lesions will almost always be found upon the prepuce, and the inflammation usually affects not only the thin skin of the genitals, but that of the lower part of the abdomen, at least as high as the umbilicus. The whole of the forearms is very liable to be affected, and the eruption is less defined than is the case with eczema. The axillæ seldom escape altogether. The buttocks are usually more or less affected, and in children nearly always, especially at the gluteal fold; but the perinæum and the sacral region usually escape. The toes, feet, and ankles, especially the inner ankle where the skin is thinnest, are very frequent seats of the dermatitis of scabies; less often the knees; the whole of the inner side of the leg and thigh may share in the inflammation. The back, shoulders, and chest are but little affected, the thick or hairy

skin being apparently less favorable to the parasite. The neck, face, ears, and scalp almost invariably escape, in striking contrast to the frequency of eczema and impetigo in these parts; and the only exceptions are in children. Why the skin of the face is shunned is hard to say. It is not more exposed to the air than the hands, it is as thin and delicate and vascular as that of the abdomen, but for some cause it is shunned by the acarus. May it be that the large sebaceous sacs and thick cutis with thin cuticle which are characteristic of the face, as of the shoulders, the chest, and the scalp, furnish a fatty secretion which repels the invader? It is probable that when pustules are found on the face they are produced by transference of the contagious pus from other parts rather than by the presence of the acarus: at least in one case of my own in which runs and acari were abundant on other parts none could be found on the face.

It has often been remarked that a line drawn across the waist and elbow of a man standing in "the first position" will have below it the regions of scabies acarorum, and above it those of prurigo pedicularis.

In children, localisation of scabies is much less strict than in adults, as is the case with eczema and psoriasis, and probably from the same reason (p. 16). Only in children is the face affected (see figure of a case published in the 'Guy's Hosp. Rep.,' 1877, pl. i); the hands frequently escape, and runs are found as well or better on the ankle or in the skin of the sole; the trunk, and particularly the nates, are often more affected than the limbs.

Diagnosis.—This depends on a recognition, first, of the characters of the dermatitis, next of its very constant localisation, and thirdly of the cuniculi, the ova, or the acarus. The general facies of the disease is so characteristic that nine out of ten cases will be recognised in a moment when the patient is stripped, but in private practice anyone may be thrown off his guard who is accustomed to diagnose by probabilities rather than by facts. As Sir William Gull said, there are three diseases which we all sometimes overlook,—phthisis and syphilis and itch.

Where the inflammation has completely obscured all trace of acari, the existence of the itch-mite may be proved by

removing the crusts, boiling them in solution of potash or soda, and allowing the dissolved mixture to stand in a conical glass. On decanting and removing the deepest layer with a pipette, fragments of the chitinous skeleton may be recognised.

It need not be said that scabies is always *contagious*, and its occurrence in an entire household often leads to its recognition. It is remarkable, however, how cases may remain isolated, and we must remember that impetigo and prurigo (pedicularis), not to mention variola and varicella, may also be contagious. The mode of transference is not always easy to follow; direct contact of hands is probably one method; often the ova are conveyed by clothes or other articles of constant use. Bed-fellows seem particularly liable to infection. There is no doubt that scabies is frequently a venereal disease, the acarus having first invaded the genital organs.

Treatment.—Experience long ago discovered that sulphur is good for the itch; it is an effectual poison to the acarus, and all we need is the best method of applying it.

The general practice is inunction of unguentum sulphuris into the affected parts, especially those which are the chief seat of the acarus. The colour of the application may be disguised, but its smell is always unpleasant. Sulphur lotions or sulphur fumigations may be substituted, but neither are so effectual. The best method is for the patient to rub the ointment well in every night, to lie in merino clothing all night, and next morning to wash with hot soap and water, and apply a little dilute ointment to the most irritable parts.

A rapid cure may be effected by first rubbing the skin with soft soap so as to remove crusts and epidermis, and then using thorough sulphurous inunction. In this way patients are cured in a few hours at St Louis on a large scale, and their clothes meanwhile are baked and washed. This last precaution is important, since otherwise the patient may readily reinfect himself from his own clothing. With private patients the disease rarely gains such extension by neglect as to be severe, and its cure is usually quick and easy.

It may, however, happen that the sulphur ointment is itself too irritating; so that, although it kills the acarus, it perpetuates or sets up a fresh and even more severe dermatitis.

One often sees these cured but over-treated cases of scabies, and all that is necessary is to recognise their nature.

With children, diluted ointment, two to one, or equal parts —in infants with much dermatitis one to two,—are the best proportions, the dilution being made with benzoated lard or with zinc ointment.

In slight cases, especially in children, balsam of Peru is a pleasant and generally an efficient parasiticide.

PAPULAR FORMS OF CHRONIC SUPERFICIAL DERMATITIS

(*PIMPLY TETTERS*)

Definition—Relation to common dermatitis and to eczema.

LICHEN—*Its traditional species—Lichen circumscriptus—tropicus —pilaris — lividus — agrius — urticatus — hypertrophicus — Strophulus—Lichen scrofulosus—Lichen planus et ruber.*

PRURIGO—*Pruritus—Summer and winter prurigo—Prurigo senilis a pediculis—Idiopathic prurigo: Hebra's and milder forms—characters and treatment.*

THE group of diseases to be now described is far from being natural or well defined. They agree with eczema in being inflammatory, in beginning as papules, in affecting only the epidermis and the papillary layer of the cutis, so that they never leave scars, in their essentially chronic course, in the itching rather than pain that they produce, and in their persistence and liability to recur.

But they differ in the following important points:—(1) The inflammation never goes on to the stage of exudation either of serum or of pus; they are all "dry tetters." Even when, as the result of scratching, common inflammatory exudation follows, the pustules or raws thus produced are limited by the cause, and only assume the form of eczema or impetigo for a time. (2) They are much less symmetrical, and rather avoid than choose the favourite places of eczema. Their locality may be said to be undefined and widely diffused, but they affect rather the trunk and the outer side of the limbs than their flexures.

It will be convenient to deal with all the traditional

"papular diseases" together, different as they are in pathology. Of the whole group only two can be said to be natural and well-defined morbid types, with a characteristic anatomy, course, and habitus: these are *Lichen planus* and *Prurigo senilis*.

Willan, who first strictly defined the term papulæ, admitted three genera of papular diseases—Strophulus, Lichen, and Prurigo; and of these names the latter two are still in general use.

LICHEN.—The word Lichen (λειχήν, translated by the Latin word *impetigo*) was applied in Greek to any moss or "lichen" that grows on stones or trees, and also to any more or less similar rough "efflorescence" on animals or man.* The term is very commonly used in the Hippocratic and Galenical writings and by Celsus and later writers, but without stricter definition than the following: "*Lichen* est summæ cutis vitium ut *psora et lepra*, cum asperitate et levi pruritu; deterius quidem Pruritu, Psorâ autem et Leprâ levius." Many dermatologists express by the term Lichen a papular dermatitis which by subsequent more or less free exudation of moisture, or by its symmetry, or by its association with previous or later attacks of ordinary eczema, proves itself to be more properly termed papular or *abortive eczema*. Its pathology, natural history, prognosis, and principles of treatment are precisely those of the drier forms of eczema. It most often affects the arms and legs, and the extensor rather than the flexor aspect.

Willan's definition is—"An extensive eruption of *papulæ*, affecting adults, connected with internal disorder, usually terminating in scurf, recurrent, not contagious." Bazin divided lichen, according to its origin, into parasitic, dartrous, herpetic, scrofulous, and syphilitic—a good example of his classification and pathology.

The term by itself has no meaning beyond "a papular eruption," and should therefore never be used without a qualifying adjective. We shall for convenience describe here the affections commonly called by this name.

* So Æschylus (Choëphori v, 281):

σαρκῶν ἐπαμβατῆρας ἀγρίαις γνάθοις
λειχῆνας, ἐξέσθοντας ἀρχαίαν φύσιν.

*Lichen circumscriptus** was the name given by Willan and Bateman to a peculiar and characteristic disorder. It occurs upon the trunk, usually between the shoulders, but may spread over great part of the back, or may affect the chest or abdomen. The papules are small, red, and arranged in patches with somewhat well-defined margins. It is not very irritable, and rarely, if ever, ends in ordinary moist eczema.

Many cases which have been described under this head are probably nothing but papular dermatitis, or local eczema, depending upon the irritation of decomposing sweat. The locality between the scapulæ and on the front of the chest is just where sweat accumulates ; the eruption is most common in summer, and in persons who sweat freely ; moreover, with the papules true vesicular sudamina may often be detected. But apart from this, it must be admitted that there is a distinct, though somewhat rare, circumscribed papular dermatitis, which, from the shape of its patches and from their spreading at the edge while the centre returns to its natural condition, reminds one of spots of tinea. Parasitic fungi are apt to occur in the locality and under the conditions named, as in tinea versicolor, but the affection under consideration is certainly distinct from tinea versicolor.

Dr Payne has pointed out that it is usually associated with wearing thick woollen vests, often night as well as day, and calls it flannel-rash.†

The areæ of the circles present a yellowish tint (*Eczema*

* *Synonyms.*—Lichen annulatus (Wilson)—L. marginatus (Liveing) —L. circinatus—Lichen acnéique—Eczema flavum—Seborrhœa of the trunk (Duhring)—Seborrhœic eczema.

† The following are Dr Payne's observations :—" In Dr Colcott Fox's interesting remarks (Jan. 8th) on a peculiar form of lichen, called L. annulatus by Erasmus Wilson, it is not stated that this is really the disease called Lichen circumscriptus by Willan and Bateman, and figured by the former in 1808, so that his name clearly has the priority. It has also been called L. circinatus and L. marginatus, and, as such, is described by Dr Liveing. For so unimportant a disease, the number of synonyms it has received is remarkable; it being also known as lichen acnéique, eczema flavum, &c.

" Which of the three names—lichen, eczema, seborrhœa—should be retained ? I have described several cases in the ' St Thomas's Hospital Reports,' 1884 and 1885, and have suggested that, as the disease is not really either lichen or eczema, a neutral name, such as ' circinaria,' which does not beg the question, would be preferable " (' Brit. Med. Journ.,' January 22nd, 1887).

flavum), and are sometimes covered by branny desquamation. When several circles combine they form irregular lines, and the eruption thus formed was called *Lichen gyratus* by Biett and Cazenave. Two of Mr Towne's models in the Guy's Hospital Museum (Nos. 267, 268) show this affection perfectly.

This affection may be frequently seen in young men or young women, never in children or persons over fifty. The patients are usually cleanly, and, in fact, appear almost as often in private practice as at the hospital. Since the eruption generally does not itch much, and is most marked where it is not seen, one often comes upon it accidentally when examining the chest. In every case the patient has been wearing a thick woollen jersey next the skin, and almost always another or even the same has been worn at night.

Duhring and other American dermatologists regard Willan's Lichen circumscriptus as the result of irritation of the sebaceous glands, and call it Seborrhœa corporis; and seborrhœa capitis is present in most cases that the writer has seen. On this point Dr Payne remarks, "(1) that this affection is certainly often associated with seborrhœa of the scalp; (2) that minute examination undoubtedly shows that the starting-point of each so-called papule is a sebaceous gland; (3) but that it is not accurately described as merely seborrhœa or excessive secretion. The bright red colour of the papules or margins of the patches, which strikes every observer, depends not only on hyperæmia, but on dilatation and elongation of the capillary vessels, which project above the skin level, as in psoriasis. Hence it is that slight scratching causes hæmorrhage. This is something more than over-secretion. A few cases, in which the eruption existed on the limbs as well as on the body, I believe to belong to a different disease, apparently identical with *Pityriasis rosea* of Gibert."

The aspect of L. circumscriptus is like that caused by a parasite; but, though often looked for, none has yet been found that is at all distinctive.

After shifting the underclothing, free use of soap and water with liq. carbonis detergens as a lotion (1 in 10), or an ointment (ʒij—ʒj), is speedily effectual in curing the disorder.

The form of lichen described by E. Wilson, and also by Hardy (*lichen circonscrit*), affecting the extensor aspect of the

forearm and the back of the hands, and running an acute course, should probably be regarded as eczema papulatum.

*Lichen tropicus.**—The writer has seen only three or four cases of this curious affection, so well known in the East and West Indies under the name of *prickly heat*. It occurs also in Australia and on the West Coast of Africa. Its characters are the sudden appearance of the eruption, its almost universal distribution, and the intense irritation it produces. It is said to affect blonde more than swarthy persons, and whites more than blacks. After once attacking a patient, it is apt to return with each hot season until the patient is acclimatised, and, though usually cured by a temperate climate, it sometimes comes before us in England. In the cases referred to the eruption has been entirely papular, with no other lesion but scratch-marks or occasional wheals. The parts most affected were the abdomen, buttocks, and thighs. The face and scalp, the hands and feet, and the genital organs seem to be usually free. One must speak doubtfully about a disease of which the personal experience of an English physician is small; but from its acute character, the absence of moisture, and its un-eczematous distribution, it is at present best classed as a form of papular dermatitis. The small red papules are frequently associated with sudamina.

It was once supposed of prickly heat, as of other eruptions of the skin, that driving it in by a cold bath was extremely dangerous; but more than fifty years ago Dr James Johnson, who gave a graphic account of it in his own person, justly ridiculed this superstition.

The late Dr Tilbury Fox regarded this disease as essentially an *adenitis* of the sweat-glands, the direct result of excessive heat and perspiration; and Dr Duhring, of Philadelphia, in his excellent text-book of dermatology, calls it *miliaria papulosa* on the same theory. Whatever its pathology, it has no affinity to any acknowledged form of lichen.

Lichen pilaris was a name applied by Willan to a familiar condition which is, however, not a dermatitis at all. The

* *Synonyms.—Gr.* ἴδρωα.—*Lat.* Papillæ sudoris.—*Arab.* Essera (in part).—*Angl.* Prickly heat.—*Dutch,* Rootvont.

hair-sacs of the affected part of the skin become filled up with horny cuticle, which forms rough papular projections, hard, pointed, and very characteristic, both in appearance and feeling. They do not occur in places where the hair is long, but are almost exclusively confined to the outer side of the limbs, over the vastus externus most often, but not uncommonly more or less developed on the outside of both arms and legs, on the buttocks, and the shoulders. The condition is most common in the brawny skin of muscular working men, and may be readily removed by soap and water and friction. Occasionally it may be seen on the limbs of delicate children, in girls of only seven or eight years old. This affection was described by Devergie under the equally inappropriate term of *Pityriasis pilaris*. It may be better called *Keratosis pilaris*. Dr Fagge proposed for it the name *Rhinoderma* (from ῥίνη, a file, not ῥίς, a nose); but, as he himself says, this term has such obvious disadvantages that he prefers Devergie's title.

Occasionally keratosis pilaris is complicated by local inflammation and large flat red papules, or pustules may result, each surrounding a minute hair. These cases have been called sycosis of the trunk or limbs. Several examples were shown at the Dermatological Society in 1885–6. Such cases have probably been often recorded as examples of the rare form of disease to be presently described, *Lichen ruber* of Hebra; indeed, Hans v. Hebra is convinced that some of his father's typical cases were really inflamed keratosis pilaris.

Willan's *Lichen lividus* is purpura, the petechial spot being perforated by a minute hair.

The *Lichen agrius* of Willan is clearly, from its acute course and the presence of small vesicles filled with a straw-coloured fluid, a form of eczema.

Lichen urticatus (Bateman) seems to be nothing but papular erythema combined with urticaria. It corresponds to much of what is now called prurigo infantilis and prurigo æstivalis, the wheals, and in some cases the papules also, being secondary and due to scratching.

Lichen hypertrophicus is a name given by French writers to what is probably in most cases identical with the rare affection to be described under the name of *Mycosis fungoides*.

The term *Strophulus*,* applied by Willan and Bateman to certain papular eruptions in infants, is now deservedly abandoned. Willan defines lichen as a papular eruption occurring in adults, so that the original distinction between the two diseases was merely one of age.

Green remarks that "strophulus differs from lichen in no essential particular, a circumstance that might warrant us in discussing the two diseases under one and the same head" ('Compendium of Diseases of the Skin,' 1836, p. 174). This author points out the difference in age of the patients, the more frequent intermissions of strophulus, and its milder character. Rayer regarded strophulus as infantile lichen, but Wilson described them separately. Most authors admit that the papules so closely resemble those of lichen as to appear identical with that disease. They are, indeed, only modified by the age of the subject.

Strophulus albidus is not dermatitis, but *milium*, a variety of comedo which will be mentioned among affections of the sebaceous glands.

Strophulus intertinctus and *S. confertus* may be called *infantile lichen* by those who keep to this name. They are papular dermatitis of more or less acute form, and in most cases may fairly be termed eczema.

Strophulus volaticus, with its acute course and slight maculæ following the patches, is a typical form of *erythema papulatum*. Bazin and Hardy are unable to class these papular eruptions of infants among the chronic inflammations which they ascribe to the dartrous diathesis. The former writer places them under it among the scrofulides, the latter among what he ingeniously calls "maladies cutanées accidentelles." The *Strophulus prurigineux* of these authors is identical with infantile prurigo (*Lichen urticatus*).

* Strophulus.—This name, derived from στρόφος, a swaddling band, was apparently first used to describe any skin-eruption occurring in an infant. A popular English name is *red* or *white gum*, or *tooth-rash*. These names point to the popular explanation of all cutaneous rashes, and most other affections which occur during teething: but it is probable that originally "red gum" was only a corruption of another vernacular title—"red gown," a not inapt description of a child covered with general erythema; and this word *gown*, though in English meaningless without the prefix, is only a translation of *Strophulus*.

Lichen scrofulosorum, or, as it is more conveniently called, *Lichen scrofulosus*, is a somewhat rare form of eruption, which was first accurately described by Hebra. He describes it as consisting of papules arranged in groups with some amount of pigment and slight desquamation, not itching, and lasting for a long time without change. It is almost always confined to the trunk, and in forty-five out of fifty of Hebra's original cases the patients had swollen lymph-glands, or chronic disease of the bones, or scrofulous ulcers, or were supposed, from a fulness of the abdomen, to be subjects of tabes mesenterica. On the other hand, in none of these cases was there evidence of phthisis. All Hebra's cases occurred in young men, the youngest patient being fifteen, and the eldest twenty-five. His description has been followed by subsequent German writers, who have added little to the account which he gives. The writer saw two of his cases in Vienna, and can testify that they were not, as has been supposed by some writers, cases of pityriasis scrofulosorum sive tabescentium, the xerodermia or dry rough scaly condition of the skin not uncommon in phthisis and other wasting diseases.

Hans von Hebra calls it *scrofuloderma papulosum*. It does not appear under any form of Hardy's scrofulides. It might, however, be well included under Bazin's large group of scrofulides bénignes.

The late Dr Tilbury Fox transcribed Hebra's account without comment, only stating that the condition is "of infinitely rare occurrence in England." He afterwards published six cases in the 'Clinical Transactions,' vol. xii, with a plate. Dr Liveing has met with a few typical cases among poor out-patients, and thinks that the inconspicuous colour of the papules and the absence of itching lead to its being overlooked. Cases occur occasionally in the out-patient room at Guy's Hospital, but more often on surgical or medical than "cutaneous" days. The patients are usually children with swollen glands or diseased joints, or some other form of tubercular disease. Several well-marked cases have been shown before the Dermatological Society.

From English experience, lichen scrofulosus is more common in children than in adults, and is as common in one sex as in the other. Its locality, the circumscribed patches,

the pale colour of the papules, and the yellowish pigmentation, together with entire absence of itching, are sufficient characters for diagnosis, and justify its recognition as a distinct variety of chronic papular dermatitis.

Kaposi has made sections of the affected integuments, and describes the sebaceous glands as blocked by epidermic plugs, and surrounded by a copious infiltration of leucocytes, so that, according to this excellent observer, the disease would be a chronic inflammation of the corium surrounding the sebaceous glands.

The treatment consists in the internal administration of cod-liver oil, and is said to be uniformly successful.

*Lichen planus.**—There is a form of chronic superficial dermatitis which is so distinct from all others that it is well entitled to a separate name. Of all forms of papular dermatitis it recedes furthest from typical eczema, and approaches nearest to the dry tetter or psoriasis which will be described in the next chapter. It does not appear to have attracted the attention of the older dermatologists, and is indeed a somewhat rare disease. It was first described by Hebra under the title *lichen ruber*, and shortly after from a different point of view by Erasmus Wilson, under the more distinctive name which has been generally adopted in this country. In Germany the two forms are distinguished as *lichen ruber acuminatus* and *lichen ruber planus*.†

Hebra gives an elaborate table of the differences between lichen ruber and lichen scrofulosus, psoriasis, eczema, and pityriasis rubra. Some dermatologists question whether the disease described in Vienna is really the same as lichen planus, but in pathology and the essential points of their natural history the affections named by Hebra and by Wilson are one, although they represent two varieties which may be recognised.

Dr Liveing, Dr Crocker, and Dr Duhring in America, regard Hebra's and Wilson's disease as unquestionably the same. Wilson himself suggested that the cases described by

* *Syn.*—Lichen ruber—Lichen invétéré (Hardy), including Lichen plan corné (Vidal).

† Dr Unna, of Hamburg, proposes to add a third variety with flat-topped papules, *lichen ruber obtusus*, to distinguish it from *L. ruber acuminatus*.

him were varied examples of the lichen ruber of Hebra, but Hebra himself considered the two affections to be distinct, and this was also the opinion of Dr Fagge. It is held in America by Dr A. R. Robinson and Dr R. W. Taylor, of New York, where Hebra's form of the disease seems to be more common than Wilson's. Hans von Hebra describes two forms: one very rare, more acute, with greater formation of scales, more itching, and more generally diffused dermatitis, and also followed by more severe affection of the general health; the second common, more chronic, never spreading over the entire surface, with only slight irritation, and with no injurious effects on the health ('Kr. Ver. d. Haut,' p. 376, and 'Brit. Journ. of Derm.,' March, 1890). It appears to the writer that we must recognise two types of the disease: one more discrete, more widely spread over the surface, and with more marked general symptoms; the other more confluent, more strictly localised, and with less irritation and general disturbance. But that they are varieties of the same malady seems shown (1) by the fact that one passes into the other by intermediate cases and even in the same patient, so that we have seen what Hebra would have called "exquisite lichen ruber" of the trunk and legs, with equally typical lichen planus of the arms; (2) by the identity of the elementary lesion in appearance and histology; and (3) by the course and the therapeutics of the disease ('Guy's Hospital Reports,' vol. xxv, p. 254, and vol. xlvi, p. 391).*

Anatomy.—No one who has seen a well-marked example of lichen planus can doubt the accuracy of Wilson's description; the raised flat patches, their dull glistening surface, deep purple-red colour, slight desquamation, chronic course, and resulting pigmentation are together most characteristic. Hebra insisted upon the genuine papular origin of the affection, on the deep red colour of the papules, and their not increasing in size when once formed. Fresh papules appear, and they become confluent, so as to form the raised flat patch which struck Wilson's attention (see model 260 in the Guy's museum).

* See an account of the discussion on the mutual relation of *Lichen planus* and *L. ruber* which took place at the Dermatological Congress at Paris in 1889, reported in the 'British Journal of Dermatology' for October, 1889.

Hillier in 1866, and Neumann more fully in 1869, described the histology of the disease. The hair-sacs and adjacent sebaceous glands are the chief and apparently earliest seat of infiltration. The opening of the hair-sacs is wide and funnel-shaped, a fact noted by Hebra in his original account. The cells of the rete mucosum contain granules of dark brown pigment, the natural papillæ are enlarged, the sweat-glands are unaffected, the sebaceous glands atrophied. There is after a time considerable thickening and induration of the skin, as in other forms of chronic dermatitis.

Distribution.—Lichen planus may occur upon the extremities or trunk, but has never been observed upon the face or head. Hebra describes it as sometimes affecting the palms and soles, and this statement is confirmed by Wilson and by Hutchinson. The patches are apt to be most marked in parts subject to friction, as the waist and the circle of skin pressed on by a garter. Its favourite positions are on the limbs, especially the forearm and wrist (front as well as back), and the leg below the knee ; also the thigh, particularly the skin over the internal condyle and the hollow over the great trochanter. In the lower limbs the colour is more deeply purple than elsewhere.

It is often symmetrical, but less decidedly so than psoriasis or eczema.

In cases which agree more nearly with Hebra's lichen ruber the papules are of a brighter colour, and more generally distributed over the limbs and trunk. The papules and raised patches are not arranged in groups, as in most forms of lichen. In extensive cases the nails may be affected, but this complication is less common than in chronic eczema.

Mucous lesions.—Lichen planus is undoubtedly often associated with the white patches on the tongue and cheeks which have been described under the varied titles of ichthyosis linguæ, psoriasis linguæ, tylosis, keratosis, and leucoplakia. The association was noticed in two of his cases by Mr Hutchinson ('Lectures on Clinical Surgery,' vol. i, pp. 211, 213), and we have seen it repeatedly at Guy's Hospital and elsewhere.

Natural history.—Hebra's patients were almost all men. In England it has been more often seen in women, but in 27

consecutive cases of the writer's there were 15 men and 12 women. It seldom or never attacks young children, but the writer has seen a typical case in a girl of thirteen, and another in a boy of nine. Observers differ as to the existence of itching. In the cases on which the present account is founded it has once or twice been absent, sometimes troublesome, but never severe, that is, not comparable to the irritation of eczema, scabies, or prurigo.

Lichen planus is chronic in its development and course. Hebra describes lichen ruber as leading to marasmus and death. The late Dr Fox says that in both forms of the disease, the more general and severe of Hebra and the more local of Wilson, the patient is ill. Mr Hutchinson says that the large majority of patients believed themselves to be in their usual health when it began, but that if it persists long the general health may fail.

All the cases seen by the writer were in persons in average condition, some of them in robust health. No internal organ is affected, nor are there symptoms of general disturbance, at least in ordinary cases.

Lichen planus does not tend to cure; it continues indefinitely, may spread extensively, and, as above stated, may in certain severe and protracted cases seriously affect the general health. After being cured it is liable to recur.

Diagnosis.—This affection is distinguished from eczema by its never forming either vesicular or raw surfaces, by its avoidance of the face and ears, its general distribution, and the comparatively slight amount of itching. In some cases it undoubtedly approaches very closely to psoriasis, especially to inveterate cases of the latter disease which have become generally diffused and have lost much of their characteristic appearance. Mr Hutchinson would recognise transitional cases, and indeed proposes to name lichen planus "lichen-psoriasis." But difficult as the diagnosis occasionally is, the distribution, the character of the scales, and the persistence of the papules sufficiently distinguish lichen planus from psoriasis.

Lichen ruber acuminatus must be carefully distinguished from what Devergie called L. ruber pilaris, which, as above stated (p. 81), is an inflammation of blocked hair-follicles (keratosis pilaris).

A more important distinction is between lichen planus and syphilis, for which it is often mistaken. The colour, the frequent absence of itching, and the somewhat irregular distribution, lead to this error, which is apt to be confirmed if white patches are found on the tongue or cheeks. This leucoplakia, however, is no proof of syphilis. The colour of lichen ruber is more purple and less brown than that of a syphilide. The freedom of the face and scalp, the absolute uniformity of all the lesions, and their persistence unchanged during long periods of time, usually ensure a correct diagnosis; but some cases which conform to Hebra's type (*L. ruber*) rather than to Wilson's (*L. planus*) are so much like a secondary scaly eruption that the present writer must confess that he has more than once mistaken the one for the other.

Treatment.—The treatment adopted, both in Germany and England, is the administration of arsenic. Many writers speak of this as specific and certain in its effects, but it occasionally fails, and lichen planus is slower in yielding to the remedy than average cases of psoriasis. Locally, tar ointments or some of the milder preparations, which will be described under psoriasis as substitutes for tar, are important aids in treatment. In obstinate cases an ointment of pyrogallic acid should be applied. Unna recommends one composed of hydr. perchlor. gr. ½, ac. carbol. gr. xx, and ung. zinci ℥j. Dr Heitzmann, of New York, who tried this treatment, found a 3 per cent. solution of carbolic acid much more efficient ('Journ. Amer. Derm. Soc.,' Sept., 1889, and *ibid.*, pp. 52 and 64).

PRURIGO.—Prurigo, "the disease attended with pruritus or itching," was a term formerly very loosely applied, and is still somewhat difficult to define. Willan described it as a papular eruption in which the papules are of the same colour as the skin and accompanied by itching. His "species" were *P. mitis* and *P. formicans*, which are merely more or less severe cases of the same affection, and *P. senilis*, characterised by the age of the patients and the difficulty of cure. Bateman thinks that pediculi are not unfrequently generated when prurigo senilis is present, thus putting the cause for the effect, since it is now well ascertained that most if not all cases of prurigo senilis are directly caused by pediculi corporis.

Willan and Bateman also mention *Prurigo pubis*, which they rightly ascribe to the presence of pediculi, and *P. præputii* and *urethralis*, which are both sympathetic pruritus. Lastly, their species *Prurigo podicis* and *P. pudendi* correspond to the drier and more papular and indurated forms of the irritable local dermatitis which was described in the last chapter as eczema ani and eczema genitalium.

1. *Pruritus.*—Prurigo, a papular inflammation of the skin, must first be distinguished from pruritus or subjective sensation of itching without any local lesion. Pruritus accompanies not only prurigo but also eczema and the desquamative stage of many exanthems. It is the constant effect of pediculi and of the acarus; it may be produced by jaundice, and may be the result of the various atrophic changes which take place in the senile skin. These, which have been well described by Neumann, include the wasting and ultimate disappearance of the papillæ, and it is probable that the process gives rise to senile pruritus.

Prurigo, or irritable papules, may be produced by primary pruritus. This occurs in hot weather among children, most often from the irritation of sweat or of vermin (the *Lichen urticatus* of Bateman). The papules are large, flat, and discrete; but there is no pigmentation, no thickening of the skin, and the distribution is irregular. Mr Hutchinson has observed this summer prurigo affecting the face and arms of adolescents and relapsing every year (*Pr. æstivalis*). According to this author another form of prurigo is common as a sequel of varicella. This infantile prurigo is often complicated by wheals.

Some persons, usually young adults, are liable in cold, frosty weather to great irritation of the skin, which becomes dry, harsh, and pale. The itching affects the covered parts most, and is often supposed to be due to flannel underclothing. This, however, is not the whole of the case, for I have frequently noticed it come on after Christmas when the patient had become accustomed to warm underclothing with a cold dry state of weather, and disappear with a change to mild and moist. It seems to depend on a dry state of the skin with inactivity of the sebaceous and sudoriparous glands.

The affection has been called *winter prurigo* by Hutchinson,

and *pruritus hiemalis* by Duhring, but in England is more common during the east winds of spring than in midwinter. The scratching of the patient produces a crop of papules. Dr Payne has published several cases of this disorder ('Rare Diseases of the Skin,' chap. iv). He recommends unmedicated glycerine or vaseline locally, and chloral as a sedative at night. In America the disorder is well known as *winter itch*, and probably accounts for many cases of *lumberman's itch* occurring in persons exposed to the severe cold of winter in Canada and the United States.

Many cases formerly described as prurigo should be called papular erythema, or urticaria, or papular dermatitis—arising from the irritation of bugs or pediculi (which in infants do not cause the characteristic appearance of prurigo pedicularis), or from the friction of flannel next the skin. Lichen circumscriptus, papular eczema, and even congenital syphilis have been mistaken for prurigo.

2. *Prurigo senilis a pediculis.*—This is a well-characterised and common disease known as prurigo senilis, phthiriasis, or prurigo pedicularis. It is a papular dermatitis of definite clinical characters dependent on the irritation of body-lice, and is only seen in elderly persons. It is a good example of the combination of two conditions—the excitant and the predisposing cause, the *irritans* and *irritable*—to form a constant clinical result.

Phthiriasis is not a sufficient title, for children may be swarming with vermin, and may suffer from urticaria or ecthyma as the result, but are never affected with this form of prurigo; nor is "prurigo senilis" enough, unless we recognise the exciting cause of the disease.

The papules are separate, not spreading over wide surfaces as in eczema, nor collected in more or less rounded patches as in lichen circumscriptus, nor coalescing as in lichen planus. Moreover they are much larger than in eczematous dermatitis, flat rather than pointed, less red, and more persistent. But what is most characteristic is that before long each of them is capped by a little black crust of dried-up blood, the result of scratching.

Beside these papules, the disease is marked by an extensive series of scratch-marks following the curves which are

described by the right or left hand respectively, working from the shoulder. The irritation of scratching not only causes excoriation and hæmorrhage, but sometimes produces wheals like those of urticaria, and raw surfaces which may be properly called traumatic eczema. Both these effects may be absent, but prurigo senilis never lasts long without the whole surface between the papules becoming more or less deeply pigmented, until in some cases the affected parts are as dark as the skin of a mulatto.

The *distribution* of prurigo senilis is as characteristic as its anatomy. It occupies the shoulders, back, and loins, the papules usually stopping abruptly at the waist or the sacral region, and sometimes not spreading below the scapulæ. They may appear over the upper arms, but rarely below the elbow and never on the hand. They are numerous on the flanks, and in severe cases may cover the whole chest and abdomen. The thighs may share in the disease; but even in the most extensive cases it is generally found that the outlying parts are rather the seat of ordinary dermatitis produced by scratching than of the true papules of the disease. Prurigo senilis never affects the face.

The itching is most severe; and, like all pruritus, it is worst at night and when the patient is warm. The absence of pain and tenderness leads to more reckless scratching than in any other disease. It is the consequence, however, and not the cause of the papules, for we can distinguish the latter from the traumatic dermatitis set up by the former.

The exciting cause of the disease can be found when carefully looked for, especially in the plaits of the underlinen about the neck and waist. It is important to remember that pediculi corporis may exist in old men and women of apparently scrupulous cleanliness.

The whole facies of the disease is so well marked that it can scarcely escape recognition. It affects both sexes. Typical cases are very rare in persons as young as fifty.

The *treatment* is simple and effectual when the disease is once recognised. The most effectual parasiticide is the white precipitate ointment, and if only applied to the shoulders no harm will ensue; when used more freely and extensively it may cause salivation. Inunction, as used with grey ointment

in cases of syphilis, is quite unnecessary; it is enough for the parts to be smeared over. Carbolic acid lotion (5 p. c.) or diluted creasote ointment relieves the itching. The clothes must be scalded or fumigated.

3. *Prurigo*—in the restricted sense.—There remain certain forms of disease which are quite independent of pediculi, but agree with prurigo senilis in the anatomical character of the papules and in the excessive itching to which they give rise. One form is the prurigo of Hebra, a striking description of which is given in the Sydenham Society's translation of his work (vol. ii, p. 258). He admits milder cases which correspond to the prurigo mitis and formicans of Willan, but would separate them broadly from the severe form which is congenital and incurable. The writer saw at Vienna cases of this "Hebra's prurigo," as it has been called, and ventures to think that their characters were somewhat over-described, if not exaggerated. At all events, cases have been described, both in America and in England, which agree with Hebra's cases in all essential particulars, and which would make an uninterrupted series connecting the worst of those in Vienna with the slightest forms of infantile prurigo.* We may therefore fairly include these affections under a common name, using such adjectives as *mitis*, *gravis*, *ferox*, *agria*, *congenitalis*, *infantilis*, *inveterata*, to denote the varieties which we find in practice.

The papules of prurigo are at first scarcely distinguishable in colour, and, as Hebra says, are felt rather than seen. They are not closely set, and do not appear in patches; they produce great itching, which causes black spots and scratch-marks as in prurigo pedicularis. The skin between is more or less pigmented, and is generally covered with a fine branny desquamation. In course of time it becomes thick and indurated, and in many cases there is traumatic eczema, often of a pustular kind. In severe cases, inflammatory enlargement of the lymph-glands occurs both in the groin and the axillæ.

The distribution of prurigo is over the trunk and limbs. The face is almost always free, and also the flexures of the

* See, on this point, a paper by Mr Morrant Baker, 'Internat. Med. Congr., 1881,' vol. iii, p. 177, and the discussion which followed.

joints, palms, and soles. It is generally most severe on the back, chest, and abdomen, on the buttocks, the shoulders, and upper arms; and it is generally worse on the lower than on the upper extremities, and worst of all below the knee.

Prurigo begins in early life, and either disappears during childhood, or if present in an adult, has persisted from that period. It is generally worse in winter. In one exceptional case of the writers it began in a lad at the age of fourteen. It first appeared on his legs, and affected the whole surface except the head, palms, soles, and flexures. There were a few spots on the cheeks and neck, on the hands and feet, and on the penis; the trunk was moderately affected, the buttocks and thighs more so, and the arms and legs most of all. There were severe buboes, and he was thin and wasted. He improved greatly under treatment, and became plump and strong, showing that his previous malnutrition was due to the constant irritation and want of sleep, but the disease returned from time to time.

In twenty consecutive cases observed, the ages of the patients when first seen by the writer were—under twelve months two, between two and five years eight, between five and ten one, between ten and fifteen five, between twenty and forty-five three. It is more common in men and boys than in females. In long-standing cases the skin is often much thickened as well as pigmented.

The *treatment* of prurigo, even in its most typical and severe form, is far from being as hopeless as Hebra supposed. Frequent warm baths and assiduous inunction, together with arsenic internally in steadily increasing doses, with cod-liver oil and good feeding, will often restore even inveterate cases to health and comfort. It is, however, almost certain to return, probably more than once, and must be kept at bay for years before it finally disappears.

The slighter forms of true prurigo in infants and children are very much aggravated by scratching, and the first point is to prevent this by hydrocyanic lotion or other local anodyne, and by sedatives at night, as described under eczema (p. 50). In some cases quinine appears to be almost a specific, both for the irritation and the disease.

Locally ointments are usually more effectual than lotions in allaying the itching. *Ung. hyd. ammoniati* or *Ung. hyd. ox. rubri* is particularly useful for circumscribed regions, as in pruritus ani. *Liq. carbonis detergens* (℥j—ij ad ℥j) is often serviceable in addition. Of local anodynes cocain is more generally efficient than opiates.

PSORIASIS*

(*DRY OR SCALY TETTER*)

Frequency—Name—Anatomy and histology—Course—Symptoms—Distribution—Ætiology—Varieties: guttate form, inveterate form—Relation to pityriasis rubra, to eczema, and to syphilis—Prognosis—Treatment.

EXCLUDING scabies and syphilis, by far the most common cutaneous disease is eczema; next comes acne, and then psoriasis. Like the affections hitherto described, it is a chronic superficial dermatitis, and like them has been described as a dartrous or herpetic affection. It stands, however, at the opposite extreme from typical idiopathic vesicular eczema, with which it offers points of contrast rather than of resemblance.

An old and good name for psoriasis was "dry tetter." The Greek term signifies the condition of *psora* or itching, and has no bearing on the present signification of the term. Certain forms of psoriasis were formerly known as *lepra*, a term which from its etymology, "the scaly disease," would be more appropriate, but the confusion with leprosy is decisive against the word. The Greek term *alphos*, referring to its white scales, was revived by Erasmus Wilson, but without general acceptance.

Definition.—A chronic disease of the skin, marked by the appearance of silver-white scaly patches without visible exudation, which slowly spread over the limbs and trunk, affecting the thicker parts of the skin, and in particular the elbows and knees.

* *Synonyms.*—Lepra—Alphos.—*Fr.* Psoriasis.—*Germ.* Schuppenflechte.

Anatomy.—Psoriasis is an extremely well-marked and characteristic form of disease. It begins as papules, which rapidly increase in size, and form flat patches. From the beginning white scales can be seen upon the papules, and by the time they are as large as a pea the scales form conspicuous shiny spots (*Ps. guttata*). They are large, perfectly dry, strongly coherent, and not easily separable from the skin; they have also a characteristic white silvery lustre, due to the abundance of air which is included between the layers of horny epidermis. When the scales are removed, the surface on which they rest is seen to be red, shining, and dry, but the injection is not that of acute hyperæmia, and either stops at the edge of the scaly patch or only extends very slightly beyond it.

These pearly white spots grow gradually larger until they become flat scaly discs, which have been compared by French writers to droppings of a wax candle, and by earlier authors to coins (*Ps. nummulata*).

As they still increase in size the centre of each patch gradually undergoes involution, until they become rings instead of discs.

The rings spreading at last meet, and thus an irregular curved area is formed with a central part of normal skin, and a wide, sinuous, red, and scaly border.

Histology and pathology.—The earlier dermatologists of the present century, Gustav Simon, and even Hebra, were unable to prove what they recognised as probable, that psoriasis is essentially a form of dermatitis. As with eczema and most other cutaneous affections, the characteristic appearance is lost after death. But by the methods of modern histology Neumann established the existence of abundant cellular infiltration of the papillæ of the corium, extending along the tracks of blood-vessels in its deeper layers. The papillæ are enlarged to ten or twelve times their natural size, and this papillary hypertrophy is present from the first, not only, as with eczema, in the later stages. The scales of psoriasis, like those of pityriasis rubra, consist almost entirely of keratin—unmixed with fibrin and leucocytes, as in chronic eczema and syphilis, or with sebum, as in pityriasis capitis. The redness of the skin when the scales are removed, and the

occasional presence of local heat, confirm the belief in the inflammatory character of psoriasis, and the same conclusion is borne out by its relation (as we shall see in the next chapter) to pityriasis rubra. But in most cases there is no doubt that ordinary signs of dermatitis are absent; and there must be always increased production of epidermis, together with too early and extensive conversion of the epithelium into ceratin ; so that we may regard this as the distinctive and essential character of psoriasis considered as a morbid process. Auspitz regards psoriasis as a *paraceratosis*, and the vascularity of the corium as due to dilatation of the capillaries without exudation, a secondary congestion rather than a true inflammation of corium.

Whether the deviation of the formative function of the rete mucosum or the hyperæmia of the papillary layer is the primary process, is the chief question still to be settled.

That psoriasis has many points of marked contrast with eczema and common irritative dermatitis is obvious, but marked contrasts show a certain affinity, and certain very chronic forms of dry eczema approach near to psoriasis, while pityriasis rubra may be developed out of either psoriasis or eczema.

Distribution.—Psoriasis is no less characteristic in the regions it affects than in its anatomical lesion. Its favourite spots are over the olecranon process of the ulna and over the patella, ligamentum patellæ, and tubercle of the tibia. In fact, it is remarkable how very rarely these spots are found free even in the most chronic and varied forms of the disease. Here it begins, and here it almost always remains. From these points it spreads downwards over the extensor surface of the forearm and on the shin and calf, not, however, by a continuous advance, as is the case with eczema, but by the development of separate discs with well-defined margins, which, as they increase in size, become confluent with the originally diseased surface. The whole upper and lower extremities may be covered with such patches, which increase by coalescence ; but there will always be found more or less extensive islands of healthy skin between the diseased parts, and these will have a concave, while the scaly patches have a constantly

convex outline. On the back or chest the same process is seen on a larger scale.

Local evolution.—The first appearance of psoriasis is in the form of minute scarcely raised reddish papules, with already a white top of horny scales (*Ps. punctata*). These enlarge first into dry dead-white spots, which have been not inaptly compared by French writers to the droppings of a wax candle (*Ps. guttata*). At this stage their growth may stop, but more often they grow on into flat circular patches or discs, with sharp edges like so many silver coins (*Ps. nummulata*).

As the raised, red, and scaly edge of the eruption advances, the inner parts, which were first affected, lose their scales, and return more or less incompletely to a healthy condition, so that the lesions become a ring (*Ps. annulata vel circinata*). Where two of these unite a figure of eight is formed, and where three a kind of trefoil. By this progressive spread and involution of the disease the scattered scaly patches in which it began gradually give place to extensive surfaces of almost normal appearance, bounded by sinuous lines of red and scaly skin, made up by the intersecting segments of many circles. *Psoriasis gyrata* and *Ps. geographica* were the technical terms applied to this stage.

After psoriasis has lasted for some time its colour begins to acquire a deeper and brownish tint. It no longer disappears completely upon pressure—that is to say, pigmentation has been added to hyperæmia. In inveterate cases this becomes very characteristic, the colour being of a deep brown, sometimes almost mulatto tint. When the disease has been cured, when the scales are removed, the hyperæmia has subsided, and the finger cannot feel anything but healthy skin ; dark pigment-blotches remain to attest the nature of the recent malady. They always disappear in time, but, especially in old persons, their disappearance is slow. It may be said that, next to syphilis, psoriasis produces pigmentation more quickly than any other form of dermatitis, and the depth of pigment may be as great as in the most chronic cases of eczema or of prurigo senilis. In this, as in other respects, psoriasis resembles lichen planus, and differs from pityriasis rubra.

Course.—Psoriasis is never acute. Even when it develops

rapidly it is unaccompanied by the ordinary symptoms of inflammation, and never causes constitutional disturbance. Often a patch on each elbow, or on the elbows and knees, may appear and remain for years before it shows signs of spreading. When it has become extremely diffused and passed through the centrifugal process above described, it will, if untreated, enter upon a very chronic and almost interminable course, the skin being habitually thick, harsh, and dry, and the general aspect resembling that of some of the forms of dry scaly chronic eczema in old persons.

Of all skin affections psoriasis is most prone to *recur*, more so even than eczema. It is very rare for a single outbreak to occur. Sometimes, when the eruption has only just disappeared under treatment, a fresh attack comes on, and the very means which will almost infallibly cure it when developed are often powerless to prevent its return.

Notwithstanding its etymology, itching is comparatively unimportant as a symptom of psoriasis; it is much less severe than in eczema, scabies, or prurigo. In many instances there is no irritation at all; in most it is slight, but in a few it is sufficiently troublesome to demand special treatment. It is still more rare for the affected parts to smart or to feel hot and tender. Though pathologically it is an inflammation, it is the most chronic, cold, and uninflammatory of all kinds of superficial dermatitis.

It produces no constitutional effects, and persons subject to it are entirely free from special liability to any other disease. The digestive, urinary, and other functions are carried on as usual, unaffected by the condition of the skin.

Distribution.—Psoriasis is of all diseases the most completely and constantly symmetrical; not more so, it is true, than typical forms of eczema, but its range is so much more restricted, and its varieties so unimportant, that while typical eczema does not include three fourths of the whole number of eczematous cases, we seldom meet with one of psoriasis which deviates from the characteristic type. As above stated, its favourite or practically its constant seat is upon the two elbows and the two knees; next it is common over the whole extensor surfaces of the extremities, specially the forearm, the front and outside of the thigh, and the peroneal side of the

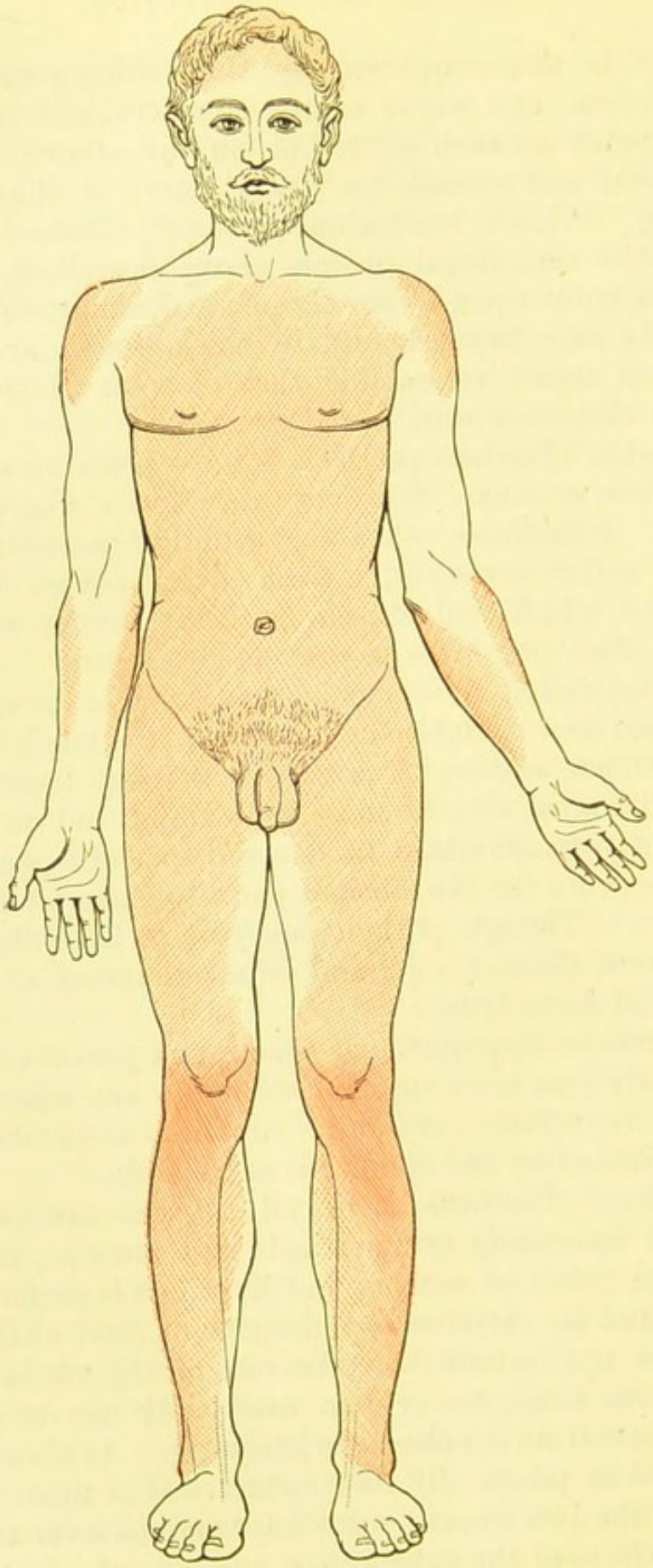


FIG. 10.—Distribution of psoriasis.

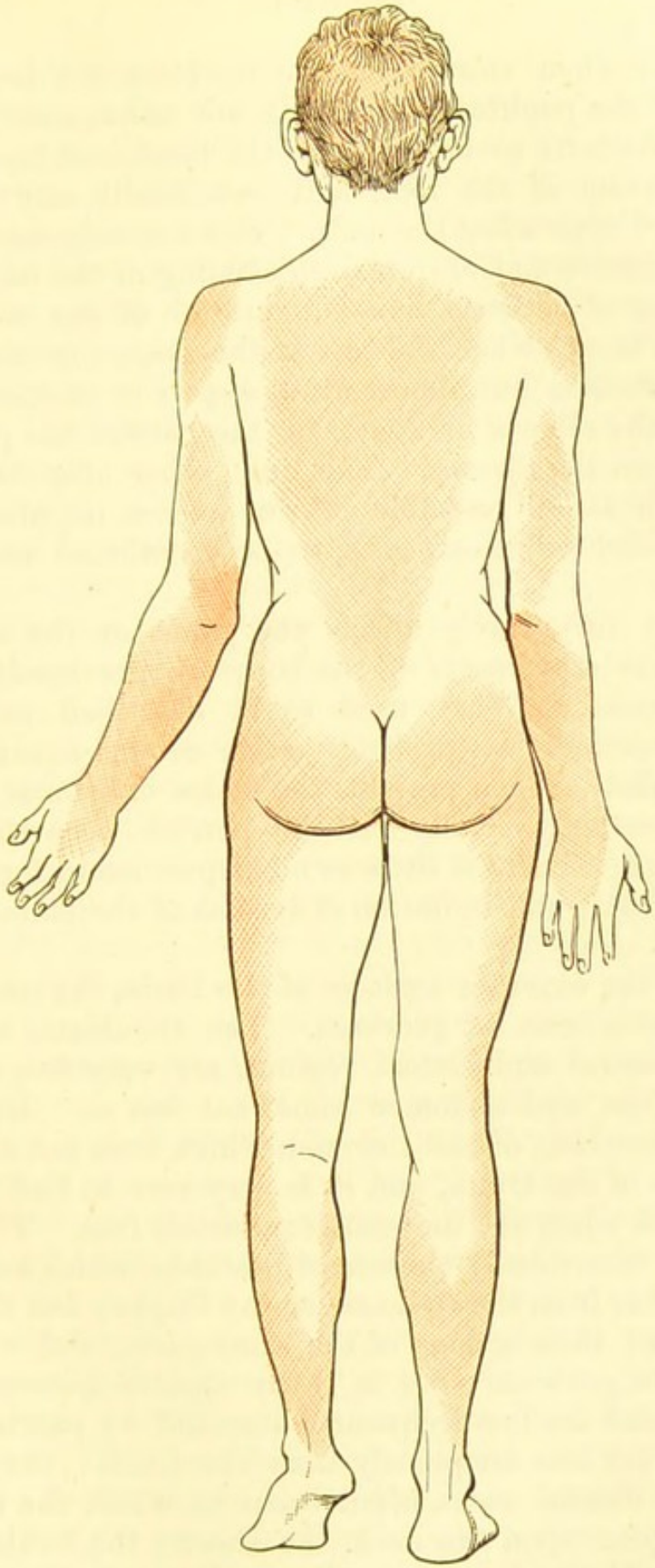


FIG. 11.—Distribution of psoriasis.

leg. Even when most extensive it shuns the bend of the elbow and the popliteal space. It not unfrequently extends from the forearm to the back of the hand, and from the leg to the dorsum of the foot, and occasionally may cover the fingers, and even affect the nails. *Psoriasis unguium* is known by the excessive and unsightly thickening of the nail, and by the absence of soreness and suppuration of the matrix. It sometimes occurs when the rest of the fingers or toes is free from the disease, but almost always spots of psoriasis will be found on the elbows or knees, or the patient has previously suffered from the disease. The only other affections of the nails which at all resemble it are eczema unguium, above described, and onychomycosis, to be mentioned under ringworm.

Psoriasis very rarely affects the palms or the soles, and never unless other parts of the body are previously the seat of the disease. What used to be described as primary psoriasis palmaris was probably either eczema squamosum or scaly syphilis. When present, the scales of palmar psoriasis are comparatively small, but the patches keep their well-marked edge. There is little or no disposition to form cracks, and the soreness and irritation of eczema of the palms or soles is absent.

Next to the extensor surfaces of the limbs, the trunk is the most common seat of psoriasis. The shoulders, back, and loins, the sacral and gluteal regions, are very frequently its seat, the chest and abdomen somewhat less so. Indeed, we never see psoriasis of the abdomen which does not also affect other parts of the trunk, and it is very rare to find psoriasis of the trunk when the limbs are completely free. The genital organs are occasionally the seat of psoriasis, which has usually spread thither from the abdomen or the thighs; but this is far less frequent than eczema of the same parts, and what used to be called *psoriasis scroti* is really *syphilis squamosa*. The face and head are less frequently attacked by psoriasis than the trunk, far less frequently than the limbs; but with so common a disease cases often occur in which the red scaly patches appear upon the neck, the cheeks, the forehead, and the scalp. The scales are usually smaller upon the face, the whole aspect less characteristic, and apt to be further confused

by slight ordinary dermatitis, but the presence of unmistakable psoriasis on the limbs or trunk prevents any mistake in diagnosis. On the scalp the closeness of the hairs prevents the formation of large scales, and the sebaceous secretion gives them a greasy consistence and a yellowish tint. *Psoriasis capillitii* is a not infrequent affection, and must be carefully distinguished from eczema and impetigo capitis, from syphilodermia and seborrhœa sicca or pityriasis capitis. It is always dry, the scales are coherent, the hair does not fall out, and it is coincident with existing or previous psoriasis of other parts.

The affection called *psoriasis labiorum* has been described already as a form of eczema. It is doubtful whether psoriasis affects the mucous membranes. *Psoriasis linguæ* is *leukoplakia*, white patches on the tongue, distinct from syphilis and often antecedent to epithelial cancer; when it is coincident with an affection of the skin, that affection is usually lichen planus. The occasional coexistence of these patches with ordinary psoriasis must be admitted; but the question is whether the coincidence is accidental or not.

Ætiology.—The cause or causes of psoriasis are absolutely unknown. By French writers it is generally ascribed to a dartrous diathesis, and by those who go still further into speculation a *dartrous* is distinguished from an *arthritic* psoriasis. In England it is very commonly regarded as *gouty*, while by some authors it is considered, especially in children, as a *scrofulous* disease; and there is about the same evidence for the one hypothesis as the other. Dr Yandell regards a great deal of psoriasis as well as of eczema as *malarial* in origin; and in the last century psoriasis was by most physicians considered undoubtedly *scorbutic*. Some writers have speculated on the possible connection of psoriasis with *leprosy*, and would have us regard it as the expiring and gradually mitigated manifestation in modern times of the scaly leprosy, "white as snow," which is described in the Old Testament. The remarkable centrifugal progress above described naturally suggests the idea of a parasitic vegetable growth; but we may confidently assert that no fungus is present, and although it has been asserted that *bacteria* may be found in the affected skin when the scales have been re-

moved, their presence, which is certainly not universal, must be regarded as purely accidental, and would neither explain the course and spread of the disease nor help in its treatment. So unwelcome is it to admit a disease without a cause, that some dermatologists refuse the title to psoriasis, and regard it as a condition of health.

With respect to gout, it must be remembered first that the word in Germany, and even in England, is often applied upon very insufficient evidence. In fact, those who use it would sometimes not even imply the presence of urate of soda in the joints. Moreover the diagnosis of gout is always acceptable to an Englishman of the middle class. On the other hand, it is true that few families of rank in this country are free from unmistakable gout in some of their members. But psoriasis is rare in private practice as compared with that of hospitals. Very few of those who have unmistakable podagra are liable to psoriasis; and psoriasis is as common in Scotland, Germany, and America, where gout is rare, as in England, where it is frequent. If we determine that every disease must have for cause some condition already known, it will be easy to find one in the list given above for every case of psoriasis; but such a practice hinders the progress of knowledge of the real causes of disease, interferes with rational and successful treatment, and leads to an acquiescence in unsupported statements and fallacious arguments which is fatal to medicine, either as a science or an art.

Psoriasis occurs equally in both sexes and at all ages above infancy; it becomes more common from the age of six or seven up to puberty, and the first attack usually falls in childhood or early adult life. It may, however, begin after fifty, and even in old age.

The present writer published in the 'Guy's Hospital Reports' (vols. xxv, p. 243, and xlvi, p. 419) a tabulated statement of 267 cases of psoriasis observed by him. Of these patients, 145 were men, and 122 women. Their ages varied from four to seventy-two, but in many cases the disease has begun long before the patient appeared. There were 22 patients under ten years old, 35 between ten and sixteen, 32 between sixteen and twenty, 66 between twenty and

thirty, 23 between thirty and forty, 25 between forty and fifty, 23 between fifty and sixty, 22 between sixty and seventy, and 3 over seventy.

Varieties and diagnosis.—As above stated, psoriasis compared with eczema is singularly uniform in its anatomy and natural history. The description above given applies to ninety-nine out of a hundred cases, of course with individual variations, but less than those of even such typical diseases as typhus and variola. There is, in fact, only one variety which demands notice: in *children* the ordinary form is frequently seen, but more commonly the early spots of *Psoriasis guttata* do not grow into the nummular stage, and the large patches of gyrate psoriasis are decidedly rare under puberty. This would be scarcely worth mentioning in itself, but the spots are also remarkable for having little or no red border. They produce no irritation, and—as is common with other diseases affecting children—the local distribution is less rigidly marked than in adults (p. 16). The guttæ are frequently seen on the face, and they are perhaps more abundant on the trunk than on the limbs. Dr Liveing thinks, moreover, that guttate psoriasis occurs particularly in children who are scrofulous, *i. e.* pale and thin. It is, however, often seen in those who are robust, and certainly in most cases there is no chronic enlargement of the lymph-glands, no caries, no chronic synovitis, and no evidence of tubercle.

When psoriasis has lasted for many years, and has spread over the greater part of the surface, it loses much of its characteristic appearance, the scales are less abundantly formed, the margins are less definite, and the whole skin becomes thickened and indurated, so that it often requires careful investigation and a knowledge of the earlier stages of the affection to distinguish this *psoriasis inveterata* from the dry and chronic eczema described in a former chapter.

There is no question that psoriasis may pass into, or be supplanted by, the dry, scaly, and universal dermatitis to be described in the next chapter as pityriasis rubra. As is there stated, the late Dr Baxter thought that any dermatitis—eczema, psoriasis, lichen, or pemphigus—might, if sufficiently extensive, assume the characters of that remarkable disease. In a paper in the 'Guy's Hospital Reports' (vol. xxv, p. 266)

reasons are given against accepting this hypothesis. The writer had a remarkable case in which a woman, who had been in St. Thomas's Hospital under Dr Payne with ordinary psoriasis of the elbows and knees, and whose daughter was a patient of his own, also with psoriasis, came under his care with marked and typical pityriasis rubra. It is very probable that some at least of the cases of general psoriasis, described by Hardy as very rare, would have been recognised by Devergie as pityriasis rubra.

One may admit that eczema and psoriasis, which in so many ways are allied by points of contrast, have connecting links on the one hand with pityriasis rubra, or universal exfoliative dermatitis, and on the other with lichen planus, which, as we saw, sometimes so closely resembles psoriasis, while by its relation to ordinary forms of lichen it has affinities with papular eczema. We draw lines as nearly as we can in accordance with the broad demarcations of pathology and natural history, but here as in other departments of medicine it would be pedantry to deny that there are transitional forms which it is difficult or perhaps impossible to classify.

The important question, however, of the diagnosis between psoriasis and the scaly forms of syphilis is one which rests on the absolute distinction of cause, and is, therefore, of the utmost practical importance. The locality and symmetry, the character of the scales, the colour, the presence of itching, the uniformity of the lesion, and the absence of other signs of syphilitic disease are the points to be attended to. The last, however, may deceive, for a man with psoriasis may acquire syphilis, as he may scabies; and the writer has notes of four or five cases in which true psoriasis and a secondary syphilitic eruption existed in the same patient, ran independent courses, and were cured by different treatment.

Prognosis.—Psoriasis, if left to itself, lasts for an indefinite time, though almost always getting better or worse at intervals. It never interferes with the health or affects other organs than the skin. After being cured it is of all cutaneous diseases most apt to return.

Treatment.—The external treatment of psoriasis consists in inunction of some preparation of tar. Nothing is so effectual

as the *unguentum picis liquidæ* of the Pharmacopœia well rubbed in at night, and allowed to stay on while the patient sleeps in a special suit of underclothing; it may then be washed off in the morning, to be reapplied at night. When the scales are very thick and indurated, it may be well to precede this application by the use of hot baths and soft soap. When the smell and colour of tar are objected to, useful though less efficient substitutes may be found in the liquor carbonis detergens, made into an ointment with lanoline (one, one and a half, or two drachms to the ounce), or in the *huile de Cade*, ung. creasoti, oleum rusci, &c. Another plan of obtaining the same result is to apply a spirituous solution of tar or the liquor carbonis detergens diluted with water. Goa powder, and the chrysophanic acid or chrysarobin which it contains, are powerful cutaneous stimulants, and have been often used with success in the treatment of psoriasis. They occasion, however, with many patients, considerable pain, and stain the skin and linen unpleasantly, as well as the hands of the person applying them.* In cases where tar is inadmissible, a better substitute is pyrogallic acid, gr. xv—xxx to an ounce of benzoated hard or lanoline, the strength being increased with caution. For rapidity of cure, with freedom from unpleasant smell, this is perhaps the most eligible of all applications.

Beside the local treatment, it is almost always desirable, after the scales have been thus removed, to put the patient upon a course of *arsenic*. It is usual to prescribe it in a bitter infusion, but it will be found to agree quite as well, and to be more constantly taken, if merely diluted with water or flavoured with syrup or peppermint. It should always be taken at or immediately after a meal. Three, four, or five drops in an ounce of water three times a day is the dose to

* Dr Crocker writes ('Brit. Med. Journ.,' November 19th, 1887): "The stains in linen are quite indelible without injuring the fabric, but they may be avoided by using the Auspitz method. A gutta-percha varnish, called traumaticin, is made by dissolving ʒj of pure gutta percha in ʒx of chloroform, ʒj of chrysarobin is added, making an emulsion, which is painted on with a stiff brush after removing the scales every day, until a thick coat is formed; it is then allowed to peel off and is renewed. It acts effectually and does not stain. Besnier modified this by brushing in ʒj of chrysarobin in ʒx of chloroform, and then varnishing with traumaticin. Both plans are equally good."

begin with, and it may be increased to ten or beyond. If properly diluted, and taken with food, even full doses very rarely cause pain, sickness, or diarrhœa. The first sign of the physiological limit being reached is usually irritation and slight injection of the conjunctiva. As soon as the patient feels his eyes begin to itch, he should be instructed to leave off his medicine for a couple of days, and then resume it in slightly smaller doses. He has then reached what is for him the full therapeutical benefit.

Psoriasis may often be cured by arsenic without any external application whatever, or by local treatment, without internal medication; but in most cases the cure will be hastened by the application of tar, and will be rendered more permanent by the administration of arsenic.

In the cases of anæmic persons it is desirable to give steel. We may then combine the liq. arsen. hydrochlor. with the liq. ferri perchlor. In other cases Fowler's solution acts better alone. It is the fashion to administer Pearson's solution (the arseniate of soda) to children, but there is little doubt that it is absorbed in exactly the same form. When arsenic disagrees it should not be hastily given up, but the dose should be diminished until unpleasant effects no longer follow, or we may sometimes prevent them by adding a few drops of laudanum or a little compound tincture of camphor to the dose. When the patient suffers from gastritis and sore eyes, four drops of Fowler's solution—three, or even two—will probably be sufficient to cure the psoriasis; when a patient can take ten without discomfort, it may be that fifteen will be needful.

Children take arsenic very well. When they are pale and thin and ill-nourished, cod-liver oil is often a useful coadjutant. In the guttate form of the disease, most common under puberty, local treatment is often scarcely required.

Purgatives and diuretics are quite unnecessary; and colchicum is not needed, as it undoubtedly is in the treatment of certain irritable and probably gouty forms of eczema.

In some cases psoriasis is very obstinate, not only returning again and again after being cured, which is common, but

yielding very little to the most careful local measures and to the most persevering use of arsenic. In these cases liquor potassæ in half-drachm doses sometimes succeeds, sometimes iodide of potassium* and other diuretic remedies, and sometimes prolonged maceration with soft soap and water. But we occasionally meet with cases which seem to be quite incurable.

* This has been advocated by Dr Cæsar Boeck and other physicians in Norway and Denmark. Dr Haslund gives enormous doses without harm (see 'Brit. Med. Journ.,' 1888, vol. i, p. 27).

PITYRIASIS RUBRA

(*GENERAL EXFOLIATIVE DERMATITIS*)

Name and traditional species of pityriasis—Pityriasis rosea vel circinata.
Pityriasis rubra—History—Accounts by Devergie, Hebra, Wilson, Hutchinson, Baxter—Course and symptoms—Histology—Prognosis—Diagnosis—Treatment.
General acute infective dermatitis—Epidemic course—Distinction from eczema—Contagion—Treatment.
Other forms of general dermatitis running an acute course.

THE word "Pityriasis," meaning, as its etymology implies, a branny or furfuraceous desquamation of the skin (πίτυρα), is conveniently used to describe that pathological condition, but no one *disease* is entitled to the name.

The species defined by Bateman as *Pityriasis capitis* is in most cases *Seborrhœa sicca*, an affection of the sebaceous glands of the scalp; or it may be slight local dermatitis (*Eczema capitis*), due, as he remarks, to want of cleanliness and removable by soap and water, but apt, if neglected, to degenerate into "Porrigo," that is to become pustular eczema or impetigo of the scalp. Or, again, pityriasis capitis may be a slight form of psoriasis capillitii.

Pityriasis versicolor, now known as tinea versicolor, is a parasitical disease, and will be described in a subsequent chapter.

Pityriasis nigra, described by Willan as occurring in children born in India, was not identified by Bateman, nor probably by anyone else. A case of Alibert's, which Devergie calls "pityriasis nigra with prurigo," was apparently *Prurigo pedicularis* with pigmentation and leucodermia.

Bateman's fourth species, *Pityriasis rubra*, "resembling psoriasis diffusa," is a stage in the involution of eczema.

Pityriasis rosea is the name given by Gibert to a trivial affection of the skin which he regarded as erythema. It has been named by other French writers *Pityriasis rubra maculata* or *P. maculata et circinata.* Hebra and some other authorities have regarded it as a form of ringworm of the body but for this opinion there is no adequate evidence. Dr Liveing calls it Roseola circinata.

At present it may find a place in this chapter as a form of superficial dermatitis, with a centrifugal mode of spreading, a branny desquamation, and a somewhat characteristic colour, localisation, and course.

It begins as bright rose-coloured patches very slightly raised above the surface, which rapidly extend so as to form fresh discs, then circles, and lastly, gyrate bands. In this respect it resembles psoriasis as well as ringworm. As the border advances, the central part fades into a yellowish stain (*P. maculata*) and the branny desquamation disappears.

The favourite locality of this eruption is the chest or abdomen; but it sometimes spreads to the neck and face, the buttocks, and the proximal part of the limbs.

It usually passes away of itself after a few weeks, and needs little or no treatment, for the irritation is but slight.

It has a certain resemblance to Lichen circumscriptus vel circinatus, to Tinea versicolor, to T. corporis, and to an early syphilitic rash.

PITYRIASIS RUBRA—*Exfoliative dermatitis.*—The term "pityriasis rubra" was unluckily applied by Devergie in 1854 to a severe and remarkable form of superficial dermatitis which certainly deserves a special name. It is probably identical with Alibert's "Herpes squamosus."* Hebra in 1860 thought himself bound to follow Devergie's nomenclature, and his authority has led to the term P. rubra being generally accepted. Wilson's proposed names of "Pityriasis foliacea rubra" and "Eczema foliaceum" (1876), or the better title "Exfoliative dermatitis" (1870), have not displaced the original term. *Universal exfoliative* (or *desquamative*) *dermatitis*

* The case to which the name pityriasis rubra was first applied by Cazenave seems to have been *Tinea versicolor,* with more irritation than usual.

is perhaps the title that would most clearly express its characters. The serious prognosis of the disease is indicated by the title given by Raymond, *Herpétide exfoliative maligne.*

Definition.—A dry, scaly, superficial dermatitis, universal in distribution and chronic in course.

History of the disease.—Devergie ('Traité pratique des Maladies de la Peau,' p. 263) describes the disease as beginning with an erythematous redness, usually on the chest or flexor surface of the limbs, and spreading rapidly, with a well-defined margin, deep colour, abundant scales, and more or less thin serous discharge. It covers the whole body, is very obstinate, lasting for months, and occasionally proves fatal by exhaustion and diarrhœa. As a rule, however, patients slowly recover. Relapses are frequent. Devergie admits the difficulty of distinguishing this new disease from eczema, and bases the diagnosis on the following points :—It is of a deep red colour, it has sharply marked borders, it may affect the whole surface ; the skin, and even the subcutaneous fascia, are thickened ; it is less itching, more burning than eczema ; its secretion is thin, and does not stiffen linen ; the scales are abundant, readily detached ; and from the first no red moist points (*état ponctué*) are seen when the scales are removed.

In the 'Glasgow Medical Journal' for January, 1858, p. 421, Dr McGhie recorded a case of "pityriasis rubra acuta" which he rightly regarded as one of Devergie's disease. This seems to be the first published in this country, and preceded Hebra's cases. The same patient's condition was described by Professor Gairdner ('British Medical Journal,' March 13th, 1875, p. 359) seventeen years later. Among the early cases may be mentioned one by Dr Wilks in the 'Guy's Hospital Reports' for 1861, which he called "general dermatitis ;" the eruption was universal, red, and dry, with abundant desquamation. Another was recorded by the late Dr Hillier ('Handbook of Skin Diseases,' p. 101) in 1864, and another by Dr Fagge in the 'Guy's Hospital Reports' for 1876, vol. xiii.

Some authors regard pityriasis rubra as essentially Eczema squamosum, and one of Mr Wilson's titles is Eczema exfolia-

tum. Dr Liveing agrees with Wilson and Fagge in looking on it as only a peculiar form of eczema. Mr Hutchinson ('Lectures on Clinical Surgery,' part i) would separate pityriasis rubra from eczema, and regard it as the type of a group of affections which differ in anatomy, but agree in being universal, in resisting treatment, and in often proving fatal. This would include *Pemphigus foliaceus* with certain cases of psoriasis and lichen.

The late Dr Baxter had previously published a valuable paper on this disease under the title of "General Exfoliative Dermatitis" ('British Medical Journal,' July 19th, 1879). He considered the affection to be the result of a universal inflammation, and to arise by the general diffusion of either eczema, psoriasis, lichen, or pemphigus. The objections to this view are that eczema may be nearly if not completely universal, and for long periods together, without losing its characteristic features and without endangering the health. The same appears to be true of *Lichen planus*, if we accept Hebra's descriptions of universal chronic *Lichen ruber;* for this he carefully distinguishes from pityriasis rubra. *Pemphigus foliaceus* is seldom if ever universal, and differs markedly, as will be seen hereafter, from pityriasis rubra. That the whole skin may be occupied by a scaly eruption without interference with health is proved by many cases of ichthyosis.

Auspitz, who is followed by Hans von Hebra, separates pityriasis rubra from all forms of dermatitis, and places it among affections of the epidermis (keratonoses) as *keratolysis*. This would make psoriasis and pityriasis rubra into a small group of non-inflammatory scaly diseases by themselves. But to do this it is necessary to exclude Wilson's case of exfoliative dermatitis and place them also by themselves, near to eczema. Such a decision appears to be somewhat arbitrary. It is difficult or impossible to draw the line between cases of pityriasis rubra which are developed out of eczema, or resemble universal acute dermatitis, those which are developed out of psoriasis, and those which begin as a primary disease. I have never seen pityriasis rubra follow lichen planus or pemphigus, and regard it as perfectly distinct from extensive lichen ruber and from pityriasis foliaceus. While writing (June, 1892) I have under observation two cases of typical

pityriasis rubra as I saw it in Hebra's wards, both beginning in chronic psoriasis ; yet they have all the characters described by Wilson as exfoliative dermatitis.*

Origin, course, and characters.—Pityriasis rubra may undoubtedly arise from eczema or psoriasis, and possibly from other forms of superficial dermatitis, including erythema, impetigo, and traumatic dermatitis ; but it most often begins without previous cutaneous lesion.

It rapidly spreads over the trunk and limbs, but in an irregular fashion, unlike the gradual and methodical extension of eczema or psoriasis.

Finally, it affects the whole of the cutaneous surface, including the scalp, the palms, and the soles. The skin is of a full deep red colour, not thickened and indurated as in chronic eczema (the exact reverse of Devergie's statement), covered with profuse and abundant scales, which are large, thin, and easily detached, unlike those of psoriasis, or of syphilis, or the branny desquamation which follows eczema and the exanthems. They are apt to form successive undulating ridges, which Wilson compared to those of the " ribbed sea sand ;" and they are so abundant that the patient's bed is filled with them by the peck.

In most cases the surface is absolutely dry ; occasionally there may be a slight inflammatory exudation, especially in the flexures, where the inflamed skin is apt to crack. This exudation has not the stiffening property which marks that of eczema, and it is clearly an accidental, not an essential character of the disorder.

There is more or less pyrexia and general disturbance of health, especially at the onset. If, as is most frequently the case, the disease becomes chronic and inveterate, albuminuria is occasionally observed, and the appetite and health begin to fail. The irritation varies in different cases ; sometimes it is very slight, but more often it is considerable, and occasionally almost as intense as in eczema, so as seriously to interfere with sleep.

* For an elaborate historical and pathological account of pityriasis rubra from the most restricted point of view of Hebra and Auspitz, see Dr Jadasohn's articles in the ' Archiv f. Derm. u. Syphilis,' vols. xxiii, p. 941, and xxiv, pp. 85, 473, 497 (1891–92).

Distribution.—Pityriasis rubra differs from eczema and from psoriasis in having no local predilection. Not only is it universal, but it is indiscriminate. In the worst cases of eczema the face and the limbs are more severely visited than the trunk, and the flexor than the extensor surfaces. But this is not the case with pityriasis rubra, and the scales are no thicker on the elbows and arms than on the abdomen or the face. No part escapes; the palms and soles, the scalp and genitals, are uniformly covered by the same red scaly eruption. The conjunctiva usually suffers also, and sometimes the external auditory meatus, but not the mucous membrane of the mouth or nose as a rule.

Histology.—In a case of a year's standing examined after death by Hans von Hebra the whole of the cutis was filled with leucocytes; in another case, which had lasted several years, all signs of active inflammation had disappeared; the Malpighian layer was thin and its cells shrunken, the papillæ atrophied, and the deep layer of the cutis transformed into thick bundles of elastic fibres with abundant pigment; the glands had also suffered atrophy. In chronic cases the hair may be lost.

Ætiology.—General exfoliative dermatitis is common to both sexes and to all ages. Though more frequent in the latter periods of life, it is not unknown in children. A certain number of cases, as above stated, begin in eczema or psoriasis, but more have no such origin. Jadasohn believes that the most severe cases of the type described by Hebra are more or less conclusively related to tuberculosis. Its true causes are entirely unknown.

Diagnosis.—Pityriasis rubra is distinguished from *eczema* by its abundant scales, by the absence of visible moisture, and by its not showing predilection for the ears, face, and flexures of joints; from *psoriasis* by the thin, loose scales, and by its not specially affecting the elbows and knees; from *pemphigus foliaceus* by the scales not being preceded by bullæ; from all these forms of superficial dermatitis by its being universal and uniform in distribution, and by the severe symptoms which usually accompany it.

Prognosis.—This is much graver than that of ordinary dermatitis, eczema, psoriasis, lichen, prurigo, or pemphigus.

For not only is it difficult to cure, but it sometimes ends in death, especially in elderly people. The presence of albumen is a bad sign, though not a fatal one. Emaciation is still more serious, depending, as it usually does, on loss of appetite or sleeplessness or diarrhœa. Yet the disease is not, as Hebra supposed, incurable, nor is it by any means constantly fatal. Since his book was written, cases of recovery have occurred at Vienna. In forty cases collected by the writer from various sources ('Guy's Hospital Reports,' series 3, vol. xxv) recovery ensued in fifteen, improvement in several more, and death only in eight. In these cases the fatal event was caused by bedsores and exhaustion, by lobular pneumonia, by acute pneumonia, or by bronchitis. In other instances marasmus ensues, and diarrhœa ends the disease. *P. rubra* often persists for an indefinite period almost uninfluenced by treatment.

Treatment.—Locally the best applications are those which have been recommended in the drier forms of eczema—weak carbolic oil, lead and zinc ointment, or liquor carbonis detergens with vaseline (℥j ad ℥j) freely and frequently applied. Tepid baths are not counter-indicated, and usually give relief; but if too warm they lead to irritation afterwards, and the effect on the pulse must be carefully watched. Arsenic has not the power it possesses with psoriasis and with chronic eczema. It is best given in small doses combined with steel. Bark and mineral acids are often useful. Milk and farinaceous diet appears to suit best, and cod-liver oil should be taken if it does not interfere with other food. Good red wine, or sometimes porter, is in certain cases decidedly beneficial. In one obstinate case the patient, an otherwise healthy old gentleman, completely recovered after six weeks' sojourn at Strathpeffer, in Ross-shire.

In another well-marked and very severe case, dry, scaly, universal, and pruriginous, occurring in a clergyman about sixty, long perseverance with soothing ointments, and increasing doses of arsenic internally, restored him, after several months, to almost complete freedom from the disease.

Acute Epidemic Dermatitis.—Several instances are on record of what has been called eczema affecting a large

number of persons at once ; and this without the direct contagion of pus which we saw to be characteristic of impetigo. These cases agree in their acute origin and course, their lack of characteristic eczematous distribution, and their spontaneous involution. In some respects they resemble pityriasis rubra more than eczema, and therefore may at present be regarded as acute superficial dermatitis of contagious origin, diffuse and general distribution, without the characteristic features of true eczema, of pityriasis rubra, or any form of lichen or pemphigus.

The most remarkable instance of this form of disease is that which occurred in the Poor-house Infirmary at Paddington in 1891. It was fully described by Dr Savill in the 'Journal of Dermatology' for February and March of the following year. The number of cases observed was 163, beside others in the Marylebone Infirmary. Anatomically the disease was a superficial dermatitis, with papules and occasional production of vesicles and profuse desquamation ; it was universal and indiscriminate in distribution, was accompanied by little or no pyrexia, and ran a course of seven or eight weeks. The "moist" cases resembled acute universal eczema, the "dry" cases pityriasis rubra. It usually began in the upper extremities or face, less commonly in the legs, and only occasionally in the trunk. The hair and nails, and often the conjunctiva and iris, were affected as well as the skin. There was great itching and tenderness of the affected parts. Relapses were frequent.

The majority (133) of the patients recovered, but a few became increasingly weak and drowsy, and died in coma. There was occasional vomiting or diarrhœa, and albuminuria occurred in about half the cases. Boils were an occasional sequela, and some amount of pigmentation.

The great majority of the cases and all the more severe ones occurred in elderly persons ;* the youngest who died was forty-nine, and all the other fatal cases were in patients between fifty-nine and eighty-nine. The more severe cases occurred in men ; the total mortality (excluding deaths from

* This was not because most of the inmates of the Infirmary were advanced in years, since the proportion of cases attacked rose rapidly with the age at each decade from childhood up to sixty.

concomitant diseases) was over 12 per cent., while that in men was 20, and that in women only 4 per cent.

The treatment adopted was locally antiseptic and internally stimulant. A one per cent. lotion of creolin was found generally useful in alleviating, and perhaps in cutting short the disease in a few cases; and lanolin similarly medicated was found to be soothing in the latter stages, as well as vaseline, zinc ointment, and lotio plumbi. Collodion freely applied to a patch of the eruption in an early stage seemed to check its progress.

In a subsequent number of the same journal (April, 1892, p. 105) Dr Risien Russell describes what he believes to be a specific organism present in the serum and in the skin itself, and also in the blood. It is a Diplococcus, staining best with tincture of gentian violet, aërobic, and not liquefying gelatine, which last property distinguishes it from *Staphylococcus pyogenes-albus*.

Dr Savill reports a fresh similar, but much less severe outbreak of the same affection in the present year (1892).

Acute general dermatitis is occasionally seen sporadically, and may closely simulate *Pityriasis rubra* in aspect. But although red and universal with free desquamation of large dry scales, the spontaneous recovery separates this from true cases of the latter disease.

Such cases have been described as eczema, but they lack the localisation, the moisture, and the chronic recurrent course of eczema. I recorded and figured one which was apparently the result of chloralamide in the 'Clinical Transactions' for 1890, and have lately seen a very similar case in a patient suffering from chronic Bright's disease.

PEMPHIGUS

(*BLADDER-TETTER*)

Names and definition—Anatomy—Histology—Local distribution—Diagnosis—Age and sex—Prognosis—Pemphigus malignus—Question of an acute form of pemphigus—P. foliaceus—P. serpiginosus—Hutchinson's cases—Chiropompholyx—Hydroa of Bazin—Frequency of pemphigus—Treatment.

Definition.—A form of idiopathic superficial dermatitis, characterised by the appearance of bullæ without constant localisation, and running a chronic course.

We now come to a form of superficial dermatitis which is decidedly rare compared with eczema or psoriasis. Although not less remarkable than these in its anatomical characters, its course and natural history are far less characteristic, its pathology more obscure, and its origin entirely unknown. It has been called by two names, *pemphigus* and *pompholyx*,* but of these terms, which, like "lepra" and "psoriasis," were made separate genera by Willan and his disciples, there is no need to retain more than one.

The name *pomphus* seems to have been originally applied to what we now call a wheal; *pemphix* meant a bulla, and *pemphigus* was originally applied to a supposed "febris bullosa" of doubtful nature.

Pemphigus was by Willan associated with erysipelas, a striking example of the ill result of following an anatomical, or any exclusive, basis of classification for so complex conditions as diseases. He had previously united it with vesicular diseases, but distinguished the two orders in consequence of the criticism of Tilesius, of Leipsic ("über die flechtenartigen

* Πομφόλυξ means a bubble, almost synonymous with φύσαλις, and is applied by Hippocrates to the froth which forms on urine ('Aphor.,' vii, § 34). Πέμφιξ means a blister.

Ausschläge," in Martin's 'Paradoxien,' 1801). Bateman (1815) practically admitted only one bullous disease, a chronic superficial dermatitis, characterised by blebs.

Anatomy.—The bullæ of pemphigus certainly do not always begin with a papular stage. The first lesion seen is usually a small transparent vesicle which rapidly increases to the size of a pea or larger. These bullæ are sometimes seated on perfectly natural skin; sometimes they are surrounded by a rose-coloured injected ring, but this is narrow, and they are never found upon an actively inflamed or swollen surface. They may burst when not bigger than a pea or marble, but, on the other hand, will sometimes increase to the size of a billiard ball, or more. They are usually tense and hemispherical, occasionally oval. There may be either a single bleb or several of various sizes, irregularly scattered over the same region, and when in such groups the intervening skin is often injected. Each bulla, however, forms separately, and it is very rare for two to run together. The contained liquid is transparent, and gives the bulla a pearly appearance. When removed by pricking the bleb, it is thin, watery, colourless, usually not coagulating, but becoming opalescent or turbid on heating, and showing a few leucocytes under the microscope. After a time, however, it often becomes turbid from increase of the inflammatory corpuscles, and before the bulla bursts the contents may be opaque and yellow—in fact, almost purulent. They do not, however, acquire the thick creamy character of pure pus, and always begin as serous and not purulent cavities. Threads of fibrin also appear, not unfrequently before the rupture of the vesicle. Still more common is an admixture of blood, which gives a pinkish aspect to the bulla. After it has burst, fresh secretion soon ceases, the ruptured cuticle is either torn off or adheres to the exudation, and the lymph, whether serous, puriform, or coagulated, dries up into a thin yellow crust, which may be more or less stained by hæmoglobin. This soon falls off, and leaves a smooth, healthy surface, with scarcely any desquamation; but some passive injection remains, and with this may be mingled more or less pigmentation, so that the circular patches, of sizes varying from a sixpence to a florin, remain for some time as characteristic evidence of pemphigus.

Histology.—The inflammatory exudation of a bulla produced by such an irritant as cantharides takes place in the deepest part of the Malpighian layer of the epidermis. The cells of this layer are first drawn out into bands by the accumulating serum, so that in the early stage each vesicle consists of a series of loculi, as in the case of a burn, first described by Biesiadecki ; this stage is long and well marked in the case of traumatic bullæ and in the vesicles of smallpox.

The bullæ of pemphigus, however, as shown by Leloir and Auspitz, consist of an exudation of serum between the horny layer of epidermis and the deeper Malpighian layer, or between the granular layer and those beneath it, without the cells themselves being much affected. There is no vacuolation, the cavity is at no stage multilocular, and the formation of the bleb is far more rapid than that of an inflammatory vesicle or pustule of half its size.

No scars are left after pemphigus, but there is often some degree of pigmentation, and in long-standing cases this may become deep and extensive.

Distribution.—Pemphigus differs from eczema and from psoriasis in being *unsymmetrical*, and having no definite local predilection. The bullæ appear sometimes singly (*P. solitarius*), or succeed one another indefinitely upon distant parts of the body (*pompholyx diutina*) ; more often two or three up to half a dozen form an irregular patch ; and isolated bullæ, or one or two other patches, follow on other parts of the surface. Occasionally the trunk and limbs are so covered that scarcely any region can be said to be entirely free ; yet even then the lesions show no preference for one part over another.

There is scarcely any part of the surface on which pemphigus may not be seen. On the trunk and limbs it is most frequent ; the abdomen and thighs, the genital organs, the ears, the hands and the feet, even the palms and soles and the matrix of the nails may occasionally be the seat of pemphigus ; the hairy scalp is least frequently affected. Bullæ have been observed in the mouth and on the conjunctiva, and in one case which I saw with Mr Brailey the latter complication was present.*

* See Mr Brailey's account of this case ('Guy's Hospital Reports,' 1891, xlviii, p. 165).

Diagnosis.—The bullæ of this disease are so characteristic that it cannot be overlooked, and cannot be mistaken for eczema, lichen, psoriasis, or any other of the forms of superficial dermatitis already described. But all bullous eruptions are not pemphigus.

1. Blisters may be produced designedly or accidentally by local irritants, especially by scalding water, or by cantharides. The traumatic bullæ which follow extreme heat are of two kinds—true inflammatory products containing serum or pus, and bladders filled with gas, which have been formed by the lymph of the living skin being turned into vapour and expanded by heat. The latter condition was long ago described by Hilton as the result of burns and scalds; it is of rare occurrence. Its purely physical nature he proved by the fact, which the writer has himself verified, that it is possible to produce it in the skin after death. If a hot iron be held close to the surface, the cuticle rises in a blister like that produced by the sun on a painted board, and, on pricking it, no liquid is found within. This is strikingly seen in a negro's skin, when the white cuticle is raised from the dark rete mucosum beneath.

Factitious inflammatory bullæ are usually seen on the arms, and in doubtful cases the glistening scales of the elytra of the Spanish fly may often be distinguished by a lens.

2. Scabies is sometimes accompanied by bullæ, especially in children. An example of this was figured by the writer in the face of a child whose appearance closely simulated that of pemphigus ('Guy's Hospital Reports,' 1877, pl. i), and another was recorded by Dr Fagge (*ibid.*, 1870, p. 333).

3. Syphilitic eruptions in the later stage of the disease are often bullous. Usually the exudation becomes purulent, and the resulting crusts are massive, dark from blood-pigment, and more or less conical, forming the condition described as "rupia," and leaving a superficial ulcer when they fall off, with considerable pigmentation and final cicatrisation. In cases of congenital syphilis, however, bullæ exactly like those of pemphigus may be observed; so-called *pemphigus neonatorum* is probably always syphilitic. Besides other signs of the congenital disease, the appearance of the bullæ upon the palms and soles is a character which is diagnostic.

4. More difficult of distinction from true pemphigus are the bullæ of certain forms of erythema, to be afterwards described as herpes iris and erythema bullosum (p. 139 *et seq.*). Their locality and symmetry, their multiformity, and their acute or subacute course, are the chief marks which distinguish these erythematous bullæ from true pemphigus.

5. Iodide of potassium occasionally produces blebs, along with other lesions, which have been mistaken for those of pemphigus.

Age and sex.—Pemphigus, though belonging to the rarer diseases of the skin, may be seen in patients of almost any age. It is commonest in children, decidedly infrequent in adults, but may sometimes be observed in elderly patients, when it is apt to assume its more severe characters. Among 38 cases of the writer's 10 occurred in males, and 28 in females; 7 between one and five years of age, 15 between six and ten years, 11 between nineteen and fifty, and one in an old woman of sixty-eight.

Ætiology.—The cause of pemphigus is absolutely unknown, although, as in other cases, teething, gastric irritation, excess in diet, irritability of the system, mental affections, anxiety, fatigue, amenorrhœa, exposure to cold, and residence in damp situations have been confidently stated as each a cause of the disease. According to Alibert, the "lymphatic temperament" predisposes to pemphigus, which perhaps meant what is true, that it is more common in children than in adults.

It is now well established that pemphigus is never contagious. Hebra relates one remarkable case of heredity.

Some cases appear by their distribution to depend on peripheral neuritis, and such tropho-neurotic cases would connect pemphigus with zona (so Schwimmer, of Buda-Pesth, and some other authorities). In other cases micrococci have been found in the contents of the bullæ, but they have often been sought for in vain, and there is no reason to believe that they are specific.

Prognosis.—In children pemphigus is rarely fatal (excluding so-called *syphilitic pemphigus*), and under suitable internal treatment it is in most cases quickly curable. But in old persons it is apt to spread very widely; sleeplessness and loss of appetite follow, and death may result. This is most

to be feared when there is chronic renal disease present, but it may occur independently of this complication.

Such cases have been made a distinct variety, *pemphigus malignus vel cachecticus*. The bullæ are very numerous, are never tightly filled with serum, but look flaccid and rupture early. There is little effort at healing, and extensive raw patches cause much pain and distress, combined sometimes with more or less itching. The exudation is frequently hæmorrhagic and sometimes fibrinous, or, as German writers call it, "croupous." As in other severe and extensive forms of dermatitis, there is sometimes albumen in the urine, independently of previous Bright's disease.

These serious cases, though rare except in old persons, may occur at any age; in children, bullæ after bursting are sometimes succeeded by gangrene, and this *Pemphigus gangrænosus* has also been separately described. It has no doubt been frequently confused with what used to be called "rupia escharotica" and "pemphigus neonatorum," that is to say, with a bullous syphilitic eruption. But there is no question that true gangrenous pemphigus does occur. In a little boy aged four, who died of it in Guy's Hospital in 1882, we found *post mortem* all the viscera perfectly normal, and there was no reason to suppose the presence of congenital lues. In one case it occurred after varicella.

Acute pemphigus.—Hebra discusses the existence of acute or febrile pemphigus (*febris pemphigodes*), and, like Bateman before him, concludes that when urticaria and herpes iris, erysipelas, and rupia, with other forms of syphilis, are excluded, there is no such disease. The late Dr. Sparks, however, in 'Quain's Dictionary,' rightly stated that the existence of such cases is now certain. Dr Southey has recorded a case ('Clin. Soc. Trans.,' viii, 1875), Dr Payne another, with a table of temperature ('St Thos. Hosp. Rep.,' vol. xii), and Sir D. Duckworth a third ('St Barth. Hosp. Reports,' vol. xx). The last occurred in a man of fifty-four, suffering from Bright's disease, and he died on the ninth day; but the event was probably not due to the eruption on the skin, and if not cut short by death this might have proved chronic. Moreover, it is possible that this as well as other cases might be inter-

preted as bullous erythema, though it would doubtless be difficult to maintain the distinction in every instance.

Pemphigus foliaceus.—Cazenave described under this title a remarkable form of cutaneous disease which has since been recognised by Hebra and other dermatologists. It is rare, and the writer has only seen two well-marked cases, one at Vienna, and the other in Guy's Hospital' which was modelled for the museum ('Catalogue,' p. 94).

The patients are usually adult women. The blebs appear at first like those of ordinary pemphigus, but they never become tense and pearly in appearance. They rupture early, and form thin, dirty white laminæ, which continue to exude a scanty secretion. The aspect of the affected skin has been likened to that of flaky pie-crust, to birch-bark, and to dead leaves—whence the specific name.

Besides the anatomy, the distribution of this form of pemphigus is remarkable, in being more or less universal. On this ground and its malignancy the late Dr Baxter associated it with pityriasis rubra.

Its course is very slow, and there is no disposition to recovery. Indeed, it is doubtful whether any genuine case of pemphigus foliaceus has ended favourably. Drugs have little or no influence upon it, and after a protracted illness the patients die emaciated, or are carried off by some intercurrent disease.

Serpiginous pemphigus is a rare form, which arises only in chronic cases. The bullæ, which are small, are seen on the red advancing border of a considerable space of skin, formerly the seat of others that have disappeared. When first seen in this latter stage it might well puzzle an observer. A well-marked case of pemphigus serpiginosus, which began as an ordinary case, recurred, and each time was cured by arsenic. It furnished two of Mr Towne's models in the museum of Guy's Hospital ('Catalogue,' p. 92).

Pemphigus vegetans.—Neumann has described under this title a bullous disorder in which the bursting of the bullæ is followed by the appearance of granulation masses (*i. e.* ulcers

covered with framboesiform papillary growths). The cases were not benefited by arsenic, and ended fatally. Eleven cases have now been recorded in Germany, one by Dr Crocker ('Med.-Chir. Tr.,' March 12, 1889), one by Dr Mapother, of Dublin (*ibid.*), and another by Mr T. P. Lowe, of Bath ('Lancet,' 1891, vol. i, p. 1046).

Hutchinson's bullous disease of hands and feet.—A curious form of bullous eruption, which may be provisionally called pemphigus vegetans, was shown by Mr Hutchinson at the Pathological Society as "hand-foot-and-mouth disease." Besides the bullæ on the trunk and limbs there was severe inflammation of the hands with loss of nails, and also inflamed mucous membrane of the mouth and tongue. A case was exhibited at the Dermatological Society in 1885, which was recognised by Mr Hutchinson as of the same character. There was unmistakable pemphigus here, and both loss of nails and sore mouth in pemphigus have been described by Hebra, so that no doubt he would have included under that title the curious cases described. Moreover, the same combination was described by Rayer as complicating pemphigus.

Chiro-pompholyx.—This affection also was described by Mr Hutchinson. It is chiefly confined to the hands and feet, is symmetrical, affects the nails, is recurrent, and the bullæ are small without dermatitis around them. Dr Robinson, of New York, Dr Liveing, and other writers have described similar cases. It affects the palm and sides of the fingers, as well as the dorsum of the hand. Before rupture, which is often delayed or absent, the small bullæ, or large vesicles under the thick skin of the fingers, are described as like sago grains. This disease is probably distinct from the affection of the sweat-glands, described by the late Dr Tilbury Fox as dysidrosis. No special treatment seems to be necessary, but zinc or lead ointment should be applied, and iron or quinine is usually administered.

Hydroa.—The group of eruptions named hydroa by Bazin is not a natural one, either clinically or pathologically. Of the three species described by him, the first, or "vesicular hydroa,"

would clearly seem by its localisation on the back of the hands and wrists, and on the front of the knees, as well as by its acute but sometimes recurrent course, to be erythema. Other cases are identical with the curious affection long known as herpes iris, which is itself a form of erythema. "Bullous hydroa" probably includes *pemphigus pruriginosus*, or herpes gestationis (*infra*, p. 143), and erythema multiforme with blebs. Some cases, again, which have been described as hydroa, have turned out to be iodide rashes.*

Frequency of pemphigus generally.—Hebra, writing of twenty years' experience in the General Hospital of Vienna, as well as in his large private practice, could reckon only about 200 cases. He estimated that, excluding infants, one case of pemphigus occurred in 10,000 cases of illness generally. We must remember that the hospital statistics apply to all medical (as well as surgical) diseases, whereas his own practice was exclusively dermatological. He found in thirty years' statistics at the General Hospital that there were ten cases of pemphigus in men for rather more than three in women, excluding pemphigus foliaceus. In a report to the American Dermatological Association in 1881 only twenty cases occur in 11,000; Erasmus Wilson reported only nineteen cases among 10,000 private patients; and Kaposi, in 1890, had met with only 210 cases among more than 40,000 cases. As above mentioned, I have in twenty-five years observed eighty-eight cases in all.

Treatment.—In Joseph Frank's work on diseases of the skin he stated that the best treatment of pemphigus is to leave it alone. Hebra proved the uselessness of diuretics and purgatives, tonics and quinine, mineral acids and Carlsbad waters. Formerly English physicians recommended venesection or leeches with antiphlogistic regimen, but with a caution to pursue the plan guardedly, which probably meant not to pursue it at all. They also recommended acids and bark. In

* On the subject of Hydroa, see an elaborate paper by the late Dr T. Fox in the 'Philadelphia Archives of Dermatology' for 1880, p. 16, and one by Dr Crocker in the 'Lancet' for May 22nd, 1886.

The meaning of the word Hydroa is uncertain. Dr Crocker gives its derivation from ὕδωρ; but surely it is only a mistake for Hidroa (ἵδρωα), the regular term in Greek medicine for what the Latins called *sudamina*.

the first edition of Wilson's work (p. 142) he writes, "When there is reason to believe that the eruption is an effort on the part of nature to determine to the surface a morbid disposition, I should strongly recommend the employment of mustard baths to the entire surface of the skin, or a stimulating liniment of some kind, such as that of croton oil, in the proportion of a drachm to an ounce of olive oil, to be well rubbed into the sound parts of the skin." Hardy says, "Le traitement général du pemphigus est encore à trouver." German authorities speak doubtfully of the prognosis in this disease, and depend chiefly upon local applications for its treatment. The late Dr Tilbury Fox recommended chlorate of potash, good food, and above all quinine, which he preferred to arsenic.

At the present time, however, most English physicians are agreed that *arsenic* is as much a specific remedy for pemphigus as for psoriasis. No doubt it occasionally fails, even in ordinary cases ; but this can also be said of mercury in syphilis, and no one pretends that arsenic will cure gangrenous pemphigus, or pemphigus foliaceus, or bad cases of extensive pemphigus in aged patients ; but in nine tenths of the cases of pemphigus occurring in children and young adults the statement holds good that arsenic may be esteemed a sure remedy, even in severe cases. The late Dr Fagge, as well as Dr Habershon, Dr Hillier, Mr Hutchinson, Dr Gee, and many others, supports the same opinion. The drug should be administered on the same principles and with the same determination as recommended in psoriasis.*

Occasionally, however, we meet with cases in which, after perseverance with varied doses and varied forms of administration, we are obliged to abandon arsenic, not because of its disagreeing (that can always be met by diminishing the dose), but because the disease is unchecked. The best remedy then is tincture of steel. Sometimes quinine, guaiacum, or cod-liver oil succeeds when other drugs have failed.

In true gangrenous pemphigus of children, excluding syphilis, brandy and strong broths, or raw meat, with chlorate of potash internally, is the best treatment, and commonly

* See 'Med. Times,' Feb., 1854. Also the fourth of Mr Hutchinson's 'Lectures on Clinical Surgery:' "Can Arsenic cure Pemphigus?" and his recent lecture on the uses of arsenic ('B. M. J.,' 1891, vol. i, p. 1213)

proves successful. But even in infants one-minim drops of Fowler's solution should be administered.

In bad cases, especially in aged patients, attended with restlessness and distress, *opium* is a most valuable remedy, but unfortunately its use is forbidden or much circumscribed by the not infrequent presence of albuminuria. When this is absent, it has a most valuable effect. In *P. vegetans* and "hand and mouth" cases opium is particularly indicated.

So far as is known, neither arsenic nor any other drug is of service in cases of pemphigus foliaceus.

Locally, no applications are very useful; whatever is most soothing is best, either zinc ointment, or oxide of zinc in powder, or what is often more pleasant and effectual, oxide of zinc with finely powdered chalk or gypsum suspended in water, and applied with a large soft brush. In very extensive and severe cases continuous baths have proved useful.

ERYTHEMA

AND ITS ALLIES

Definition of the group—Its characters—the anatomical lesions—course—locality—symptoms—ætiology—Symptomatic and traumatic erythema—Varieties: (1) *Erythema multiforme*—(2) *E. bullosum—Herpes—E. iris—Herpes gestationis—Dermatitis herpetiformis—Hydroa*—(3) *E. nodosum*—(4) *Urticaria—Urticaria pigmentosa—Treatment of erythematous affections.*

Erythematous rashes produced by drugs—The rash of copaiba—Bromides and iodides—Belladonna—Opium—Quinine—Salicylates—Arsenic—Mercury.

Erythematous rashes symptomatic of specific fevers—The eruption of measles—Scarlatina—Rubeola—Variola—Varicella—Typhlitis enterica—Occasional rashes of cholera, &c.

We have hitherto considered diseases of the skin which, though differing from one another in many particulars, are all examples of superficial dermatitis; they never leave scars, are chronic in course, apt to return, and are accompanied with more or less decided irritation.

We now pass to disorders which also form a natural group, though the line is perhaps more difficult to draw. They also are *superficial inflammations* of the skin, and therefore leave no scars, but they are *acute or subacute* in their course. Moreover, their lesions are usually slight and evanescent; and although occasionally a bleb may be produced, yet this is quite exceptional, and none of them is attended with pustules or crusts. Perhaps their most conspicuous anatomical character is the presence of inflammatory *œdema*, and this is often accompanied with slight *hæmorrhage*. The sensations accompanying them are usually *smarting* rather than itching. They have no relation to cutaneous irritants, but may often be traced to gastric or other internal causes.

Pemphigus forms a natural link between the two tetters —eczema, lichen, and psoriasis on the one hand, and the erythematous affections on the other. Indeed, while Hardy classes it decidedly with the dartres, Auspitz and Hans v. Hebra place it in close relation to erythema multiforme.

The previous group of diseases, eczema and lichen, scabies and psoriasis, are usually chronic, and even when their onset is acute they run an indefinite course afterwards. They are more or less closely related to local irritation. The present group has an acute or subacute, self-limited course, often recurrent but seldom or never chronic.

ERYTHEMA is the name which has been given to some affections belonging to this group, and it may be conveniently extended to the whole.*

Willan classed erythema with roseola, urticaria, scarlatina, rubeola, and purpura under the title "exanthemata," the general character of the order being hyperæmia of the skin without further lesion. Subsequent writers have called a mere hyperæmia "rose-rash" or roseola; while the word erythema, or, as Hebra calls it, *erythema exudativum*, has been confined to a rose-rash with palpable inflammatory exudation, diffuse or forming pimples. Hebra included also the so-called tubercular and nodose species of Willan's genus erythema, and invented a convenient term, *erythema multiforme*.

But in truth we have no need of a special title for mere hyperæmia, that is, dilatation of the blood-vessels without inflammatory exudation, such as follows division of a vasomotor trunk in an animal. A transitory blush is always a physiological phenomenon. Clinically, persistent, "active," or arterial hyperæmia is found to be due to inflammation. Even the erythematous eruption of scarlatina, of measles, or of enteric fever can be proved by its course and sequelæ to be in each case true dermatitis. Bateman himself remarked that the efflorescence to which Willan appropriated the title of roseola is of little importance practically, and quotes the

* This word, denoting "redness" of the skin, is applied in classical Greek, either as *ἐρύθημα προσώπου* or alone, to a blush, and by Thucydides to the redness of the eyes seen in those suffering from the plague at Athens. It was also used by medical writers as almost, if not quite, synonymous with *ἐρυσίπελας*.

dictum of Fuller in his 'Exanthematologia' that it is "rather a ludicrous spectacle than an ill symptom."

We must, however, recognise two meanings of the word "erythema," just as we are obliged to recognise two of the word "eczema." We saw that eczema is, as Hebra proved, a common superficial dermatitis, which has reached the stage of visible and usually serous exudation; but we saw also that the most important peculiarity of the disease eczema is that it is not traumatic, not called forth by ordinary irritants, and not limited by their action. An artificial or traumatic eczema is therefore, for practical purposes, better refused the name. Accordingly we added to the definition of eczema as a disease the character of being *idiopathic*, with its own peculiar distribution and course.

In the same way "erythema" may be defined, and has been used by Hebra and other authorities to denote the slightest form of dermatitis in which the classical signs of redness, heat, and pain are accompanied by little or no perceptible swelling. The irritation of a mustard plaster, for instance, will in most persons produce such a typical "erythema;" the scorching of the sun does the same; and if the skin be more than usually delicate, and the mustard or sun more than usually strong, what was an "erythema" becomes an "eczema." It would be better if the term "superficial traumatic dermatitis" were used for both stages of the inflammation; or we might speak of the earlier as an erythematous and of the latter as an eczematous or weeping dermatitis.

But apart from this use of "erythematous" as indicative of a slight degree of inflammation with hyperæmia, we are only following Hebra's initiative by taking the best marked forms of disease to which the name Erythema is attached (*e. g. E. nodosum*), and grouping with them under the same title others which have the same pathology and clinical features, so as to form a natural group.

Just as we define the disease eczema by its clinical and pathological features apart from its mere anatomy, so we can define this erythematous group of affections. They are distinct from the erythematous stage of common dermatitis; and though often strictly "erythematous" in the symptomatic

sense of the word, they sometimes exhibit other lesions, to which Hebra's adjective "multiform" applies.

1. The characteristic *anatomical lesion* is a rose-rash, resembling the first degree of traumatic dermatitis, that is to say, *injection* of the surface; sometimes with obvious general *œdema*, sometimes with circumscribed œdema, forming *wheals*, and sometimes with *papules*—which are distinguished from those of eczema by not developing into vesicles, from those of lichen by their bright colour and transitory duration, from those of impetigo and prurigo by never becoming pustular, and from those of psoriasis by never becoming scaly. In certain rare forms of erythema separate *bullæ* are formed which may simulate those of pemphigus. The rash is usually followed by a slight branny *desquamation*. It will be seen that, after all, the multiformity of the lesions of erythema is less than that of the lesions of eczema.

2. Whatever the nature of the lesion, the *exudation* is of a watery rather than a corpuscular nature, so that œdema, diffused or circumscribed, is its characteristic, in contradistinction to the sero-purulent or purulent vesicles and pustules of eczema and scabies. Moreover, along with the hyperæmia and œdema, there is very apt to be a certain amount of escape of blood-corpuscles, an event which never occurs in eczema except as the result of direct injury, as by scratching. The result of this hæmorrhage is sometimes so marked as to give the title "purpura" to the eruption. Willan and Bateman rightly included *purpura urticans* with erythema among the exanthemata, although other kinds of purpura are altogether distinct from any form of dermatitis, and are only parts of a general hæmorrhagic condition. The result of the hæmorrhage is to leave bruise-like pigmentation behind, so that this when present is very characteristic of true erythema.

In these characters, as in some others, and especially in the fact of the occasional occurrence of bullæ, the erythematous group bears a closer relation to pemphigus than to any other of the chronic forms of dermatitis belonging to the so-called dartrous group; but if one attempts to include pemphigus as an erythema, its course and treatment forbid the conjunction. Dr Hans von Hebra, however, whose classification differs widely from that of his father, unites under the

title "Angioneurotic affections of the skin" the erythematous rashes of infectious diseases, the rashes produced by drugs and poisons, and, thirdly, the essential erythemata, together with pemphigus and acne rosacea.

3. The *course* of erythema is subacute; that is to say, it begins quickly, sometimes with slight febrile symptoms, and does not last indefinitely. Even when its course is comparatively chronic it will be found that the protracted disease is really made up of a series of outbreaks, which may sometimes run into one another, but always preserve a recurrent or intermittent character. No erythematous disease ever acquires the chronic, stable, and inveterate stamp of eczema, lichen planus, psoriasis, or pityriasis rubra.

Erythema is, however, often recurrent, and, when frequently so, may produce chronic induration and hypertrophy. Of this, Gutta rosea is a capital instance.

4. The *locality* of erythema is much less definitely marked than that of psoriasis or of eczema. On the whole it is symmetrical, sometimes accurately and exclusively so, but there are frequent exceptions to the rule.

The favourite localities are, first, the extensor surface of the forearms and legs, especially the back of the hand, wrist, and ulnar side of the forearm, the dorsum of the foot, and tibial side of the shin;* secondly, the face, cheeks, and neck; thirdly, the chest and abdomen. The back of the trunk, the buttocks, thighs, and upper arms are much less frequently affected; while the scalp, the flexures of the joints, the palms, and the soles are scarcely ever attacked by any form of true erythema.†

5. As a rule, smarting and tingling are the *symptoms* which accompany erythematous eruptions, while severe pain and

* Although the true homology of the tibia is undoubtedly with the radius and not with the ulna, yet the tibial aspect of the shin, from its having no underlying muscles, agrees pathologically with the skin covering the subcutaneous surface of the ulna, just as pathologically the patella answers to the olecranon, and the second metacarpo-phalangeal to the first metatarso-phalangeal joint.

† It is remarkable that Prof. Thomas, of Leipzig, states in 'Ziemssen's Handbuch' that erythema is absent from the extremities as a distinction from the rash of scarlet fever. The assertion can only rest on a misapprehension of the term erythema as used by Hebra and all modern writers.

excessive itching are rare. Local tenderness is more marked than in eczema. Sometimes the irritation is considerable, though never comparable to that of chronic eczema, scabies, or prurigo. When wheals are present we may be sure that there has been pruritus and scratching.

6. The erythematous rashes do not spread. They appear simultaneously at different spots, and fresh patches appear which may occasionally unite, but we never see the affected part of skin gradually enlarge its borders—the characteristic course of eczema and psoriasis.

7. Of the *ætiology* of erythema we in most cases know nothing. The lesion can, as above explained, be produced by moderate irritation, the diffused forms by heat or friction, those with wheals by the lash of a whip, or by the poison of the stinging-nettle, the hairs of certain caterpillars, and the thread-cells of certain anthozoa. But in the non-traumatic, idiopathic, or "true" cases of erythema the eruption can, in striking contrast to those of eczema and psoriasis, be in most cases traced to some *internal* disorder. In other words, erythema is usually *symptomatic*. The most striking instance of this is the erythematous rash produced by copaiba and by certain articles of food. Many other cases are dependent upon *dyspepsia ;* others, again, upon *rheumatic fever*. This is particularly true of E. nodosum, urticaria, and the hæmorrhagic form of erythema known as *Peliosis rheumatica ;* but papular erythema is a far too frequent complication of rheumatic fever for it to be a rare accident.*

Moreover, one may fairly adduce in this connection the fact that the symptomatic early rash of syphilis, the exanthem of scarlatina and of measles, and the occasional prodromic roseola of smallpox, enteric fever, and cholera, all belong to the erythematous type.

8. Erythema occurs most commonly in children and young adults ; it is comparatively rare after forty. Among persons past their prime it is less uncommon in women than in men. In these, as in so many other points, we observe a marked contrast to eczema and psoriasis, and a resemblance to pem-

* In a short paper on "Erythème papuleux dans ses rapports avec le rhumatisme" ('Arch. gén. de Méd.,' Jan., 1875), Mons. C. Couland published ten cases of this connection. The patients were all under thirty.

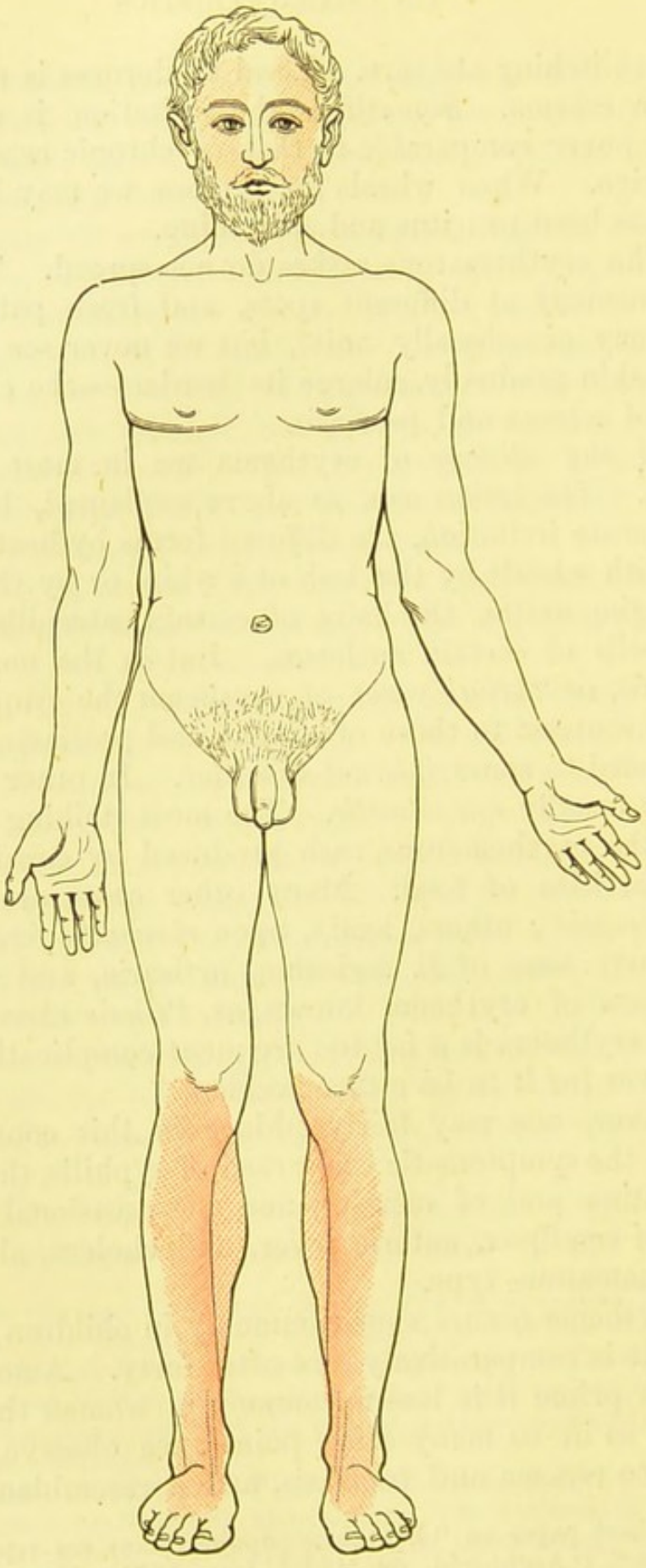


FIG. 12.—Distribution of erythema.

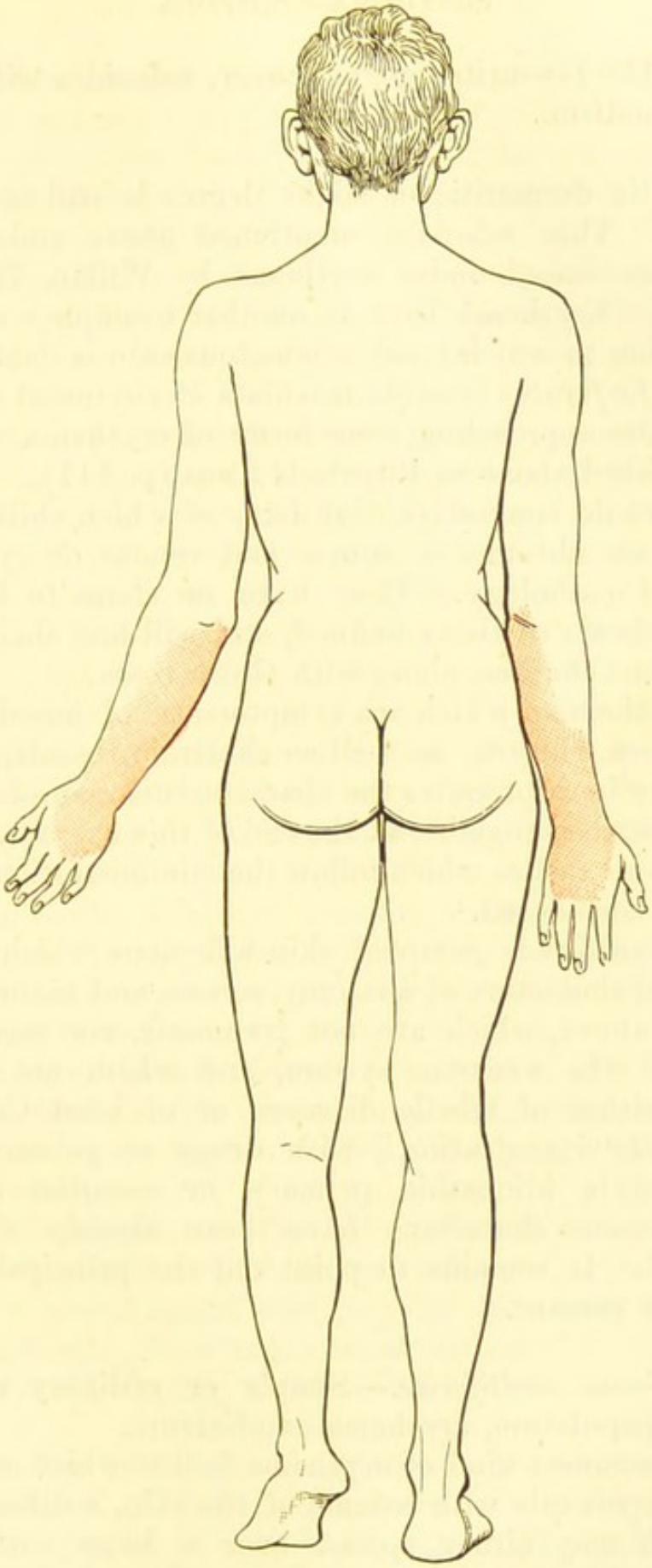


FIG. 13.—Distribution of erythema.

phigus. The favourite age, moreover, coincides with that of true rheumatism.

Traumatic dermatitis of slight degree is still often called erythema. Thus *intertrigo*, mentioned above under eczema (p. 27), was classed under erythema by Willan, Hebra, and Neumann. Erythema læve is another example; it is slight inflammation to which tense œdematous skin is liable.

Roseola furfuracea (roseola maculata et circinata) is a slight inflammation approaching some forms of erythema, which has been described above as Pityriasis rosea (p. 111).

The chronic congestive disorders, of which chilblains are the type, are chronic in course and venous or cyanotic in aspect and pathology. They have no claim to be ranked under erythema as above defined, and will find their place in a subsequent chapter, along with Gutta rosea.

The erythemata which are symptomatic of measles, scarlatina, enterica, rubeola, as well as choleraic roseola, and that which sometimes precedes the characteristic rash of smallpox, will be described together at the end of this chapter, after the erythematous rashes which follow the administration of drugs have been considered.

There remains a group of skin affections which agree in the general characters of anatomy, course, and natural history described above, which are not traumatic, nor secondary to diseases of the vascular system, and which are not symptomatic either of febrile diseases, or of what Continental writers call "intoxication" with drugs or poisons. These we may style idiopathic, primary, or essential erythema. Their common characters have been already sufficiently expounded. It remains to point out the principal varieties which they present.

1. *Erythema multiforme.*—Simple or ordinary erythema, erythema papulatum, erythema exudativum.

The commonest kind of erythema is that which consists in general hyperæmia with œdema of the skin, a diffuse dermatitis which may either spread over a large surface with indefinite edges, or, as is more frequently and characteristically the case, occur in patches with defined edge.

On careful examination, small papules may be often distinguished scarcely rising above the level of the skin, as in the eruption of measles; sometimes these are well marked enough to deserve the title *erythema papulatum*, but this is comparatively rare, and most lesions of the skin which receive this name are probably either traumatic dermatitis or an early stage of papular eczema. Large, firm, and persistent papules such as occur in prurigo are never seen in true erythema.

The inflamed patches have usually a very short duration; they may disappear in a few hours (*Erythema fugax* of Willan) and be succeeded by others, but if they persist for a day or two they may form rings which have been specially described as *Erythema annulatum* (*E. circinatum* of Willan), or *Roseola annulata*. When closely set, several of these rings unite, and a sinuous reddish band is produced which has been named *Erythema marginatum* or *E. gyratum*. Finally, the redness fades, the œdema subsides, and may leave no trace behind. If there is desquamation, it is very slight and furfuraceous; more frequently a slight amount of pigment marks the seat of the eruption.

The favourite localities are the back of the wrists and forearms, and the legs; less often the face and neck; sometimes the trunk is affected, but very rarely the thick parts of the skin or those covered by hair.

Erythema annulatum is often observed in association with rheumatic fever, either in the course of an attack or preceding it. It is more common in children and young adults than in older persons.

The inflammation of the skin called *Erythema læve* is a common dermatitis which is apt to appear upon the tense skin of dropsical parts, and may go on to deep dermatitis and sloughing. It is not uncommon as the result of acupuncture or of tapping, and is allied to traumatic erysipelas.

2. *Vesicular and bullous erythema.*—The exudation of erythema, instead of being a somewhat deep diffused œdema, sometimes appears in superficial collections of serum. These when small are called vesicular erythema, or "herpes;" when large, "erythema bullosum."

Herpes,* the common Latin term for an eruption of the trunk, in contradistinction to porrigo or an eruption of the head, was limited by Willan to vesicular eruptions which he distingushed from the vesicles of smallpox and chicken-pox, from sudamina, and from the inflammatory vesicles of eczema. His species of herpes were as follows :

Herpes zoster, or zona, an eruption erythematous, it is true, in its anatomy and course, but which is so demonstrably connected with nervous disorder that it is rightly separated from all other forms of dermatitis, and will be described in a future chapter among cutaneous disorders of nervous origin.

Herpes circinatus, which we shall afterwards describe as the form assumed by ringworm when it affects the body, is a parasitic disorder, and is now classed with *Tinea*.

Willan and Bateman's remaining species are *Herpes phlyctænodes*, of uncertain seat, called *H. labialis* or *H. preputialis* when affecting the lips or the foreskin respectively, and *H. iris* when found on the back of the hands or the instep.

These from their course and natural history may be well included in the general group of erythemata. This was, indeed, to some extent admitted by Hebra, and even by Rayer before him.

Herpes labialis or *facialis* consists of a little group of vesicles upon a red patch of skin which appears almost suddenly, most often upon the upper lip, frequently on the alæ of the nose, sometimes on the cheeks or chin. The writer had recently an example of symptomatic herpes or vesicular erythema, which covered one ear of a boy ill with lobar pneumonia, and ran a typically acute course. Or the vesicles may appear on the buccal mucous membrane. In a day or two the clear, pearly contents become somewhat turbid and puriform, and dry up into a thin brownish crust, which speedily falls off and leaves no trace behind. The vesicles entirely differ from those of eczema or ordinary traumatic dermatitis by their large size, by their not running one into another so as to form a weeping surface, by their acute course, and by the

* The word ἕρπης is derived from ἕρπειν. "Herpes dicitur eo quod videtur ἕρπειν, quod est serpere per summam cutem, modo hanc ejus partem modo proximam occupans." From the same creeping progress the disease was, according to Bateman, called *formica* by the Arabs.

sharply limited edge of the patch. They also are unattended with itching or pain, and never consist of pure pus like the eruption of impetigo or scabies. Moreover, they are always symptomatic of some internal disorder, most characteristically perhaps of acute lobar pneumonia. Many persons are liable to such patches of herpes, either on the lips, or less frequently on other parts of the face, when they are attacked by acute catarrh. Bronchitis, catarrhal pneumonia, whooping-cough, asthma, are rarely accompanied by herpes. Sometimes the eruption appears to follow a rigor, even when this symptom does not prove the precursor of pneumonia or catarrh.*

This curious eruption has clearly little or no connection with eczema and its allies; nor can we link it with zona, for it frequently recurs, it is not unilateral, it does not follow the course of a nerve, and is unattended with pain. Its superficial character, sudden onset, and rapid course agree with the erythematous group as here defined, and the fact that it is symptomatic of internal disturbance and usually of irritation of a mucous tract completes the analogy.

Herpes preputialis, when no longer left as Willan placed it, and as Hebra was content to leave it, among vesicular inflammations, is difficult to classify. Hardy is even driven to the untenable assertion that it is nothing but local vesicular eczema. The rapidity of its onset and course, the superficial lesion, the patches, the absence of notable irritation or pain, all point to a pathological connection with true erythema; while the anatomical lesion and its occurrence at the orifice of a mucous tract bring it into relationship with herpes labialis. The chief difference is that, occurring as it usually does on the inner side of the prepuce or glans, the vesicles are broken almost as soon as they form, and very superficial ulcers take the place of scabs. The condition is exactly like that of a vesicular eruption on the tongue. Like herpes labialis, it often recurs in the same patient; like it also it is often symptomatic of inflammation or stricture of the urethra, although it does not seem to be produced by cystitis, and certainly does not follow inflammation of the kidney as labial herpes does inflammation of the lung. The

* See an interesting autobiographical account of a case of the kind by Mr C. J. Symonds in the 'Clinical Transactions' for 1884, p. 60.

chief practical importance of preputial herpes is its diagnosis from a soft chancre.

Herpes iris is a rare and remarkable form of eruption, well described by Willan, which is unmistakably erythematous in its nature, and is better named *erythema bullosum*, or *erythema iris*, or *iris*. It occurs sometimes as a single, sometimes as two or more rose-coloured patches with all the characters of erythema, almost always upon the back of the hand, the wrist, or extensor aspect of the forearm, more rarely on the corresponding part of the foot, the instep, and ankle, and exceptionally on the face. It rapidly becomes annular, but before the ring is faded the patch of erythema reappears in the middle, and may thus be surrounded with one or (from a repetition of the process) by two or even three concentric rings. The surrounding ring may exhibit similar vesicles, or they may be more or less abortive, so that one might often question whether, if we adopt the anatomical nomenclature, we should describe the lesion as erythematous or bullous or vesicular. In its most striking form, with a single large tense bleb like one of pemphigus, surrounded by vesicular circles, the whole patch as large as a crown piece, it is one of the most remarkable of eruptions. The inflammation is very superficial, produces little pain or irritation, and after forming thin scabs passes off after a few days, leaving more or less pigmentation, yet not a trace of scar behind. Partly the resulting pigment and partly the rosy red of the rings, the pearly grey of the vesicles, and the more or less yellowish contents of the older bullæ seem to have combined with the bow-like form to give the title iris. The course of this curious disease, its superficial character, and its locality, all make it unmistakably erythema, as also the fact that it occurs almost exclusively in young persons; but it appears to be symptomatic of nothing.

Iris is not, however, the only bullous form of erythema. Other cases of bullous erythema have been recorded by Dr Duffin ('Pathological Transactions,' 1875), by Dr Crocker and Dr Frederick Taylor ('Clinical Society's Transactions,' Feb. 25th, 1881), and the writer reported two typical cases in the 'Guy's Hospital Reports' for 1880 (3rd series, vol. xxv, p. 211).

*Erythema gestationis bullosum.**—There is a remarkable and rare affection which has been described as a species of pemphigus, of herpes, or of erythema, or has been included under the title "Hydroa." Its pathological alliance appears to be with the form of erythema which depends on ovarian irritation, but the existence of bullæ makes it liable to be confounded with pemphigus.

It occurs only in women during pregnancy. The bullæ, vesicles, and vesiculo-pustules appear in abundant crops over the trunk, and often on the face and limbs also. Pruritus is marked. There is more or less constitutional disturbance, and sometimes the temperature rises high. The clinical aspect is therefore serious, and occasionally alarming. But the result appears to be always favourable. The disease is cured by delivery.

We have had one instance—and others are on record—in which this remarkable form of pemphigus or bullous erythema appeared again and again in successive pregnancies.

Cases of "herpes gestationis" have been carefully described since Chausit and Hardy, by Dr Liveing, Dr Bulkley, and other observers in this country, on the Continent, and in America. The general features are very uniform, and there is no doubt of the reality and distinctness of the disease; but its true pathology and the means of prevention or treatment are still obscure.

Dermatitis herpetiformis.—Under this name Dr Duhring, of Philadelphia, described, in 1884, a polymorphous inflammation occupying the greater part of the trunk and limbs, and causing much irritation. The first eruption is a papular erythema, but vesicles and bullæ soon appear upon the inflamed patches, and smarting succeeds irritation. Successive crops of eruptions follow, with pigmentation, until weeks or months have passed; but the ultimate tendency is to recovery.

This description coincides with that of cases to which Bazin applied the title of *Hydroa* (p. 126). He distinguished an herpetic form (*Hydroa vesiculeux*), a pustular (*H. vacciniforme*), and a bullous (*H. bulleux*). The first may be referred to

* *Synonyms.*—Hydroa (in part)—Pemphigus uterinus, hystericus, v. pruriginosus—Herpes gestationis—Impetigo herpetiformis—Dermatitis herpetiformis.

Willan's Herpes phlyctænodes or Hebra's Erythema multiforme; the second, perhaps, to Hebra's Impetigo herpetiformis;* and the third to Willan's Herpes iris. The group would include the *Herpes gestationis* above described and Erythema bullosum, as well as Pemphigus pruriginosus.

There appears to be no advantage in using the vague term Hydroa or that of herpetiform dermatitis for this group of eruptions, which may better be included among the herpetic, vesicular, or bullous forms of Erythema. The distribution is more general than in typical cases of Erythema iris or E. multiforme, but it agrees in avoiding the scalp and face, the palms and the soles, the shoulders and back; the course is more recurrent, but not truly chronic; there is much more of itching and less of smarting, but the broad clinical features of the affections so variously named separate them from all but the erythematous group of diseases.

When vesicles and bullæ appear in the course of an erythematous rash, we must first make sure that they are not due to local irritants, whether accidentally or designedly applied; next we must separate them from the bullous and pustular eruptions produced by iodide of potassium, from the bullous form of syphilodermia, from symptomatic Herpes, and from that which follows the course of cutaneous nerves and will be afterwards described as Zona; and, lastly, we must diagnose them as well as may be from the bullæ of typical Pemphigus, although in many cases the line is here difficult to draw.

3. *Erythema nodosum.*—This curious affection was well described by Willan. It occurs, as Bateman described it, "in large oval patches, the long diameter of which is parallel with the tibia, which slowly rise into hard and painful protuberances, and as regularly soften and subside in the course of nine or ten days, the red colour turning bluish on the eighth or ninth day, as if the leg had been bruised." In this form of erythema the anatomical lesion is especially characterised by œdema; the spots do not itch,

* This affection is described by Kaposi in a paper published in 1887 in the 'Vierteljahresschrift f. Derm. u. Syph.' Duhring would include it under his Dermatitis herpetiformis, but no case has yet been described in England, and at present there seems great doubt as to its nature. Possibly it is a pyæmic eruption, for its course appears to be malignant.

but are somewhat painful and very tender, more so than in any other of the erythematous group. There is almost always not only deep venous congestion of the typical erythematous rose tint, exaggerated by its position on the legs, but there is almost always a slight indication of actual hæmorrhage. Probably the pigmentation, which like other forms of erythema it is apt to leave behind, is much deepened by chemical transformations of the effused hæmoglobin such as we see in a bruise.

The locality of erythema nodosum is, as Willan says, most frequently over the tibia, but it is not confined to this part, for it may be seen on the ankle or the calf, and it is not uncommon over the corresponding surface of the ulna. It is usually symmetrical, and may affect the whole extensor surface of both forearms and both legs. It is very seldom seen elsewhere.

It has a slower course than most kinds of erythema, but like them is prone to recur. Willan and Bateman, and also Green in his 'Practical Compendium,' state that erythema nodosum only affects women; but Plumbe in 1824 ('Practical Treatise on Diseases of the Skin') notes its occurrence in children, and it is not unfrequently seen in boys under or about the age of puberty, who are also liable to hysteria, chorea, and other female disorders. Modern experience, like Willan's, is that erythema nodosum is most often seen on the skin of servant girls (see the Model 138 in Guy's Museum).

It occurs very frequently in those who have suffered from *rheumatic fever*. Dr Stephen Mackenzie brought before the Clinical Society in April, 1886 (vol. xix, p. 215), more than 100 cases of erythema nodosum collected from the four largest hospitals in London. Ninety patients were females, and 18 males. Only 25 were over thirty years of age, 30 were between twenty and thirty, 39 between ten and twenty, and 14 were children under ten. In 17 cases there was also past or present rheumatism (acute in 13, subacute in 4), beside about as many more in which the existence of true rheumatism was asserted or probable. There was a cardiac murmur in 13 cases, in only two of which there was history of rheumatic affection of the joints.*

* See Dr Thos. Barlow, 'Brit. Med. Journ.,' Sept. 15th, 1883, p. 511. Dr Cæsar Boeck has also published a monograph on this point.

The course, the lesion, the œdema, the hæmorrhage, the locality, the subjects of this affection, are all typically erythematous.

4. *Urticaria.**—Willan rightly placed urticaria in close relation to erythema. Almost all subsequent writers have followed this indication; and if convenience did not forbid innovations, it might be called "erythema pomphosum," for the characteristic lesions are *pomphi*—wheals, *i. e.* raised flat white patches, sometimes surrounded by an erythematous blush. Their histology is that of acute inflammatory œdema of the cutis, which fills the lymph-spaces and expels blood from the venules. The effusion takes place very rapidly, and may be called forth either by a mechanical or by a chemical irritant, as in the wheals produced by the nettle (*Urtica urens*), from which the disease receives its name. In persons liable to the affection it can be produced by the finger only drawn across the skin, so that it is possible to write characters in raised wheals. This last has been defined as "factitious" urticaria. The anatomical lesion has therefore its counterpart in the traumatic wheals produced in any skin by the sting of the nettle or the stroke of a whip, and produced by much slighter irritation in susceptible subjects. The relation of such traumatic urticaria to the idiopathic disease precisely corresponds with that which was expounded at some length between common superficial dermatitis, from the sun or other irritant, and idiopathic eczema; between prurigo senilis a pediculis, and idiopathic prurigo of Hebra; between erythema congestivum et bullosum, and chilblains.

Beside the well-marked oval or linear wheals of ordinary urticaria, we often see the lesion in the form of small round patches, or as large white plateaux formed by the coalescence of several smaller ones ("giant urticaria," *U. tuberosa*). Both these forms are frequently produced by nettles. We may also include as essentially of the same nature the large, flat, white papules, which are obviously distinct from those of ordinary eczema, and which have been described as *strophulus albidus*, and also not unfrequently under the name of *infantile prurigo* and *lichen urticatus*. These papules are distinguished

* *Synonyms.*—Nettle-rash—Cnidosis: including lichen urticatus, purpura urticans, and much of strophulus.—*Fr.* Urticaire.—*Germ.* Nesselsucht.

by rising rapidly, and by following, not causing, pruritus ; for they are the result and not the occasion of the patient's scratching. They are most often seen in infants, but may be observed along with more obvious wheals in ordinary cases of adult urticaria. In exceptional cases it is said that the wheals last, so as to produce a chronic condition (*U. perstans*). Sometimes, but also as an exception, bullæ are described as mingling with the wheals—a fresh sign of affinity between urticaria and erythema.

The *distribution* of nettle-rash is less definite than that of other forms of erythema, and, indeed, of most other cutaneous affections. We do not observe any predilection for the erythematous regions, the extensor surface of the forearms and legs. It is quite as common on the back and trunk generally as on the limbs ; the only parts it avoids are the scalp, face, arms, and soles. It is not symmetrical. The mucous membrane of the mouth is occasionally affected.

Urticaria is abrupt in origin and sometimes acute in *course*, but often persistent and obstinate in successive attacks.

Of all forms of erythema, urticaria is the most irritable, the severity of the itching being comparable to that of eczema, scabies, or prurigo. There is no pain or smarting, and no subjective symptoms except from the restlessness and sleeplessness which it occasions, especially in children. It is most frequent in them or in young adults, but is not confined to any age. According to Dr Liveing it sometimes alternates with neuralgia of the same parts.

The *ætiology* of urticaria is uncertain. As above explained, it is often purely secondary to some local irritant, as pediculi, or complicates a previously existing malady, as prurigo ; and it is probably always aggravated by the patient's scratching. Its close alliance with erythema is shown not only by sometimes alternating with it, but also by its following precisely the same kind of gastric disturbance, both in the most marked forms which are the direct result of drugs or of poisons, and in the less evident cases associated with ordinary dyspepsia. An outbreak of febrile urticaria has been more than once noticed to follow tapping a hydatid cyst. When there is no internal irritant, and no gastric disturbance, urticaria in women can often be traced to ovarian disorders, breaking out

at each menstrual period and subsiding when dysmenorrhœa is cured. Like erythema, again, it is, according to general experience, a not infrequent complication of rheumatic fever.

Urticaria is equally common in men and in women, and more often seen in children, adolescents, and young adults than in middle-aged or elderly persons.

In young children it is usually secondary either to bites of insects (pediculi corporis, pulices, cimices), or to the presence of the acarus, or else to a primary papular eruption. This last combination covers much of what used to be called *strophulus*, and has since been termed *infantile lichen*, *lichen urticatus*, *prurigo infantilis*, *summer prurigo*, and *varicella-prurigo* (see Dr Colcott Fox's paper on urticaria in infancy and childhood, 'Brit. Journ. of Derm.,' 1890, pp. 133, 176).

*Urticaria pigmentosa.**—This title has been given to a singular and rare form of skin disease belonging to the erythematous type, but much more chronic than erythema nodosum. It was first noticed by Mr Edward Nettleship,† and five years afterwards by Mr Morrant Baker and the late Dr Tilbury Fox, in the 'Clinical Society's Transactions,' vols. viii and x. A case in a child of two years old was shortly described in the twenty-fifth volume of the 'Guy's Hospital Reports,' 3rd series, pp. 212, 213.

It has received several names, among others the uncouth and misleading term Xanthelasmoidea; but Dr Sangster's proposed title, urticaria pigmentosa, is now generally accepted.

It is an erythematous eruption with occasional wheals and considerable yellowish pigmentation, lasting for an indefinite period, though its chronic course is probably always made up of more or less distinct subacute attacks. It affects the back and trunk generally, rather than the limbs, and the face very little. The characteristic buff colour always follows the rose-rash.

An excellent account of this affection is given by Dr Colcott Fox in the 'Med.-Chir. Trans.' for 1883, where nineteen recorded cases are tabulated, to which Dr Crocker has

* *Synonyms.*—Urticaria perstans pigmentosa—Xanthelasmoidea—Erythema tuberculatum—Permanent erythema.

† 'Brit. Med. Journ.,' 1869.

since added one ('Clin. Trans.,' vol. xviii, p. 12). See also Dr Cavafy's article in 'Heath's Dictionary of Surgery.'

Dr Paul Raymond has written a valuable monograph on this curious malady ('L'Urticaire pigmentée,' 1888), in which he has collected sixteen cases observed in England, two in America, eight in Germany, and four in France. All these cases occurred in children under two years old, often within a fortnight after birth. The majority of the infants were boys.

Microscopical examination of the affected skin by Dr C. Fox has shown that the lesion is truly a wheal, the tissue of the corium being opened out by œdema. Pick had found minute hæmorrhages in another case.

The affection recurs again and again, but as the child grows older gradually ceases, and the pigmentation still more gradually fades.

In an exceptional case recorded by Lewinski it was still present in a lad of eighteen. In one case of erythema under the writer's care in a woman of thirty-two, a condition which might be called *E. perstans* had been present for four years on the trunk, and was followed by decided pigmentation.

Statistics.—In 100 consecutive cases of erythema the writer found 38 of *Erythema multiforme* (marginate, circinate, annular, gyrate, papular, and roseolar), 17 of *E. bullosum*, including one of herpes gestationis, 13 of *E. nodosum*, 18 of urticaria, and 14 of multiform erythema and urticaria in the same subject. Several cases of erythema and of urticaria occurred during or after rheumatic fever, and four cases of urticaria came immediately after the patient had eaten shell-fish.

There was in each group (except urticaria, where the numbers were almost equal) a preponderance of female patients, the total numbers being 57 to 39, beside 4 infants. in addition to these 4 children under two years old there were in all 33 patients between four and sixteen, 48 between seventeen and thirty-five, and 14 above thirty-five.

Treatment of erythematous affections.—The various erythematous diseases which we have grouped together in this chapter are seen in their true relationship from a practical point of view. They are none of them contagious, they are none of them

attended with serious consequences, they are mostly indicative of some other primary disorder, and they are rather to be palliated by local applications or indirectly cured by treating their internal cause when discovered, than met by a specific plan of treatment. In particular it may be said that they are either unaffected or aggravated by arsenic, and this is one of the most important points which separate them from pemphigus.

In many kinds of erythema, especially symptomatic herpes and iris, no treatment is needful.

The local treatment of the other erythemata consists in the astringent and sedative applications described at p. 42 *seq.*; although the surface is dry, it is found by experience that lotions in most cases answer better than ointments. Goulard's wash, evaporating lotions of spirit and water, or eau de Cologne, hydrocyanic acid well diluted, or solution of borax are the best local applications. When urticaria is severe and these means fail, chloral hydrate may be used locally in solution, or chloroform and ung. cetacei (♏x—xx ad ℥j). Warm baths should be avoided, as also excessive heat and perspiration; tepid water is better than either cold or hot. The patient should be urged to stoical abstinence from scratching; tepid bathing or continued steady pressure will be found to relieve the intolerable irritation of urticaria without aggravating it afterwards, as scratching always does.

For the painful swellings of erythema nodosum, strong lead lotion gives most relief, or lead and opium. Collodion painted over and allowed to dry is often useful; or alum, tannic acid, or other astringent remedies may be used with advantage, or the affected part of the leg may be painted with a strong solution of nitrate of silver. Ointment containing zinc or zinc and lead may be applied to the herpetic and bullous forms of erythema.

Internally, our first care should be to relieve the gastric disorder which often accompanies common congestive or papular erythema, most often by discovering certain articles of food to which it is due. Salt fish, pickles, preserved fruit in the form of jams and crystallised sweetmeats, pork, sour or otherwise inferior wine, malt liquor, stone fruit, and even strawberries—any one of these may in certain persons excite

erythema or urticaria, and it is said that eggs and other articles of diet may occasionally act in the same way in certain persons. Those first on the list should be strictly forbidden. Of all kinds of food, lobsters and crabs, and by a curious coincidence mussels and other molluscs united with them under the title of "shell-fish," are the most frequent causes of erythema or urticaria, and they are the most severe in their effects. Oysters are harmless. Many drugs have a similar result, copaiba being probably the most effectual.

If the eruption continues after its supposed cause is removed, or if we are unable to discover any cause of disorder, such remedies as bicarbonate of soda with gentian or calumba or chiretta, or a few drops of liquor potassæ in peppermint or cinnamon water, should be prescribed. Where there is evidence of gastritis, bismuth is a most valuable remedy, given either in powder or thus:—℞ Bism. carb., sodæ bicarb., pulv. tragac. co., āā gr. x, aq. chloroform. sive menthæ pip. ℥j, M.; to which ten or twelve drops of solution of morphia may be added if the pain is severe. With flatulent disorder, thymol, creosote, or carbolic acid in the form of pills are often the most effectual mode of treatment. In the more atonic forms pepsine given before meals is found practically useful, notwithstanding our physiological doubts; and occasionally dilute mineral acids with nux vomica or bitter infusion will be more valuable than anything else. Gentle saline laxatives taken before breakfast in a large draught of warm water are almost always indicated; and, for women especially, a pill containing aloes or rhubarb, taken before a late dinner or on going to bed, is a useful adjunct. In many patients occasional doses of blue pill are of unmistakable value.

In cases of erythema nodosum and in other forms of erythema which follow rheumatic fever, and occur in pale young women or lads, the preparations of steel are strongly indicated. When there is constipation a good formula is three or four grains of sulphate of iron, half a drachm of sulphate of magnesia, and five drops of dilute sulphuric acid, in peppermint water or calumba. When this is not the case the tincture of steel is a most valuable remedy. In some patients sulphate of iron with carbonate of potash and extract of Barbadoes aloes forms the most valuable Martial remedy. In

whichever form iron is found to agree best it is important to increase the dose until a decided effect is obtained.

In the more severe forms of recurrent bullous erythema, quinine in full doses is of great value, and opium may sometimes be combined with it. Dr Crocker has found arsenic efficacious in some of these cases; and Dr Duhring recommends arsenic in the recurrent forms of dermatitis herpetiformis. Impetigo herpetiformis is said to be uninfluenced by treatment, and the cases reported from Vienna ended fatally.

Eruptions produced by Drugs.—Since the most frequent and characteristic effects of drugs upon the skin are erythematous eruptions, it will be convenient to consider this group of dermatoses here. Drugs and poisons act much in the same way upon the skin as do irritant or poisonous articles of food.

The most striking and frequent of these eruptions is perhaps that produced by *copaiba*. This has sometimes been confounded with an early syphilide. It usually takes the form of a papular erythema, often combined with urticaria and not unfrequently more or less hæmorrhagic. The occurrence of bullæ or vesicles is mentioned by trustworthy observers. In some cases there is no itching, which makes the diagnosis from syphilis the more difficult. The rash is generally distributed over the whole surface of the body, and does not spare even the face, as most other erythemata do. Occasionally it simulates purpura. Some writers have suggested that it is not the copaiba but the urethral inflammation for which copaiba is commonly given which produces the rash. There can, however, be no doubt of the existence of a true copaiba rash. It is not uncommon from the exhibition of the oleo-resin, but is rarely observed in persons who are taking the valuable diuretic, mistura copaibæ resinæ.

Cubebs is generally said to produce a similar eruption, but some of the reported cases appear to have been due to accidental mixture with copaiba. So, at least, Dr Bulkley believes.

Somewhat similar rashes have been observed in patients taking *turpentine*, *cannabis indica*,* and some other drugs, and

* In a case reported by Dr J. N. Hyde in the 'New York Medical Record' for May 11th, 1878.

have been described as purpura, urticaria, pemphigus, herpes, or erythema *a medicamentis*. It is possible that some at least of the eruptions ascribed to salicylic acid were really peliosis rheumatica.

Bromide of potassium comes, perhaps, next in frequency to copaiba as a rash-producing drug. The lesion here simulates very closely that which will be described in the next chapter as acne, but the diagnosis is generally clear from its not being confined to the very characteristic localities of true acne, or to the equally characteristic age which is specially liable to that disease. Occasionally the bromide eruption is more severe, and produces pustules and crusts. The late Dr Carrington reported a remarkable case of solid tumours in an infant, apparently the result of the exhibition of bromide ('Clin. Trans.,' vol. xviii, p. 28, with plate); and also Dr Lees ('Path. Trans.,' vol. xxiii, p. 247, with plate).

Less frequent, but much more varied, more severe, and more misleading is the eruption produced by *iodide of potassium*. This is, perhaps, most frequently a papular erythema, widely or irregularly distributed on the trunk, limbs, and face, free from itching, and usually unfelt by the patient. Sometimes, however, there is considerable erythematous dermatitis between the papules. A follicular inflammation undistinguishable from that described above as bromide acne is a less frequent effect of the iodide salts. More often the rash which was at first papular becomes vesicular, bullous, or pustular. In these cases the inflammation is often very severe, and the constitutional disturbance considerable. They have been, there is no question, often confounded with herpes and so-called "hydroa;" and, indeed, until one has seen several cases, it is difficult to believe that so severe a dermatitis can be due to a drug which in most cases has no effect whatever upon the skin. The eruption may simulate scabies or eczema, but the absence of definite localisation, of chronicity, of the secretion of eczema, or of the cuniculi of scabies, should make the diagnosis not difficult. Along with the pustules there may arise what the older dermatologists would have called a tubercular disease of the skin, raised fleshy nodules simulating papillary growths, condylomata, mucous patches, and the later forms of syphilodermia. They may resemble rupia or

lupus, or even malignant disease. Inasmuch as these severe effects are apt to follow the large doses of iodide of potassium given in the later stages of syphilis, the difficulty of discriminating them is naturally increased.

In a patient under the writer's care suffering from an ordinary pustular syphilide, some of the lesions on the face and the back of the hand became so swollen, hypertrophied, and covered with profuse granulations, that both cheeks were deformed, the eyes almost occluded, and one hand was covered with exuberant granulations, which, when seen alone, suggested to different observers lupus hypertrophicus or epithelioma. There was, however, no doubt of the nature of the case. The diagnosis was confirmed by the patient's recovery perfectly when the drug was discontinued. The chief point which guided one aright in this case was that, notwithstanding his frightful appearance, the patient was eating and sleeping well, so that it was with great difficulty he was persuaded to come into hospital.

Another form of iodide rash is punctiform, and resembles scarlatina rather than measles, the patches and rose tint of which are more nearly simulated by the copaiba rash. This iodide eruption is often purpuric (Dr Duffey, 'Dublin Journal of Medical Science,' vol. lxix, April, 1880).

More often pustules may appear, and when deep and occupying a hair-sac, cause crops of boils. The presence of iodine and bromine has been actually demonstrated in the pustules by Adamkiewicz and Guttmann.* The iodide produces its effects on the skin much more rapidly than the bromide. In both cases there appears to be a true excretion of the drug through the sebaceous glands. For an account of the histology see a paper by Dr Thin ('Med.-Chir. Trans.,' vol. lxii, p. 189).

Weeping dermatitis, curious wart-like nodules, and other peculiar eruptions have been described as the result of bromide of potassium by Voisin and Veiel, quoted by Behrend ('Berlin. klin. Wochenschrift,' vols. xvi and xxii, pp. 626 and 714, 1879). Two cases of severe iodide eruption were

* 'Virchow's Archiv,' 1878, vol. lxxiv; 'Charité Annalen,' vol. iii, p. 381, 1878.

figured by the late Dr Tilbury Fox ('Clinical Society's Transactions,' vol. xi, November 23rd, 1877).

Various measures have been adopted to prevent these unpleasant effects. The addition of carbonate of potash or aromatic spirits of ammonia is sometimes sufficient. Moderate doses of arsenic have been recommended, but they often fail in preventing the eruption. Changing the potash to the soda salt of iodine is sometimes followed by the disappearance of the rash; this is, perhaps, a coincidence. It is, at least, certain that persevering with the drug in even larger doses is often followed by the disappearance of the unpleasant effect it had produced.

Belladonna in full doses often causes a bright red and almost universal erythematous rash. It may be recognised by its association with dilated pupils and a dry throat, together with the characteristic delirium if the dose has been large. In one case under Mr Hilton it was caused by the mere application of a large belladonna plaster in a woman who must, one supposes, have been more than commonly susceptible. Children, who bear as large doses of this drug as adults, are also liable to these symptoms of intoxication. A few years ago more than a dozen children were admitted in Guy's Hospital with symptoms of belladonna poisoning. They had broken into a drug warehouse on a Sunday, and had eaten some of the contents. The rash in most cases was like that of scarlatina.

Similar rashes have been observed as the result of *hyoscyamus* or *stramonium*.

Opium and *morphia* sometimes produce considerable pruritus, and this leads to erythema or urticaria by the scratching which results.

Chloral hydrate has occasionally been the cause of an erythematous rash ('Clin. Trans.,' xiii, p. 121), and in one instance the writer observed a severe general acute dermatitis follow the exhibition of *chloralamide* (*ibid.*, 1890, p. 137, pls. ii, iii).*

Quinine.—There can be no doubt that quinine may produce a general acute erythema, which was first described by

* Mr Hutchinson has figured an erythematous rash of the hands due to chloral in his 'Archives of Surgery,' vol. i, pl. v.

Skinner, Fleming, and other English authors, and has since been observed abroad. Its symptoms closely resemble scarlatina. It begins in the face, spreads rapidly over the whole trunk, and is accompanied by severe fever, the temperature sometimes reaching 103·5° Fahr. It is certainly a very rare effect of so popular a medicine, and its occurrence may be regarded as due to an idiosyncrasy. In one case of Köbner's the eruption followed the exhibition of quinine three times in the same patient. A still more severe local erythematous rash of the face, sometimes vesicular, has been observed as the result of quinine by Hebra, von Heusinger, and some other physicians. (See a case in a child reported by Dr H. Hagan, of Atlanta, in the 'New York Medical Journal,' 1891.)

Dr Morrow, who has collected sixty cases of quinine eruptions, found that in thirty-eight the rash was erythematous, in twelve it resembled urticaria, in two it was vesicular, and in five hæmorrhagic ('New York Medical Journal,' March, 1880). One case was reported by Dr Fagge ('Medical Times,' February 29th, 1868). See also Dr Farquharson's paper in the 'Brit. Med. Journ.,' February 15th and 22nd, 1879.

Antipyrin has occasionally produced an extensive erythematous rash.

Eruptions from *salicylic acid** have been reported. Since erythema and urticaria are common in the disease for which salicylic acid is usually given, and since adulterations with carbolic acid and consequent gastric disturbances are not unknown, the interpretation of these cases may admit of doubt. The internal use of carbolic acid itself, of tar, turpentine, and petroleum have all produced rashes usually erythematous, but the cases are comparatively rare. An excellent bibliography of the whole subject is given at the end of a paper by Dr Van Harlingen in the 'Archives of Dermatology,' Philadelphia, October, 1880.

Arsenic is said to produce in some persons an acute vesicular eruption which has been styled herpes, and in others urticaria. This occurrence is, however, very rare even when large doses of the drug are given. Zona† has sometimes appeared during

* Cavafy, 'Clinical Society's Transactions,' vol. x, 1877, p. 88.

† Hans von Hebra, 'Die Krankhaften Veränderungen der Haut,' p. 204.

a course of arsenic, too frequently perhaps to be considered a mere coincidence. But if when a patient is taking arsenic and zona breaks out, the mere facts that he has not been exposed to cold, and that the eruption is not epidemic, may be accepted as evidence that arsenic is its cause, all inquiries into ætiology become at once easy and useless. Arsenic has been observed to cause pigmentation of the skin.

Mercury was one of the first drugs to be regarded as the cause of a cutaneous rash. Early in the present century Alley* described what he called Hydrargyria, before the first description of a copaiba nettle-rash by Montègre in 1814. Alley's cases were mostly vesicular, and corresponded with what we should now call eczema, chiefly of the abdomen, thighs, and scrotum; but sometimes they assumed a more severe pustular form, and still more rarely that of bullæ with severe pain and lymphatic inflammation, combined with angina. We may doubt whether local inunction of the drug or the effects of syphilis itself, or a mere coincident attack of eczema, may not explain these cases. Hebra, with a scepticism justified by his enormous experience, denies that any eruption on the skin is ever brought about by the internal use of mercury. The cases reported by Behrend and Engelmann were erythematous, and sometimes complicated with scarlatina.

Erythematous and other Rashes of the Specific Fevers.—Closely allied to the exanthems produced by drugs, poisons, and irritating food are the inflammations of the skin which are the result of specific infection, and form an essential part of the general disturbance produced. To these febrile rashes, and to the diseases of which they are part and symptom, the term *exanthemata* has been long specially applied. But typhus and enterica have the same claim to the name as measles or scarlatina, and we may conveniently describe together in this place all the rashes which agree in their origin from a specific febrile infection. Some are constant, others frequent only, and others occasional or exceptional symptoms of the fever. Most are roseolous or erythematous

He, however, is convinced that the relation is merely accidental. See also Hutchinson, 'London Hosp. Reports,' vol. v.

* 'Observations on Hydrargyria,' Dublin, 1804; London, 1810.

in degree and superficial in depth; but some, like the exanthems of variola and syphilis, develop into pustular dermatitis and leave scars. Each has its characteristic distribution, but all are general and therefore symmetrical (p. 16). Lastly, they all have more or less precise chronological limits of appearance, spread, development, and involution. In former times the obvious characters of most of these exanthemata led to their being regarded as essentially diseases of the skin; and hence the titles "variola," "measles," "smallpox," "chicken-pox," referred to multiple inflorescence, and not originally to the far more important febrile malady of which they were the effect.

Even Hebra followed this tradition as closely as Willan and Bateman, and described the exanthemata at length in his great work on diseases of the skin. We shall not depart so widely from this practice as to omit all notice of this important group, but shall, as a matter of convenience, here give a short account, chiefly for purposes of diagnosis, of the cutaneous exanthems without entering upon an account of the diseases which bear the same name.

Morbilli.—The rash of measles is constant and very uniform in characters. Anatomically it is erythematous, consisting of wide-spread, irregular blotches of roseola, with more or less obvious papules.

The colour is rose or rose-violet, *i. e.* crimson with a certain admixture of blue; occasionally it may be called cyanotic or venous in tint. Petechial or "black" measles has probably been often really hæmorrhagic smallpox, but ecchymoses do sometimes occur in true measles (Guy's Hospital Museum, Models 3 and 4).

The distribution is very general, but most constantly and earliest on the face, whence it spreads downwards over the trunk and limbs.

That it is a true superficial dermatitis, and not a mere hyperæmia, is shown by the branny desquamation which marks its subsidence. This consists of very small scales, like white dust, and must be looked for to be seen.

The rash begins on the fourth day of fever, and fades after two or three days.

Scarlatina.—The scarlet rash of this disease is usually

striking and characteristic, but sometimes it is very slight, fleeting, and doubtful.

In the majority of cases it is diffuse, uniform, not patchy, but punctate, "stippled," as it were, instead of "washed in" like measles, roseolous with papules too minute to be seen with the naked eye except on the arms and legs. Sometimes vesicles are seen also, but I believe that these are sudamina, not inflammatory products. The colour may be pale rose; usually it is bright scarlet, "like a boiled lobster," of a vermilion or arterial tint, and sometimes of a deep lurid red. Lastly, it may be marked by ecchymoses in the form of large purple vibices. In these last "malignant" cases, when the hand is laid on the child's body the red ingestion disappears, but as it is withdrawn a sallow, almost jaundiced tint appears instead of healthy white, and this is marked by purple points and patches.

The skin in scarlet fever is peculiarly pungent to the hand.

The distribution is over the trunk and limbs. The rash begins early, almost always on the second day of pyrexia. It may commonly be first detected on the chest, about the clavicles, or on the forearms. It rapidly spreads downwards over the abdomen, shoulders, back, arms, and hands, and the next day over the thighs and legs until the feet are reached. The face is less affected, sometimes only flushed, but usually the true punctate rash can be traced on the cheeks and all over the neck.

After thus covering the whole surface (or only parts of the chest and arms) for about three days the rash begins to fade from the head and chest, and so disappears in the order it began. Desquamation accompanies and follows this involution, the scales being large, coherent, and abundant. On the hands and feet the thick epidermis comes off very slowly in large flakes, and sometimes as a more or less complete glove or slipper. When the rash is very slight desquamation may still be recognised if carefully looked for, particularly about the neck and the forearms.

Rubeola.—The rash of bastard or German measles is very uncertain in its characters. It is perhaps most often a "rose-rash," *i. e.* a diffused hyperæmia or flushing of the skin

without papules, neither so purple as measles nor so scarlet as febris rubra. But often it closely resembles the former, and not infrequently the latter, both in tint and otherwise.

The face is less constantly affected than in measles, the limbs less constantly than in scarlatina. There is little or no desquamation.

It appears on the same day as the first febrile symptoms, and covers the body very rapidly. It only lasts a day or two.

Enterica.—The exanthem of typhoid fever is less constant than the preceding, being most often absent in children, but probably a few rose-spots may often escape notice.

It consists of discrete papules, rose-tinted, slightly raised, small, and never forming either a vesicle or a pustule, disappearing on pressure (*i. e.* not hæmorrhagic), and lasting only one, two, or sometimes three days.

They are most constantly found on the abdomen, sometimes very scantily, often in large numbers, but never in groups, and never coalescing. They are very common on the thorax, the flanks, and axilla, and rather less so on the loins and the back. It is rare to see the enteric rash spread beyond the trunk, but the writer has seen the rose spots not only on the arms, but on the forearms, feet, and face.

They appear at the beginning of the second week, usually on the eighth and ninth days of the fever when this can be accurately reckoned, and come out in concentric crops, which appear and fade again often during the remaining course of the disease.

Typhus.—The exanthem of *Typhus maculosus*, or spotted fever, is constant. It consists of red spots which rapidly become ecchymoses. They are far more numerous than those ever seen in enterica; they are confluent, and the intervening skin, instead of retaining its white colour, is dusky and mottled, as if a second rash were dimly seen through the skin.

The distribution is very general, over the abdomen and trunk, the arms and legs, and even the face.

It appears in the first week of the disease, most often on the fourth or fifth day. It commonly remains to the end of the fever, and, unlike most other exanthems, it remains visible

after death—owing, of course, to the fact that it is not only an injection but an ecchymosis of the skin.

Variola.—The exanthem of smallpox is a far more severe dermatitis than any other; it is a deep as well as a superficial inflammation, goes on from the papular to the vesicular and pustular stages, and leaves scars behind it. Indeed, it may be doubted whether it is not more analogous to the intestinal lesions of enteric fever than to its rose rash, which more nearly perhaps corresponds to the occasional early roseola of smallpox.

This premature roseolous rash is decidedly rare, though described by Morton in the seventeenth century. It usually occupies (as Hebra described) an inverted triangle formed by a horizontal line drawn from one ilium to the other and by the two inguinal folds. Sometimes its extent is far wider, and occasionally it is hæmorrhagic (models 8 and 9).

The constant exanthem of variola begins as large discrete papules, first felt ("like shot under the skin"), and then seen as they become red. Appearing most often on the third day of the fever, sometimes on the second, and not infrequently early on the fourth, they become vesicular on the fifth or sixth, then purulent and umbilicated; their "maturation" being completed from the ninth or tenth to the eleventh or twelfth days, *i. e.* a week or rather more after their appearance. The pustules may be filled with pure pus, or they may be hæmorrhagic; they may be few or many, discrete or confluent, but in all cases they dry up, forming scabs or crusts, which only slowly separate and fall off, leaving depressed and pitted scars behind.

The distribution is very general. The face is as a rule earliest and most severely affected, but pustules may appear first on the trunk. The scalp suffers severely, as do the eyes and the mucous membranes of the nose and mouth. The hands and feet are least affected, but they are erythematous and swollen.

The *vaccine* pustule closely resembles that of smallpox in its development and course, differing chiefly in only one being the result of each inoculation.

Varicella.—The exanthem of chicken-pox resembles that of discrete and modified variola in its anatomy. It consists of

pimples, much less numerous and less hard, which develop into clear hemispherical vesicles ; some of these undergo a further change into pustules, and may show decided umbilication, but usually the transparent serum only becomes turbid, not yellow and opaque. The eruption dries up and forms discrete scabs, which gradually fall off and in many cases leave no scars ; but not infrequently, perhaps most often, superficial, white, slightly depressed, and occasionally even pitted cicatrices can be seen for long after the attack.

The distribution is chiefly over the trunk, particularly the shoulders and back, but the vesicles are far from rare on the face and on the scalp, while exceptionally they may be seen upon the limbs.

The chicken-pocks appear on the first day of the fever, and often are the first symptom noticed. There is usually more than one crop.

Erysipelas is accompanied by an exanthem so severe that the pyrexia often seems rather symptomatic of the dermatitis than, like it, the result of an infective disease. But the not infrequent postponement of the cutaneous eruption until twenty-four hours or as much as two days from the invasion of the fever makes it certain that we ought to regard erysipelas as an exanthem.

The rash is diffuse, deep lurid red in colour, with well-marked edge, and spreads serpiginously. It is accompanied with great subcutaneous œdema and often by bullæ, or even by deep suppuration, but the latter is more common in the "phlegmonous traumatic" erysipelas of the limbs. Its characteristic locality is the face, starting most often from the inner canthus of the eye, from the nostril, and sometimes from the mouth or ear. It rarely spreads below the chest and shoulders, but may severely affect the mucous membranes and cause fatal œdema of the throat or larynx.

The *syphilitic* exanthem is constant though often slight, and it is not easy to say what should be counted the febrile rash and what later "local lesions."

The early eruption is a true erythematous exanthem, exactly comparable to those of measles and scarlatina ; but the later affections of the skin in this disease, though offering some analogy to the deeper lesions of the exanthem of variola,

are so varied and so important that they will be treated together in a subsequent chapter.

In the above diseases the exanthem is a constant or nearly constant symptom. In the following it is only occasional and sometimes rare.

Cholera.—During the period of reaction (when perhaps we may say that the pyrexia proper to infective diseases is no longer masked by the collapse which follows the excessive purging), the rise of temperature is occasionally attended by a rose rash which has been described as sometimes resembling erythema, sometimes urticaria, and sometimes scarlatina. Its most frequent seats are the forearms and back of the hands, but it may cover the back and limbs, as in a remarkable case modelled by Mr Towne (Guy's Museum, Nos. 49 and 50), where it is a well-marked roseolous and hæmorrhagic deep red exanthem covering the abdomen, and it lasts two or three days, and is sometimes followed by desquamation.

Influenza.—In the epidemics of 1889–90 and 1890–91 several cases were recorded of a roseolous eruption covering the trunk and limbs, rarely even papular in development, and quickly passing off without desquamation. It does not appear to be of prognostic significance.

The relation of *rheumatism* to erythema, particularly to E. nodosum and E. hæmorrhagicum has been already mentioned.

In the course of *Bright's disease*, eruptions are not unfrequently seen on the skin, which occasionally are roseolous in character and erythematous in their course and distribution; but more frequently I have observed them in the form of more chronic dermatitis, which does not stop with the appearance of hyperæmic patches, but develops either into papules (which have been described as a form of "lichen") or into desquamation without a preceding papular or vesicular stage.

The roseolous rash is most common on the feet, legs, and hands; but may also appear on the chest and abdomen, or even on the face. It is quite distinct from erythema leve, and may occur without preceding œdema. The papular dermatitis may be observed on the thighs, arms, and shoulders, and sometimes on the trunk and limbs, but rarely on the face or the hands and feet. The desquamative form begins on the limbs, but

is apt to spread to the trunk and become the most extensive of all, so as to simulate pityriasis rubra. There is not often much itching, and the patient does not himself complain of this complication.

Such eruptions have been thought to be of bad prognosis; and this is so far true in my experience, that they are much more common in the later stages of Bright's disease, but they are by no means always precursors of death, and I have seen recovery follow them.

In the acute form of Bright's disease a transient roseolous rash is the only kind of dermatitis observed, and it is decidedly rare. In cases of tubal nephritis with great anasarca erythema is more common, and papular dermatitis may be also seen. In chronic cases with little or no dropsy both the papular and desquamative eruptions are seen.

It is very doubtful whether these eruptions are correctly ascribed to uræmia, for they often appear independently of characteristic uræmic symptoms, and disappear during their continuance. One might perhaps explain them as examples of inflammation like those of the lungs, serous membranes, and intestine, to which renal disease disposes.

DISORDERS OF THE SEBACEOUS GLANDS, HAIR-SACS, AND SWEAT-GLANDS

ACNE—*Nomenclature—Anatomy and course of local lesions—Distribution—Age and sex—Symptoms—Ætiology—Treatment—Acne tarsi—Acneiform eruptions produced by tar—by bromide—Acne varioliformis.*

Comedones without inflammation (acné cornée)—Milium—Seborrhœa oleosa—Seborrhœa sicca—Xerodermia—Steatoma, meliceris and sebaceous cysts and tumours.

MOLLUSCUM CONTAGIOSUM—*Name and history—Anatomy—Pathology—Treatment.*

SYCOSIS—*Name—Anatomy and course—Locality—Diagnosis—Distribution—Treatment—Parasitic sycosis—Sycosis capillitii frambœsiformis.*

FURUNCULI—*Pathology—Anatomy—Course and distribution—Age—Contagion—Treatment—Carbuncle.*

AFFECTIONS OF THE SWEAT-GLANDS—*Anidrosis—Hyperidrosis—Bromidrosis or fœtid sweat—Chromatidrosis—Hæmatidrosis—Sudamina—Adenoma of sweat-glands.*

IN the long series of inflammatory diseases of the skin we find certain affections which may be arranged, on clinical as well as anatomical grounds, in natural groups. The first we considered was that of the chronic forms of dermatitis which in various degrees resemble the common superficial inflammation produced by irritants. Traumatic eczema, idiopathic, symmetrical, weeping eczema, papular eczema, lichen, lichen planus, pityriasis rubra, and psoriasis—with pemphigus as an outlying member—form a sequence, in which the moist and dry tetters are the leading types. Although there is no evidence that their pathological relationship depends upon the presence of an antecedent dartrous or arthritic or gouty diathesis, yet

they are really related to each other. The erythematous group of affections treated in the preceding chapter, to which pemphigus may be considered as the link, forms as natural though not so extensive a family.

The present chapter deals with inflammatory processes which do not affect the skin generally, but only the hair-sacs and cutaneous glands. Each of them has, as we shall see, peculiarities of distribution and of natural history which are no less characteristic than their anatomy, but these peculiarities belong to acne, furunculi, &c., separately, and not to the whole group. They are brought together in this chapter for convenience, not as naturally related, but as affecting similar structures.

ACNE.*—*Definition.*—A deep papular or pustular inflammation arising from occlusion of the sebaceous glands, affecting the face, chest, and shoulders at puberty and in early adult life.

Among affections of the sebaceous glands the only one of common occurrence is acne. It is referred to by Cicero, Martial, and other classical writers, but as a blemish rather than a disease.†

The sebaceous glands become occluded, either by their secretion being too thick or by want of cleanliness in removing the accidental obstructions from dirt. The first effect is to produce a number of small, firm, and somewhat pointed papules (*comedones*). Each of them is produced by accumulated sebum and is marked by a black head, which is nothing but the dirt obstructing the orifice of the gland. This condition, which has been named *acne punctata*, may continue for an indefinite time, but sooner or later some of the papules show signs of irritation, and in most cases this very speedily super-

* *Synonyms.*—Acne vulgaris—Acne disseminata.—*Germ.* Finnenausschlag.

The derivation of the word is unknown, but is commonly supposed to be a corruption of ἀκμή, and to refer to its occurrence in the prime of life. Its proper Latin name was *varus*, and it was called ἴονθος by the Greeks and also ἀκμαί.

† "Pæne ineptiæ sunt curare varos et lenticulas et ephelidas; sed eripi tamen feminis cura cultus sui non potest." (Celsus, 'De Med.,' lib. vi, cap. v.)

venes in each obstructed gland. The papule becomes red, swollen, and before long yellow, from suppuration having taken place. This pustular form or pustular stage of acne is no less characteristic. By the surrounding congestion and œdema, the deformity is of course increased, until the minute abscess bursts, and the inflammation slowly subsides. When the inflammation is slight, no trace remains, but a second process with the same course and termination often follows. When severe, a minute white scar is left behind, the gland is destroyed and incapable of renewed action. If the hair-sac into which the sebaceous gland opens is deep, the inflammation is the more severe, and sometimes causes a minute slough, which leads to the pain and swelling characteristic of a furunculus. Such little boils are naturally slower in their course and lead to deeper scars. The face or shoulders may be seen covered with acne spots in all the above stages, so that the pain and irritation become great and the deformity distressing. The chronic form used to be called *acne indurata*.

Histology.—A section of an acne pustule shows not only the papillæ but the deeper layer of the cutis œdematous and filled with leucocytes, and the small blood-vessels dilated. In the pustular stage the leucocytes increase in number and assume the character of pus-corpuscles ; the acini and duct of the gland are filled with pus, often mingled with blood-discs. The process in the large acne pustules is found to affect the hair-sac into which the sebaceous gland opens, so that the hair itself is uprooted and the entire follicle destroyed (*cf.* fig. 15, A, p. 185). When the destruction of the papillæ has taken place—in other words, when the inflammation has become "deep" instead of superficial—a scar always results after the acne is cured.

Dr Liveing has found that in a sebaceous sac which is the seat of a comedo many minute abortive hairs may be found, the growth of which is perhaps the immediate cause of obstruction.

It may here be observed that the minute parasitic mite known as *Demodex folliculorum* is frequent in healthy sebaceous glands, and never causes acne.

Distribution.—Acne is confined, almost without exception, to the *face*, shoulders, and chest. It usually begins about

the forehead, the cheeks, the alæ of the nose, and the chin; but pimples may cover the whole of the face, and the intervening skin be occupied by an erythematous dermatitis.

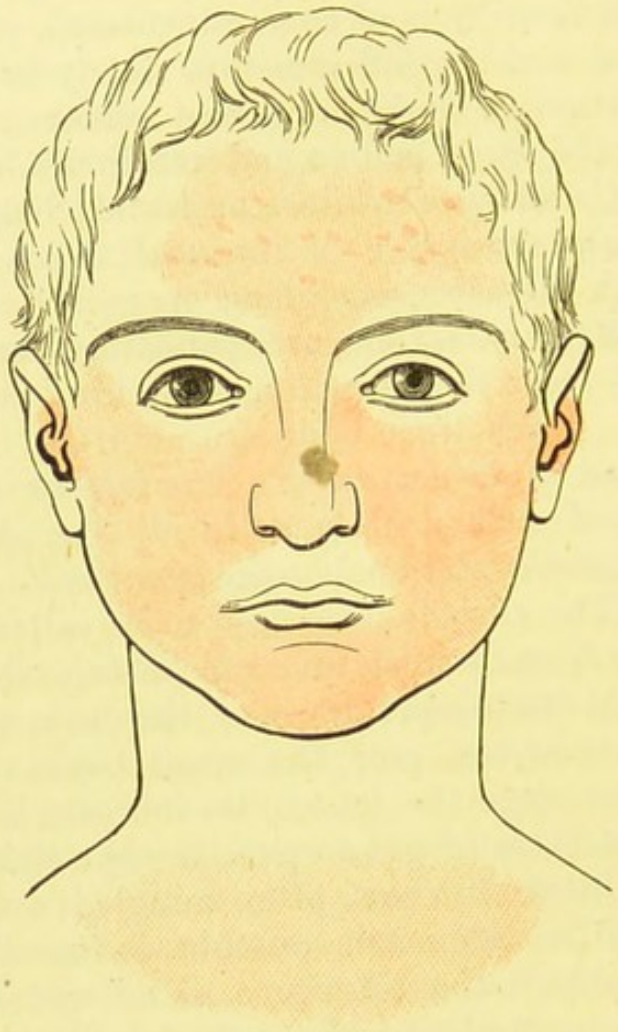


FIG. 14.—Distribution of acne.

Comedones, as the black-tipped early lesions of acne are called, are also to be generally seen on the auricle, but here they rarely suppurate. On the *back* the pustular and indurated form is more common, perhaps because it is more apt to be neglected; and there it is that we see the most extensive cicatrices. The lesion may extend from the back of the neck to the loins, but very seldom lower, nor does it pass round the flanks towards the chest and abdomen. A few scattered papules may be sometimes found over the deltoid or on the upper arm. The skin over the *sternum* is the least frequently affected of the three acneic regions.

Occasionally isolated comedones or acne pustules may be found elsewhere, most often on the outer side of the thigh and peroneal surface of the leg in men with coarse hairy skins and large follicles. These, however, are not more common in the subjects of acne than in other persons, and are either accidental or connected with inflamed lichen pilaris.

Age and sex.—This singular follicular inflammation is in its origin and greatest extent confined to the age of puberty and early adult life, although acne when thus begun may continue up to thirty or even later.

Comedones may be seen in a few rare cases in children; but though numerous and apparently characteristic they do not suppurate, and they are found upon the forehead and even on the scalp without the characteristic distribution of true acne.

Any chronic inflammation of the skin, eczema, recurrent erythema, and especially that form which will be described as gutta rosea, may lead to pustular inflammation of the hair-sacs, so that the latter affection has been commonly described as *acne rosacea;* but the distribution, the origin, and the whole natural history of the two diseases are different. In fact, the more closely the subject is studied, the more decisively does true acne separate itself from all other affections.

The disease most commonly begins in lads of about sixteen, that is to say, when the changes which accompany puberty have already begun. It is not common for it to make its first appearance after the beard has begun to grow, but it may begin at from sixteen or seventeen up to one or two and twenty. It is very slow in its progress, and the worst cases are usually those of a year's standing or more. When once thoroughly established the morbid process continues until the beard has fully grown, but in most cases it then begins to subside, and seldom continues after the age of thirty. When acne occurs in a patient above this age, it is usually confined to the back, and has been preceded by ordinary acne of the face. This, as well as the occasional occurrence of severe acne of the shoulders with only slight affection of the face, is probably sufficiently explained by the greater attention given to a visible eruption and the less efficient treatment of all affections which cannot easily be reached.

Although the evolution of acne is, as we have seen, so closely connected with that of the beard at puberty, yet the disease is very far from being confined to the male sex. Indeed, Erasmus Wilson stated in the first edition of his treatise that acne occurs more frequently, perhaps, in the female than in the male; and Dr. Bulkley reports the same from New York, where he found, in nearly a thousand cases of acne, 319 occurring in men to 654 in women. This is not the case in the writer's experience, but acne is common enough in young women about the same time as in lads, or perhaps a little later. Probably there are more male sufferers, but more female patients.

The affection is, as a rule, more diffused in the case of women, the papules more numerous, not so large, and with more erythema between. It is also more often confined to the face; and it is certainly much more rare to see the worst forms of acne indurata, and the disfigurement which follows, in women than in men. On the other hand, while it is somewhat later in its appearance it is decidedly slower in its disappearance, so that acne may be more often seen about the age of thirty in women than in men, and it is chiefly in women that a lingering acne is overtaken by an early gutta rosea, a combination which has no doubt helped in confusing the two disorders.

Course and symptoms.—Acne is always a chronic affection, lasting, if left to itself, for years, but liable to occasional exacerbations. These often coincide with ovarian disturbances in women; in men they are less marked, but sometimes appear to be connected with gastric disturbance, especially with the more acute forms of indigestion, such as in some people result from eating pork or salmon or preserved viands, whether salt, like herrings, or sweet, like crystallised fruits and jams. There is but little local irritation, and the other organs are completely unaffected; indeed, but for the disfigurement few patients with acne would apply to the physician.

Ætiology.—The immediate cause of acne is the obstruction and inflammation of the sebaceous glands, and in the severer cases of the hair-sacs also; but when we ask why this obstruction and inflammation occurs, the answer is extremely

difficult. To say that the presence of acne indicates a disordered state of the cutaneous nerves, which interferes with the vascular action of the skin; to say that it depends on torpidity of the capillary circulation or general want of cutaneous activity; to say with Biett that it is the result of keeping the head bowed down, as in many sedentary occupations, or of drinking cold water when heated, or of smoking tobacco; or with Alibert, that it is caused by spending nights in gambling and living in anxiety—all this is trifling with pathology. It may be asserted that acne has no such connection with feeble circulation, as is shown by chilblains, nor with local irritation as eczema solare, nor with gout or tubercle, nor with the ingestion of cold water or hot water, or alcohol, or any kind of food, nor with any diathesis or disposition to anything but acne.

It is obvious, if we consider its natural history, that acne has to do with the great change which passes over the organism at the time of puberty; first and principally with the growth of the beard, yet not as a mere mechanical result, for in the great majority of men the beard appears without acne,—men have acne who never develop a beard, and women frequently have it also. Acne, moreover, affects the skin of the shoulders, which is unchanged at this period, as well as that of the face and chest, where hair grows, and it does not affect the hair of the pubes.

It is stated by Rigler ('Die Türkei und deren Bewohner,' Wien, 1862), quoted by Hebra, that acne, though common in the Levant, is extremely rare in eunuchs. Moreover, in young women affected with acne the eruption is often aggravated during the menstrual period. There is no reason to adopt the suggestion of Rayer, followed by many French writers, that acne is connected with vicious habits.

The old adage of Plenck, "Matrimonium varos curat," is well exchanged for Hebra's dictum, "Tempus varos curat." It is not continence nor vice, nor celibacy nor marriage, nor even the growth of a beard, which are the causes of acne; it depends upon the general changes which occur in the passage from childhood to adult life. The glandular apparatus of the skin is then apt to be disordered, most apt on the region where the beard is developing, and loses this aptitude when

complete development is once attained. With regard to acne in women, we can only say (as conversely of hysteria in men) that though they have no beards their fathers had, that is that secondary sexual characters are more or less transmissible to both sexes.

Acne attacks those in good health and those in ill-health, the blonde and so-called lymphatic, as well as the dark and atrabilious ; it is said to be seldom seen with red hair, and to be less common in Ireland than in England.*

There is no proof that acne is an hereditary disease, although it is not infrequently seen in brothers and sisters, and although the disposition to its development at puberty would, we might expect, be transmitted more or less completely, in the same way as the early growth of a beard, its weakness or abundance, and the early or late supervention of baldness.

Prognosis.—Few cases of acne cannot be decidedly relieved by careful treatment, and in many the face can be restored to its natural appearance ; but success depends not only upon the physician's adapting his treatment to the wants of each case, but also upon the perseverance with which the patient will follow it out. In many cases irremediable mischief has already been done when the patient comes before us. "Tempus varos curat," though generally true, proves often tedious in performance, and when such a cure is complete, the disfigurement it leaves is often considerable.

Treatment.—In the early stage of acne, when comedones are present with little or no inflammation, the principle of treatment is to set free the obstructed ducts, to keep them clear by extreme care, and to stimulate the local circulation. The plan found most successful is the following :—On going to bed the face should be first steamed over a basin of boiling water. It should then be thoroughly washed with a piece of flannel

* According to Bazin acne is of scrofulous origin ; and even Hardy, while denying this, thinks that acne has a preference for lympathic subjects, although "on peut avoir un tempérament lymphatique sans être atteint de scrofule."

Dr Erasmus Darwin, who properly distinguished acne from gutta rosea (in his 'Zoonomia'), nevertheless named the former affection *gutta rosea hereditaria*, "because it seems to be hereditary, or at least has no apparent cause."

and yellow soap, and dried with a rough towel. On careful scrutiny in the glass the patient will then find that the acne punctata has lost a good many of the black points; but he should go over the whole of the face, and wherever a pimple shows by the slightest point of yellow that suppuration has begun, it should be emptied—not by squeezing with the fingers, but by pressing over it the end of a key of suitable diameter. When this has been effectually done, the face should be again washed and a lotion applied, which should be allowed to dry. This drying lotion may be of sulphur suspended in liquor calcis, alum water or lead lotion, or a dilute solution of corrosive sublimate (gr. ½ with tr. benz. co. ʒss in ℥j of mist. amygd.). The old cosmetic known as *lac virginum* was of somewhat the same composition, as was also the famous Gowland's lotion, which is said by Bateman to have contained oxymuriate of mercury in an emulsion of bitter almonds.* The sulphur is the more stimulant; the mercurial wash when too strong is apt to cause a feeling of constriction and tension of the skin. Next morning any fresh pimples which have ripened should be emptied, and the face again washed with soap and water and a little dilute mercurial ointment (ung. hydr. ox. rubri with two parts of benzoated lard) applied to each. With many patients thorough washing and the application of white precipitate ointment serves the same purpose very well.

The same plan of treatment answers, even if a good many pustules are present, supposing that there is not much inflammation around them; but the more pustules there are the less vigorous should be the friction used, and the more important it is to apply some ointment containing mercury to the pustules. Ung. hydrarg. ammon. or dilute citrine ointment is often well borne; in other cases the unguentum metallorum suits better.

When the inflammation, judged of by the erythema between the papules, by the amount of swelling, or by the presence of true furunculi, is severe, we must begin with other measures. Steaming is still useful, and generally proves soothing, but

* "Merely Gowland," said Sir Walter Elliot, "I should recommend Gowland, the constant use of Gowland, during the spring months." ('Persuasion,' vol. ii, chap. 4.)

friction must be much more sparingly used, and sometimes omitted altogether. Instead of stimulating lotion or ointment, the patient must at bedtime use Goulard wash or a drying lotion of oxide of zinc suspended in water, or the almond wash may be used alone; during the day lead ointment or zinc or a combination of the two must be applied, but for the women and others who are not obliged to be out of doors, frequent application of lead lotion is better than ointment.

It is in these cases only that diet needs regulation by abstinence from stimulants, spices, and the other viands which we found tend to excite erythema of the face (p. 150). It may also be desirable for the patient to take a little carbonate of soda or citrate of potash with a saline laxative. By these means the erythematous inflammation will soon be subdued, and it is then desirable to return as quickly as may be to the more stimulant treatment.

In inveterate cases the stronger mercurial ointments are indicated. When, as occasionally happens, large furunculi are present, they must be treated with carbolic oil, and if necessary with poultices.

Acne of the shoulders, though often severe, is naturally less troublesome than that of the face; the skin is also less susceptible to irritation, and almost always bears rougher treatment with advantage. The individual attention to the several papules which is so important in the case of the face is of course difficult to carry out here, and we must depend more upon the use of mercurial ointments and on friction with rough towels or flesh gloves.

Acne tarsi.—Anatomically allied to acne is the inflammation which not unfrequently, especially in children, affects the large and specially modified sebaceous glands that serve to lubricate the eyelashes. These Meibomian glands are apt to become the seat of chronic inflammation, when a gummy secretion is exuded which sticks the eyelids together. It may either occur independently or as a complication of catarrhal or other forms of ophthalmia. It is generally cured by the application of unguentum hydrarg. ammon. or yellow oxide of mercury ointment.

Tar and bromide acne.—Inflammation of the sebaceous glands, papular or pustular, is occasionally called forth by external

irritants, and especially by tar. This so-called tar-acne differs, however, in its distribution and natural history from the true disease, and needs no treatment but the removal of the exciting cause.

Bromide acne is the name given to a somewhat similar follicular inflammation caused by the internal use of the bromides in certain patients (p.153).

*Acne varioliformis.**—This name was given by Bazin, who has been followed by other French authors, to what will presently be described as *molluscum contagiosum.* It is unfortunate that Hardy has accepted such a confusion of nomenclature and of pathology. The name has, however, been since applied to a rare and curious affection which consists in large pustules resembling those of the more severe kinds of acne, and situated chiefly upon the forehead, the temples, and the sides of the cheeks. After they have burst and healed a deep scar is left, sometimes pitted but not pigmented, resembling that which follows the most severe forms of acne. It is in these scars that the resemblance of the affection to variola chiefly consists, for the distribution, the course, the absence of a vesicular stage, and the unimpaired health of the patient could never allow of its confusion with variola. In a patient of the writer's, a man about forty, the affection encroached upon the scalp, and also spread to a considerable part of the chest, shoulders, and back. In this, as in the other cases, this curious affection was quite distinct from true acne. It is not preceded by comedones, and it seems doubtful whether the pustules are really seated in the sebaceous glands. The distribution and the severity of the eruption also distinguish it from acne, and it is unconnected with the period of puberty. It is more difficult to distinguish it from a pustular syphilide, and some cases which have been described as acne varioliformis were probably syphilitic. In one patient, in whom there was neither history nor proof of venereal disease, the pustules,

* Neumann, following Hebra, calls it *acne frontalis*, and describes it as a variety of true acne. Dr Bulkley, of New York, names it *acne atrophica*, after Chausit's *acné atrophique*, or lupoid acne. See a case figured by Dr S. Mackenzie in the 'Clin. Trans.' for 1884, p. 227, and remarks by Dr Mackey in the 'Lancet' (Jan. 22nd, 1876).

which had lasted for a long time, disappeared under iodide of potassium. Dr Liveing, however, has seen instances of acne frontalis which resisted antisyphilitic treatment and yielded to large doses of arsenic. We must wait for further observations before the true nature of this affection can be decided.

It will be convenient to refer briefly in this place to other affections of the sebaceous glands, less important than acne.

Comedones are generally the first stage of that disease, and then occur in the persons and under the circumstances above described; but beside the accidental comedo or even pustule which may be produced here and there by obstruction of a duct in any part of the body—and which no more make acne than one swallow makes a summer—there are occasionally to be seen large numbers of comedones in children affecting the forehead, scalp, and other parts, not undergoing inflammation, and without the locality or other characters distinctive of acne.

Acné cornée is the name given by French writers to this remarkable and rare condition, which does not deserve the name of acne, first, because it is not inflammatory, and secondly, because it has not the natural history of the disease of that name. It consists in the presence of a multitude of *comedones*, which remain as passive papules, hard pointed and black tipped. They occur in children before the age of acne, and upon the scalp and other parts unaffected by acne. We have had several cases of this singular condition, which requires to be distinguished from "lichen pilaris." Once it occurred on the forehead and scalp of two brothers, once in a brother and sister between seven and nine years old, once on the temples of a boy of eight or nine suffering from pleurisy, and once on the lumbar region of a girl aged thirteen, under treatment for erythema multiforme, but without a trace of acne, or even comedones on the face, chest, or back (see 'Guy's Hospital Reports,' 3rd series, vol. xiii, p. 213).

Milium.—A commoner condition is passive obstruction of a sebaceous gland with complete occlusion of the orifice. A minute white or yellowish papule is thus formed without the pointed top or the black mark of a comedo. It has been

called milium from its size. It never inflames, and is of no practical importance; it occurs most often on the thin skin of the eyelids and the genitals; occasionally it grows larger than a pin's head; when this occurs it usually affects only a single gland. Its contents then not unfrequently become liquid, and it forms a small cyst, such as may be occasionally seen on the eyelids, and have been noticed by Mr Hutchinson to occur in association with xanthelasma and with sick headaches. In young children it is not uncommon, and corresponds to Willan's *Strophulus albidus*.

On dissection the acini of the gland are found filled with a dark refracting substance, which yields on analysis cholesterin, olein, palmitin, and stearin. A good drawing is given by Neumann (fig. 10).

Seborrhœa.—The functional disorders of the sebaceous glands may lead to too abundant liquid secretion, or to too solid scaly products, or by suppression to abnormal dryness and harshness of the surface. The first of these conditions has been named *seborrhœa oleosa*, or steatorrhœa. It is physiological at a certain period of life, when it forms the *vernix caseosa* of new-born infants. It is not uncommon about the face, and on especially the alæ of the nose. It also occurs on the genitals, where a local vernix caseosa may lead to pruritus and inflammation; cleanliness and a little lead lotion or ointment is sufficient treatment.

The affection described by some authors as seborrhœa corporis has been mentioned above as *Lichen circumscriptus* (p. 78).

Seborrhœa sicca appears to depend upon the more solid fats, stearin and palmitin, being secreted in greater abundance than the liquid olein. The secretion forms little yellowish scales, added to by the natural desquamation, and frequently by the local irritation of a slight dermatitis which increases the desquamation. The condition is most common on the scalp, where it constitutes what is known as pityriasis capillitii, dandriff, or scurf. In most cases this is rightly termed seborrhœa sicca; but, although it begins as a sebaceous affection, in cases which have lasted long one finds that the scales consist in large part of epidermic cells, and there is

often beside local irritation, injection, and other signs of dermatitis. That this is secondary is shown by its not spreading beyond the scalp, and by its being unconnected with eczema or psoriasis of the scalp. Besides the irritation of this common disorder, it undoubtedly leads to the hair becoming thin and weak, and in some cases produces early alopecia.

The treatment is not very satisfactory. Mild mercurial ointments or carbolic oil sometimes prove useful.

Xerodermia.—Diminution or absence of sebaceous secretion leads to the skin being dry, harsh, and apt to crack. The sweat-glands may be active and abundant; but sweat is apt to exert an irritant effect upon the skin undefended by its natural oily secretion. This condition is usually congenital, and was rightly described under the name of "xeroderma" by Wilson as the slightest degree of ichthyosis. It will be again referred to under that head.

A similar state of skin is, however, not unfrequently observed in children who are thin and ill-nourished, and in patients of any age suffering from prolonged wasting diseases, especially phthisis. The diminution of subcutaneous fat is accompanied with diminished supply of oily material to the sebaceous glands, and the skin becomes dry, pale, rough, scaly, and dirty. This condition, which is of only symptomatic interest, has been described as *asteatosis* and as *pityriasis tabescentium.*

The only treatment indicated is to supply the deficient oily material by inunction with olive or cod-liver oil.

Steatoma.—When the orifice of a sebaceous gland is obstructed and an accumulation of the secretion takes place, it does not always inflame; the secretion may go on until a large cystic tumour is formed.

The orifice of the duct can still usually be found, and sometimes by mere pressure the contents can still be evacuated. They consist of inspissated sebum without, on the one hand, the pus which mingles with the secretion in inflamed acne, and without, on the other hand, the remarkable modified epithelial cells which will presently be described as characteristic of molluscum. When the watery parts are

absorbed, the sebaceous secretion consists of the ordinary animal fats, palmitin, stearin, and olein, some butyric and caproic acids, either free or united with glycerin to form neutral fats, a small amount of albumen, or rather globulin, with a larger proportion of casein, epidermic cells, the flat tabular crystals of cholesterin, and earthy salts. Occasionally the fatty material appears to be absorbed as well as the water, and there remain behind only calcareous masses like those found in a diseased aorta, or in the apex of the lung in a case of obsolete phthisis. These cutaneous calculi are, however, of very rare occurrence. The yellow, somewhat granular, half-liquid and half-solid mass has been compared with porridge, with putty, and with mortar. Although the word *atheroma* (from ἀθήρη, oatmeal) is now generally applied to the very similar products of chronic inflammation of the arteries, yet "atheromatous tumour" is still used by some writers as synonymous with what is otherwise called *Steatoma*, *meliceris*, or, perhaps better, a sebaceous cyst.

These tumours, called, when they attain a large size, *wens*, most frequently occur upon the scalp, where they are often multiple, and may grow to the size of a fist, or even bigger. They may also be seen upon the eyebrows, face, and neck, less frequently on the trunk, and most rarely upon the limbs.

Sometimes a sebaceous cyst is pedunculated instead of sessile (*acrochordon*).

Occasionally normal sebaceous secretion is again excreted after the duct has been long blocked; and this may continue for several years.

Cysts with similar contents, but of very different origin, and probably (some of them certainly) congenital, occur on mucous membranes and in deeper parts of the body, especially about the root of the tongue and hyoid bone; and such *cholesteatomata* have also been described in the brain and in the bones. Many of them are true dermoid cysts, and may be compared with those of the ovary, which contain not only sebaceous matter but hairs and sebaceous glands.

A steatoma is easily recognised by its smooth rounded surface, the presence of a dimpled occluded orifice, the absence of pain, and its situation.

Sebaceous cysts are perfectly innocent, but occasionally

require removal from their inconvenience or unsightliness. The plan usually adopted is to incise the tumour, and tear or dissect out the secreting cyst wall, or, if this be difficult, to rub the interior with caustic.

Adenoma sebaceum.—Dr Pringle has described and figured ('Journ. of Derm.,' Jan., 1890) a case of multiple small wart-like tumours occupying the face of a young woman. Microscopical observation of an excised growth showed that its origin was in a sebaceous gland. He mentions five models of the same affection at St Louis, and two of these cases were published by M. Balzer in the 'Arch. de Physiologie' (Sept. 30, 1885, and Juillet 15, 1886) under the title adenoma sebaceum. Reports of the other three were given by Dr Pringle, and by MM. Vidal and Hallopeau. Three of these cases occurred in young women, and two in youths of eighteen and twenty. Probably in all cases the growths were congenital, though in less pronounced form than when observed, and in several cases they were called nævi. Operative treatment seems to be useless, but the little tumours may undergo spontaneous evolution.

Molluscum Contagiosum.*—This somewhat rare disease was first described by Bateman, who added it to the small group of Tubercula as defined by Willan. The case figured by him in his 61st plate, on the face and neck of a young woman, was a typical example of the disease, and Bateman traced the contagion from a nursling of this patient and two other children in the same family back to a fourth patient with the same affection. He also mentions another case in an infant apparently contracted from an older child. It was from these facts that the epithet *contagiosum* was applied by English physicians,† and also by von Bärensprung, Virchow,

* *Synonyms.*—Molluscum sebaceum—Epithelioma molluscum—Acne varioliformis.

† Wilson, 'Diseases of the Skin,' 1842, p. 302; Paterson, 'Edinburgh Medical Journal, vol. lvi, 1841, pp. 213, 240. Cases were also recorded by Alibert, Biett, Cazenave, Schedel, Gibert, and Jacobovitz, 'Le Molluscum: Recherches Critiques,' Paris, 1840. Most of the foreign cases, however, were examples not of Bateman's disease, but of what will afterwards be described as fibroma molluscum.

The term molluscum, there is no doubt, was, as Wilson suggested,

and Rindfleisch ; and although the correctness of the epithet has often been doubted, it is now satisfactorily proved.

Carswell, Rayer, and other writers recognised Bateman's disease ; and Huguier, in 1846, described it as a non-syphilitic affection of the vulva. Caillaux, in his 'Treatise on Diseases of the Skin in Children,' named it "acne molluscum."

The disease occurs in the form of small rounded tumours of a pink colour, sometimes sessile but more often pedunculated. They are scattered irregularly over the skin, which remains quite healthy between them. Their number varies from a single tumour to a countless multitude, and the size from that of a vetch, to use Bateman's comparison, or a large pin's head, to that of a marble. They occasionally attain much larger dimensions. The colour, though usually pink and waxy, is sometimes scarcely distinguishable from that of the skin, and at others it has a dead white or even yellowish tint : these last, however, are probably not uncomplicated examples of the disease. A minute dimple is to be found on each tumour, which is the orifice of a sebaceous duct. This disputed point, however, will be presently considered. The growth of the little tumours is very slow. They may retain a size not exceeding a pea, while increasing in number during many months, and perhaps longer. As they grow bigger they become more rounded and the groove at their base becomes deeper, until they may hold to the skin by only a slender pedicle, a condition which was formerly described as *acrochordon*. The colour usually becomes paler and more translucent as they increase in size, but this is not constant.

No *symptoms* are produced in the most marked and typical cases ; as before stated, the skin between the little tumours

taken by Bateman from the celebrated case of Tilesius, described by C. F. Ludwig, of Leipzig, in 1739. His words are, "Corpus tectum est verrucis mollibus sive molluscis." The word is obviously used as a synonym of mollis, just as mollusca was first applied to the mollusca nuda et testacea, the *soft*-bodied animals or malacozoa. Alibert, followed by Cazenave, misinterpreted the meaning of the term. Bazin unfortunately described the disease under the term *Acne varioliformis*, and this has led to much confusion, especially since the same term has been employed for a singular variety of acne mentioned above (p. 175) before its misapplication to molluscum contagiosum had been forgotten.

is perfectly normal, and they themselves are no more than a disfigurement.

Anatomy.—On incising the tumour, a white opaque thick material can be usually squeezed out, and a hollow sac remains flaccid behind. Herein a molluscum tumour resembles an ordinary sebaceous cyst or steatoma, but the contents are white instead of yellow, and to the naked eye have not the atheromatous appearance so characteristic of accumulated sebum. Moreover, tested chemically and microscopically, instead of fat, cholesterin, earthy salts, and epithelial scales, the white material seems to be made up almost entirely of characteristic oval transparent bodies with a pearly lustre, without a nucleus and not readily staining with logwood. These have been described as "molluscum corpuscles." They were first recognised and well described by Wilson in 1842; they were rediscovered at St Louis and described as cryptogamic spores, the source of the contagion. This view, however, is certainly incorrect. Their size, their aspect, their reaction to potash, and their inability to develop are conclusive against it. No doubt they are epidermic cells which have undergone a hyaline transformation. Along with these molluscum corpuscles there is often found a certain amount of fatty sebaceous material; but in some well-marked cases there is an entire absence of sebum.

A section horizontal to the surface shows that each little tumour is made up of loculi more or less separated from each other by septa, and in most cases a central axis may be demonstrated, which is supposed to be the duct of the gland. The question remains whether the origin of the cyst is in the sebaceous gland, and whether the metamorphosed epithelial cells are derived from those lining its acini or from those of the duct, or whether the whole tumour is a new growth unconnected with the sebaceous apparatus and starting in the deeper epidermic cells. The latter is the opinion held by Virchow and supported by Dr Sangster's observations.*

* See papers by Drs Morrison, Crocker, and Thin in the 'Pathological Transactions' for 1881, p. 245, and also a description by Mr Davies-Colley, 'Guy's Hospital Reports,' 3rd series, vol. xviii, 1870, p. 350, and figs. 1 and 2, p. 364. He describes most of the characteristic oval cells as nucleated. Virchow's original paper was published in 1865 in the

Darier in France and some other writers have asserted that the contagious element of molluscum is not a fungus or bacterium, but a psorosperm, and some of the stained specimens obtained from the contents of the nodules certainly resemble epithelial cells infested by these parasites. But other specimens show no such resemblance, and the point cannot be considered as established until the mode of infection and subsequent course of the parasite is ascertained.

Distribution.—Molluscum is most common on the face and neck, especially the eyelids and cheeks, and also on the mammæ of women ; but when a multitude of small tumours occur, they may be found upon the arms, especially the thin skin of the flexor surface, as well as on the face.

Mr Hutchinson describes molluscum as not uncommon on the penis and scrotum of young adults, and refers to a case of Dr Paterson's where similar tumours appeared on the vulva of a woman whose husband was thus affected. He also refers to the molluscous growth occasionally suppurating, and points out that it may resemble an indurated chancre.

In the cases which the writer has seen of molluscum occurring on the male genitals, the tubercles have been yellow and neither pearly and translucent nor pink and waxy-looking, and on incision, or even on pressure without incision, have yielded opaque yellow oily material, so that they should rather be called steatomata. In the Guy's Hospital Museum, a model shows the appearance of molluscum upon the thigh ('Catalogue,' p. 240). Sometimes a large molluscous tumour will suppurate, burst, and thus cure itself. A case of this kind occurred under the late Dr Addison in a little girl ten years old.

Molluscum contagiosum is most common in infants and children, less so in women, and decidedly rare in men. In children it almost always affects the face, in women the mammæ, and in men the genitals. But this is only true of the larger and fewer tumours. All the cases of numerous very small molluscum simulating warts and sometimes described as *molluscum verrucosum*, which the writer has seen in adults, have been situated on the arms. Mr Hutchinson has

33rd volume of his 'Archiv,' p. 144; and Thin's in the 'Journ. of Anat. and Phys.,' vol. xvi, p. 202.

observed similar cases in which the trunk or lower extremities have been so covered with little tumours as to resemble some papular eruption, as lichen.

Molluscum appears to be much more common in England than abroad, though cases of the true disease are reported from France and Germany. It is well known in Scotland and also in America. The majority of cases occur in dirty neglected children, but it is often seen in those who are clean, rosy, plump, and in every respect healthy.

Ætiology.—There can be no doubt that the epithet contagious is rightly applied to this disorder, notwithstanding the frequent failure of inoculation and the incredulity of Hebra and other dermatologists. The subject is well discussed by Duckworth in two interesting papers in the 'St Barth. Hospital Reports' for 1868 and 1872.* No fungi and no bacteria have yet been observed; but the contagion may perhaps be due to the presence of the pseudonavicellæ or psorosperms above mentioned.

Treatment.—Molluscum tumours, beside, as above stated, sometimes suppurating, an event particularly apt to occur when they are confluent, may also undergo passive involution by gradually shrinking and subsiding. This must be the case with many infants who have never come under medical treatment; but these modes of spontaneous cure are rare or slow and uncertain, while treatment is rapid and efficient. Each tumour should be removed either by being snipped off with a pair of sharp scissors curved on the flat, or by being incised and emptied. In either case the whole of the diseased structure must be removed.

When the tumours are very numerous, it may be better to apply nitric acid or the acid nitrate of mercury to each one in the early stage. When the growths are not larger than pins' heads, Mr Hutchinson believes that white precipitate and sulphur ointment in equal parts will cure the affection; but it is rare for an opportunity for this treatment to occur.

* The contagiousness of molluscum was long denied, particularly in Germany, but lately Prof. Pick of Prague has produced experimental proof of the fact.

SYCOSIS.*—*Definition.*—A pustular inflammation of the large hair-sacs of the beard. Anatomically it is difficult to draw a broad line between this disease and acne, for although we speak of the latter as inflammation of the sebaceous glands, yet since all these glands open into a hair-sac, obstruction of their duct and obstruction of the corresponding hair-sac are almost the same. The anatomical difference

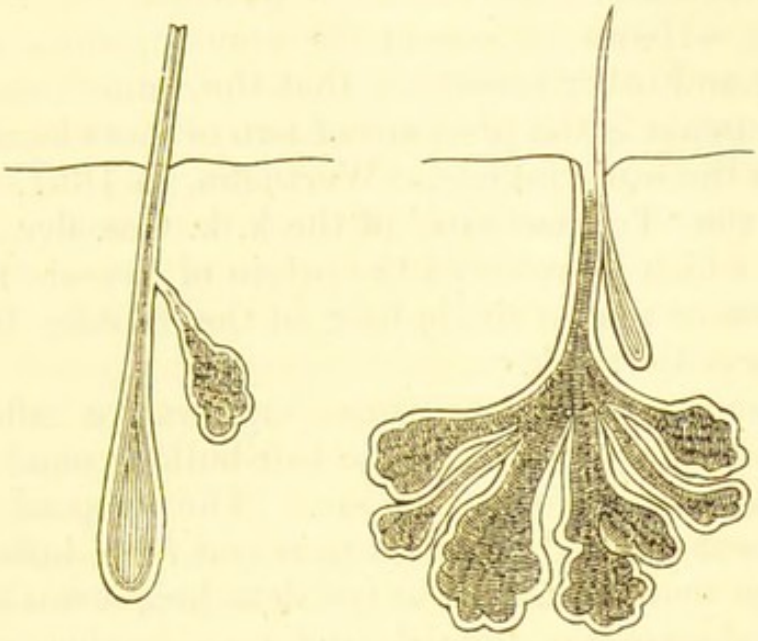


FIG. 15.—Diagram illustrating the seat of deep suppuration (S) in sycosis and (A) in acne.

lies in this, that whereas on the general surface of the body the hairs are small with shallow sacs, and the sebaceous glands large, in a man's beard the hair-sacs are large and deep, and the glands comparatively small. Moreover,

* *Synonyms.*—Mentagra—Varus mentagra—Acne menti vel barbæ—Barber's itch.—*Fr.* Impétigo sycosiforme (Devergie), Adénotrichie (Hardy).—*Germ.* Bartfinnen.

The name *sycosis* was applied to this affection by the Greeks, from its supposed likeness in the worst cases to the inside of a ripe fig, the red pulp answering to the inflamed and swollen skin, the seeds to the little pustules. "Est etiam ulcus quod a fici similitudine σύκωσις a Græcis nominatur" ('Celsus,' lib. vi, cap. 3).

The terms *mentagra* and *lichen menti* of Pliny and Martial, like the sycosis of the Greeks, were often applied to syphilitic affections of the lips and other parts, probably to what we now call mucous patches and condylomata; but the Latin *ficus*, like the Greek σῦκον, was certainly applied not only to condyloma ani but also to hæmorrhoids.

there is no doubt that in acne it is the gland which is first obstructed so as to form a comedo, and which afterwards inflames, while in sycosis it is the hair-sac which is the primary seat of disturbance.

It was Bateman who first accurately defined the characters of sycosis in the modern sense of the word. He placed it under Willan's order Tubercula on account of the hard swelling which often surrounds the pustules.

Anatomy.—Hebra expressed the opinion, since supported by Liveing and other observers, that the immediate cause of a sycosis pustule is the presence of two or more hairs growing together in the same follicle. Wertheim, in 1861, published a paper in the 'Transactions' of the k. k. Ges. der Aertze of Vienna, in which he referred the origin of sycosis not to the growth of more than a single hair in the follicle, but to its being abnormally thick.

Whatever the immediate cause, suppurative inflammation takes place in the hair-sac, and the hair-bulb becomes loosened, but the shaft still blocks the sac. The drop of pus first formed is pent up, and produces pain and fresh inflammation. By the time that the hair is at last detached, a small but deep cutaneous abscess has formed, and considerable congestion and œdema around it has produced what Bateman called an inflammatory tubercle or nodule. When the pus at last finds exit, it dries into a scab; and this is rendered much more adherent than that of impetigo by the numerous hairs which tether it to the skin. Fresh accumulations of pus take place beneath it, and thus in severe cases of sycosis a most repulsive and "malignant" aspect may be produced.

Excluding parasitic sycosis, which is of course contagious, Hebra and most German writers maintain that inflammation of the hair-sacs of the beard is non-contagious; but this seems to be very doubtful. As before stated (p. 63), pus is itself in many cases an extremely contagious product. We see that it is so in cases of contagious impetigo and of furunculi, and therefore it is wise to consider all cases of sycosis as more or less capable of spreading by inoculation of neighbouring hair-sacs in the same person, or even under favourable conditions to another person.

It is right to add that many good observers maintain that,

apart from ordinary ringworm of the beard, pustular sycosis vulgaris can in many cases be proved due to original infection with *Trichophyton tonsurans*, though they admit that the fungus is often impossible to find.

Course.—If left to itself, sycosis is a most obstinate disease. The hair-sacs are successively destroyed, and cicatrices result which are sometimes deep and obvious. When at last the disease has worn itself out, the greater part of the beard is often permanently destroyed and the face disfigured by scars. The affected part is usually very tender, though, except when touched, there is rather tension and heat than severe local pain.

Distribution.—As explained above, the peculiar kind of inflammation described can only occur in large and deep hair-sacs like those of the beard. The disease usually begins upon the chin, frequently on the upper lip, on the cheeks, or under the jaw. It may, however, occasionally be observed in the eyebrows and on the pubes, and still more rarely similar pustules have been seen on the chest, thighs, and other hairy parts.

Bateman asserts that women are not altogether exempt from sycosis, and Wilson admits that in rare instances it has been seen in a female patient. This, however, is a question of diagnosis (or at least of definition) rather than of fact. The typical disease, excluding acne, inflamed ringworm, impetigo, and all syphilitic affections, is confined, if not absolutely, with the rarest exceptions, to the chin, lips, and cheeks of male adults. It is rare to see it in a soft beard which has never been shaved.

Diagnosis.—Sycosis must be distinguished from eczema of the face, for ordinary papular eczema and impetigo sometimes invade the cheeks and lips, and simulate sycosis. It is possible for the dermatitis thus produced to penetrate to the deep hair-sacs, and then a condition ensues which must be termed true secondary sycosis. But this is certainly very seldom the case; the superficial dermatitis as a rule preserves its superficial character, the pustules and crusts are those of impetigo, and when removed leave the surface but little affected; the treatment by ung. hydr. ammon. is simple and rapidly successful; no scars are left behind, and no hairs are destroyed.

Treatment.—In cases of true sycosis which affects the hair-

sacs, mercurial ointments must be combined with epilation. It is not, however, necessary in most cases to remove all the diseased hairs, and certainly not healthy ones. It is enough if those which are already loosened are extracted, so that the rule is for the patient to pluck out all the hairs which will come easily and without pain, that is, those which are already detached from their sacs. The first step in severe cases is to steam the face, and, if necessary, to soften the crusts with poulticing and sweet oil ; then to remove the loose hairs with broad-pointed forceps. The beard should be cut short, but not shaved. If there is much local pain and swelling the inflammation should first be subdued by lead lotions, lead and zinc ointments, or other soothing and astringent applications. When this is accomplished the treatment above advised should be begun and followed out day by day. In most cases the result is successful. When cure has resulted it is generally better for the patient not to shave for several months, and to allow the beard to grow naturally.

Not infrequently, however, sycosis proves very obstinate in spite of all care and diligence. The possible presence of a parasitic cause should in such cases be carefully looked for. In the most obstinate cases complete epilation on Plumbe's and Hebra's plan is no doubt the only effectual treatment, but it should be carried out piecemeal, and with the help of previous application of potash soap, and other remedies which soften and loosen the hair. During epilation dilute red oxide (or better, perhaps, the yellow oxide) of mercury ointment, should be rubbed into the surface.

Bateman recommended diluted unguentum hydrarg. nitr., or white precipitate ointment with an equal part of zinc or lead.

Parasitic sycosis.—Since Gruby, in 1847 ('Gazette Médicale,' No. 37), published an account of a cryptogamic plant which he discovered in cases of sycosis, French writers have generally described sycosis as a parasitic affection. Bazin named it *Teigne mentagre*. Gruby's name for the fungus was *Microsporon metagrophytes*, but Bazin and Rubet proved that it is identical with *Trichophyton tonsurans*, the name given to that of common ringworm in 1846 by the Swedish writer

Malmsten. So also Köbner in 1864. Hardy followed Bazin, and diverged from Cazenave and from Biett, who had placed sycosis among pustular dermatoses, for he practically maintained that all sycosis is parasitic. In his recent work, however, while regarding "true sycosis" as a *teigne sycosique*, he admits non-parasitic sycosis as an impetiginous inflammation of the hair-sacs.

Hebra, after reviewing the statements of previous authors, affirms that in more than 300 cases of sycosis or "follicular inflammation of the beard" he has never seen a single case accompanied with parasitic fungi.

There can, however, be no doubt of the existence of what the French writers call parasitic sycosis. The writer saw many cases at St Louis, and others, though much more rarely, in London. He never saw a case in Vienna, and those who have studied dermatology in several schools will probably agree that this is one of the instances in which we must admit local differences in the frequency of diseases. Parasitic sycosis certainly does occur, and will be found if looked for in London, but it is far less common here than in Paris; and it must be added that the presence of the fungus is often only to be ascertained after prolonged and repeated search. When detected, however, the case acquires at once a new character, and for practical as well as scientific reasons it is desirable to separate "parasitic sycosis" from the non-parasitic disease.

*Sycosis capillitii.**—This title of Willan's should perhaps be given to five remarkable cases of sycosis or pustular eczema of the hair-sacs observed by Hebra on the occiput and nape of the neck.

This very rare condition was named by Kaposi *dermatitis papillomatosa capillitii.* Hans von Hebra ('Archiv für Derm. und Syph.,' 1869, p. 382) prefers the name, suggested by his

* *Synonyms.*—Sycosis frambœsiformis (Hebra)—Dermatitis papillomatosa capillitii (Kaposi)—Acne keloid. The sycosis capillitii of Willan, p. 66 of his 'Atlas,' is not unlike the curious affection described on p. 175 as *Acne varioliformis.* The *Pian ruboide* of Alibert (pl. xxxv) may have been the same disease, unless we suppose with Bateman that these were mismanaged porrigo favosa, or with Hebra that they were undiagnosed syphilis.

father, of *Sycosis framboesiformis*. He describes it as beginning in very small, somewhat red papules, each traversed by a hair, which grow together and form hard tumours resembling raspberries, and at last end in a long, tough, cheloid-looking band. The disease occurs on the nape of the neck where the hair is growing; the skin around is eczematous and red, and the place painful. The course is very slow, and as new papules arise they fill with thin pus. When raised flat papules have been formed, hairs are seen pushing out in bundles. This, with the hardness of the growth, its extreme slowness of development, and its locality, are the characteristic points. It may, however, occasionally occur on the scalp. This same affection has been described by Dr Sangster as "a papillary tumour of the scalp" (Internat. Med. Congr., 1881), by Dr Vérité as *Acné kéloïdique* (Académie de Médecine, 9 Mai, 1882), and by Mr Morrant Baker, with a figure, under the same title ('Pathological Transactions,' 1882).

The treatment of this remarkable disease consists in destruction with caustics or removal of the tumours while still small with a sharp spoon, by galvano-caustic, or by other means. When the disease has already gone far, excision is the only remedy.

Histological sections show that there is true enlargement of the papillæ, very scanty exudation of leucocytes, and gradual formation of parallel and interlacing bundles of fibrous tissue, among which the sebaceous and sweat glands are squeezed and atrophied.

FURUNCULI—*Boils.—Definition.*—A pustular inflammation with sloughing of the deep layer of the corium, probably beginning in the hair-sacs and spreading by contagion.

Recognising the impossibility of any complete and satisfactory classification of skin affections which can set forth all their complicated mutual relations, it seems convenient to associate the troublesome and painful affection of boils with acne and sycosis; for although it is not possible to demonstrate that the seat of inflammation is always in a hair-sac, yet in many cases this may be readily ascertained, and it is probably true of all. However, the depth of the inflammation,

its pustular character, and the scars which it leaves behind are points in which it is closely related to the affections described in this chapter, and particularly to the deep and painful suppuration which affects the glands of the vibrissæ of the nostrils and the ears.

The characteristic pathological feature of furunculus is that the inflammation leads to the death of a minute portion of the deeper layer of the cutis. This slough or core of

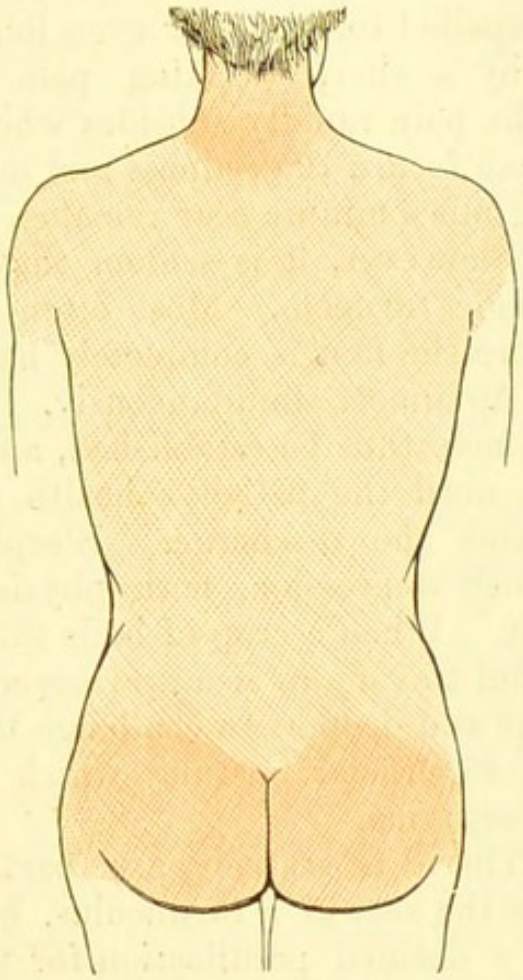


FIG. 16.—Distribution of furuncles.

necrosed connective tissue is passed out by a process of liquefaction and suppuration, and the abscess which is formed then slowly heals. In its early stage the disease appears as a pimple, distinguished by its excessive pain, a pain which resembles that felt from the plucking out of a hair, and in all probability depending upon inflammation of a hair-sac under somewhat different conditions from the comparatively painless pustules of acne and sycosis. The papule speedily

shows a yellow spot at its pointed summit, and this little pustule is never preceded by even a transient vesicle. Meantime a bright, intensely injected halo appears around the pustule, and considerable inflammatory œdema swells the whole skin into a conical elevation; the pain increases and becomes throbbing in character, while the dull constant aching and sense of tension is varied from time to time by sharp stabbing pains. When the abscess has ripened and is lanced or bursts of itself, the core becomes visible, and is sometimes not expelled for a day or even longer. This stage is accompanied by a sharp pricking pain which is very characteristic; the pain rapidly subsides when the core is got rid of, a small scab forms, the redness and œdema disappear, and soon nothing but a minute scar remains.

Unfortunately, however, it is seldom that this process is confined to a single furuncle. Most often a second and a third appear before the first is completely healed, or a whole crop may spring up almost simultaneously. A succession of painful abscesses may thus be established, and last for weeks or even months, until the patient's health seriously suffers from the pain and the discharge. Sleeplessness, loss of appetite, and much depression, both physical and mental, may be the result. When a crop of boils thus appears, they are generally found to vary in size and severity, from those which are so large and deep as to challenge the name of carbuncle, to small superficial pustules which formerly would have been called ecthyma.

Distribution.—There is scarcely any part of the surface which may not be the seat of a furunculus, but the affection has nevertheless a decided predilection for the back of the trunk, from the hair at the nape of the neck to the fold of the nates. The thick cutis, thin epidermis, and small but numerous hairs of the dorsal region appear to furnish the most favourable conditions for this kind of inflammation. The back of the neck, especially at the edge of the scalp, is perhaps the most frequent seat of all; the buttocks come next to the nape of the neck in liability to boils. Moreover, the friction of the collar of the dress in the latter situation, and that occasioned by riding or by rowing in the former, aggravate the misery of the complaint and probably keep it up.

Boils are far from infrequent in the coarse skin of the outer part of the thighs, which anatomically resembles that of the dorsal and scapular regions. They may also appear, though less frequently, on the leg below the knee, on the upper and fore-arm, on the wrist, and on the back of the hand. The chest and abdomen, and even the face, are not exempt, but boils very seldom occur on the scalp, and never on the palms, nor the soles of the feet. They are rare on the male genital organs, but not unfrequently occur in the neighbourhood of the anus, in the perinæum, and on the vulva.

Age.—Boils are by far most frequent during youth. They are rare in infants, and not common in early childhood; but schoolboys are very liable to them, especially to the most characteristic form of successive crops on the nape of the neck or on the nates. After thirty, this painful affection becomes decidedly rare, and we seldom find boils in an elderly man. Women during the whole of life seem less liable than men, though some of the most severe cases occur in young women.

Ætiology.—The true cause of this form of inflammation is unknown. There is little ground for supposing that boils are the result of indigestion or of overwork or exhaustion from any cause; when numerous and long continued they produce, but are not the product of, anæmia and weakness. Nor, on the other hand, do they come from plethora and over-richness any more than from poverty of the blood. In the practice of the water-cure it is customary to wrap patients who suffer from dyspepsia, paralysis, and most other chronic diseases in wet sheets, which are then surrounded with blankets; free perspiration is thus produced, and in many cases it is offensive in odour and accompanied by a copious crop of boils and pustules. This is supposed to indicate the efficiency of the cure in bringing out the poison from the system, but in reality it only means stimulation of the sudoriparous glands, possibly vicarious excretion of urinary or fæcal products, and certainly traumatic inflammation of the skin.

Furuncles are sometimes contagious from one patient to another; and almost an epidemic may sometimes run through a school; but more frequently they spread from place to place upon the same patient. There does not appear to be

any specific contagious microbe. The staphylococcus is that which gives an infecting quality to pus in general.

Treatment.—If this view be correct it furnishes an important indication for treatment. While the first furuncle is developing, no doubt a poultice gives great relief from its warmth and the relaxation of tissue it produces, but by making the skin sodden and softening the epidermis it predisposes it to inflammation, and renders the access of the contagious pus more easy. The constant application of poultices over large surfaces affected with boils tends to spread the disease.

A better plan is to dispense as much as possible with poultices, and to apply to the skin immediately around the boil the lotio plumbi, Goulard wash, or a somewhat stronger lead lotion. Tannic acid may be used with the same object; or, as each boil appears, a circle may be drawn around it with tincture of iodine or dilute solution of silver. Sometimes collodion, especially the flexible collodion applied in the same way, seems to act best both as an astringent and a protective. Meantime the pustules should be covered with lint soaked in carbolic oil (one in ten), and the same antiseptic dressing should be continued after the pustule has burst.

It was formerly the practice to open each boil successively with the lancet; but though the cure is undoubtedly thus hastened, the pain and the dread of the pain are so severely felt, especially in young people, and when a sensitive part of the body is affected, that, at least in such cases, the furunculi may be left to ripen and burst of themselves.

There is no evidence of special advantage in the purges and alteratives which are the traditional treatment for persons affected with boils. Where only one or two exist no internal treatment is necessary; but where the crops are numerous and successive, the treatment above indicated by local astringents and antiseptics should be combined with the internal administration of wine or porter with the meals, and of either bark with mineral acids or tincture of steel in full doses. Small doses of calx sulphurata are frequently prescribed for boils as well as for other chronic suppurative affections, and apparently with benefit. Thin delicate boys will often be much benefited by cod-liver oil, either alone or, if anæmia indicates

it, in combination with steel. There is reason to believe that a stay at the seaside is particularly useful during convalescence.

CARBUNCLE.*—This term, as the diminutive of *carbo*, is the Latin translation of ἄνθραξ, a coal, and was applied to any red, angry, inflamed pustule. The word anthrax has in recent times been restricted to the disease known as splenic fever, accompanied with a characteristic boil or carbuncle of the skin derived by contagion from cattle and associated with the presence of a specific bacillus.

A carbuncle is pathologically identical with a boil, differing only in its severity and extent, but its natural history is sufficiently different to justify the old distinction being retained.

Anatomically, a carbuncle is the inflammation which accompanies a considerable cutaneous and subcutaneous slough. It differs from the larger and deeper boils by the affected tissue being so extensive that there forms not a single opening, but several, giving a characteristic perforated aspect to the broad summit of the tumour. If left to itself the skin gradually opens by ulceration, and a deep and wide aperture is formed, through which the slough is at length extruded, often with considerable hæmorrhage. The surrounding redness is commonly deeper and more lurid in hue than that of a boil; the œdema also is more extensive.

A carbuncle almost always occurs singly. Its most frequent seat is the nape of the neck and the shoulders; it may occur on any part of the trunk, but is rarely seen on the limbs or the buttocks. Occasionally it appears on the face, and is then severe and often dangerous. Carbuncles are more common in the old than in the young, and frequently occur in diabetes.

AFFECTIONS OF THE SWEAT-GLANDS.—The sudoriparous glands are less liable to disease than the sebaceous, and their affections are less important from a local, though far more so from a symptomatic, point of view.

* *Synonyms.*—*Gr.* Anthrax.—*Lat.* Carbunculus.—*Fr.* Charbon.—*Germ.* Carbunkel.

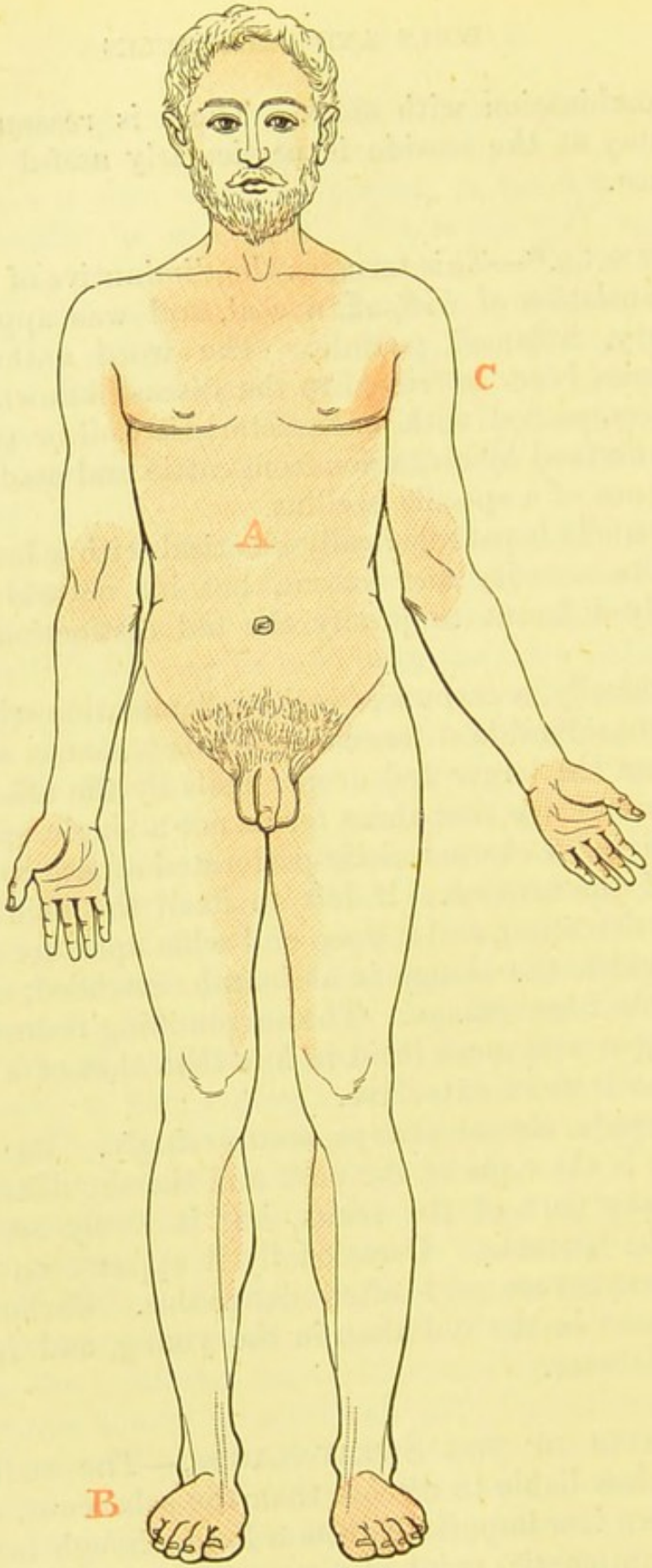


FIG. 17.—A. The lightly shaded parts are the principal seats of hyperidrosis; B, those of bromidrosis; C, those of chromatidrosis; and D (Fig. 18), those of intertrigo from sweat.

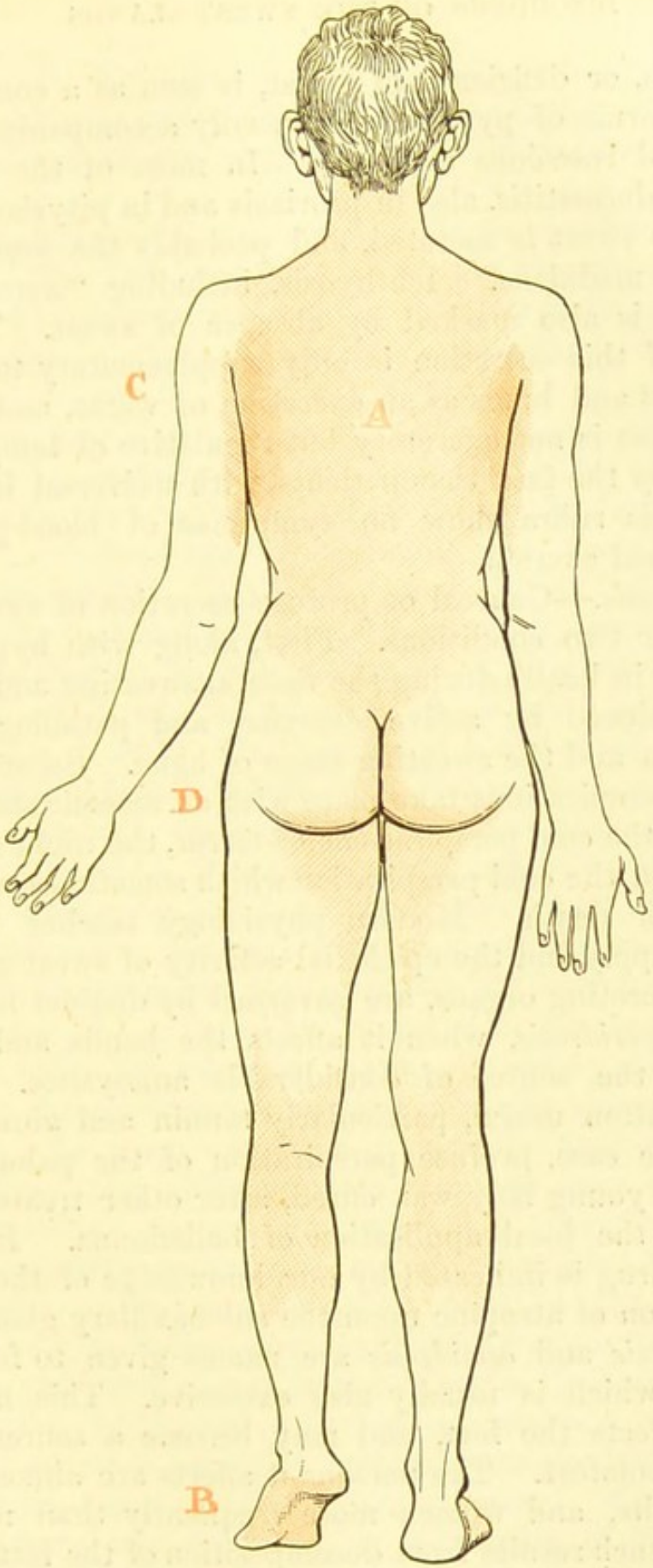


FIG. 18.—A. The lightly shaded parts are the principal seats of hyperidrosis; B, those of bromidrosis; C, those of chromatidrosis; and D, those of intertrigo from sweat.

Anidrosis, or deficiency of sweat, is seen as a concomitant of many forms of pyrexia, and usually accompanies erythematous and roseolous eruptions. In most of the forms of superficial dermatitis, also in psoriasis and in pityriasis rubra, little or no sweat is secreted, and probably the same is true of eczema madidans. Ichthyosis, including "xerodermia" (dry skin), is also marked by absence of sweat. That the function of this secretion is only supplementary to that of the kidneys and lungs as an excretion of water, and that its chief purpose is not excretory but regulative of temperature, is shown by the fact that patients with universal ichthyosis or pityriasis rubra show no symptoms of blood-poisoning from retained excreta.

Hyperidrosis.—General or profuse secretion of sweat takes place under two conditions. First, along with hyperæmia; this occurs in health during the natural sweating and warmth of skin induced by active exercise, and pathologically in rheumatism and the sweating stage of ague. Secondly, profuse cold perspirations take place with an anæmic state of the skin, as in the cold perspirations of terror, the night sweats of phthisis, and the cold perspiration which sometimes marks the approach of death. Modern physiology teaches that the vascular supply and the epithelial activity of sweat-glands, as of other secreting organs, are governed by distinct nerves.

Local hyperidrosis, when it affects the hands and feet, is sometimes the source of considerable annoyance. Astringents are often useful, particularly tannin and alum. In a troublesome case, profuse perspiration of the palms of the hands in a young lady was cured, after other treatment had failed, by the local application of belladonna. Internally the same drug is indicated by our knowledge of the physiological action of atropine upon the submaxillary gland.

Bromidrosis and *osmidrosis* are names given to fœtid perspiration, which is usually also excessive. This most frequently affects the feet, and may become a source of the utmost discomfort. The persons it affects are almost always young adults, and women more frequently than men. A horrible stench results from decomposition of the fatty matter which mingles with the sweat, particularly the fatty acids which belong to the formic acid series—butyric, caproic, and

caprylic. Dr Thin has figured a bacterium to which this decomposition is probably due ('Proc. Royal Soc.,' 1880). The chief seat of evil-smelling sweat beside the feet is the axilla.*

The treatment of this distressing affection is often extremely difficult. The first step is to check the secretion by astringents, and to prevent its soaking into the clothing by absorbent powders, such as lycopodium; the next is, by frequent change of linen, to remove the products of excretion as rapidly as possible. Antiseptics like thymol and salicylic acid may be usefully applied, and the latter preparation, especially in the form of collodion or a salicylic plaster, has the further advantage of softening the accumulation of macerated cuticle. With the same object Hebra used to envelop the foot and toes in strips of diachylon plaster, and many can testify to the efficiency of this treatment, the details of which will be found in the English edition of his work (vol. i, p. 89). Dr Thin found a saturated solution of boracic acid sufficient ('Brit. Med. Journ.' Sept. 18th, 1880).

Chromatidrosis is the name given to the occasional secretion of coloured sweat. The sweat of the axillæ in some persons contains enough pigment to stain their linen of a reddish tint. The writer has met with one well-marked case, and Hoffmann has recorded another in the 'Wiener med. Wochenschrift' for 1873, No. 13. Sometimes, however, a bluish pigment stains the sweat on the face or elsewhere. Cases of supposed chromatidrosis occurring in young women should be watched. In most cases the apparently dark sweat is an *arte factum*. But although most supposed cases have proved to be factitious, there is no doubt that true chromatidrosis does occasionally occur; and in some cases it has been proved to depend on indican being excreted in the sweat, and turning to blue indigo when oxidised by exposure to the air. Dr Foot published a case in the 'Dublin Quarterly Journal' for August, 1869, and collected no less than thirty-seven others. Another source of colour is the production of blue or greenish fungi in decomposing sweat. When coloured sweat affects the eyebrows, it is usually of black colour, looking almost like soot. A remarkable case of red-coloured

* An gravis hirsutis cubet hircus in alis—Hor. Epod., xii, 5.

sweat was reported by Dr Wilks in the 'Guy's Hospital Reports' for 1872. In this case a chemical analysis by Dr Thomas Stevenson proved the presence of iron but the absence of hæmoglobin. Red sweat is most common in the axilla, and is due to the presence of a bacterium (*B. prodigiosus*) according to Babes.

Uridrosis, or the excretion of urea in the sweat, probably

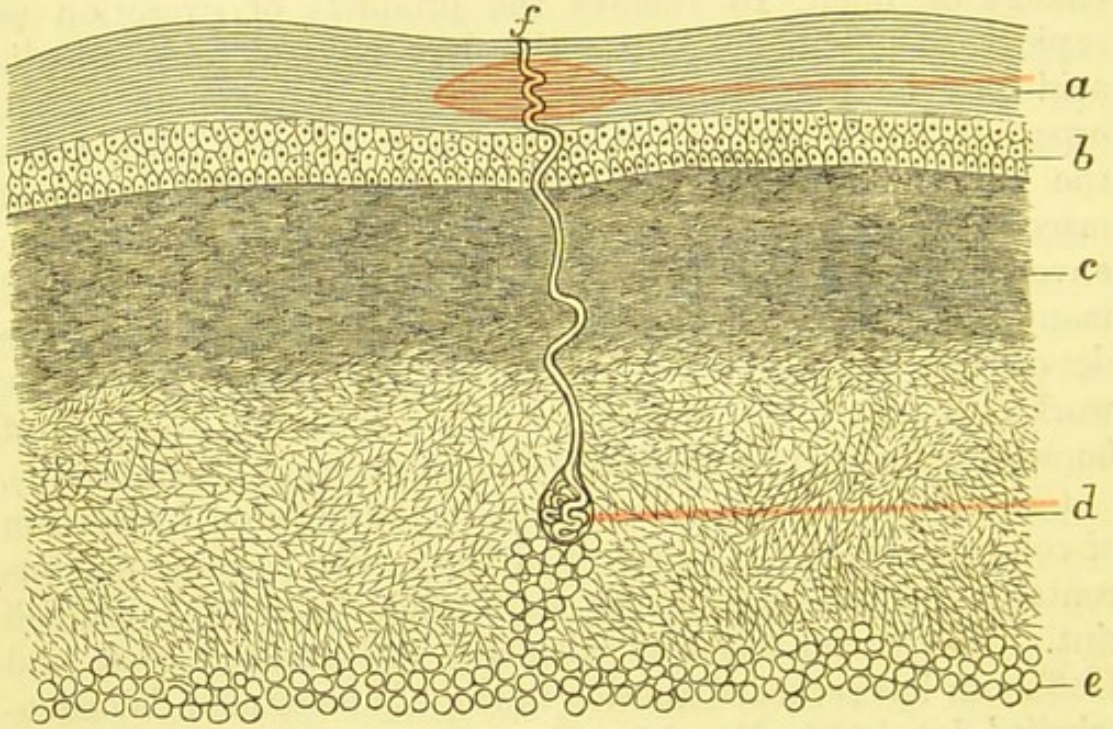


FIG. 19.—Diagram to show the position and formation of sudamina. *a*, the vesicle of sweat formed in the layers of the horny cuticle; *f*, the occluded orifice of the duct; *d*, the glomerulus of the sweat-gland with its process of adipose tissue.

only occurs as a morbid phenomenon. The observations of Funke on the normal excretion of urea through the skin have not been confirmed, but in Bright's disease urea has been visibly discharged in the sweat. A remarkable instance of this was recorded by Dr Frederick Taylor, with references, in the 'Guy's Hospital Reports' for 1874, p. 405.

Hæmatidrosis (or *hæmidrosis*), or bloody sweat, is an extremely rare but undoubted morbid condition. It does not appear to accompany purpura or other diseases in which one would anticipate such hæmorrhage from changes in the blood or capillaries; and in some of the very few authentic

cases it appeared during apparent health, as in that of a friend of Hebra, who observed the exudation of blood-stained sweat upon his hand while sitting at table. A similar condition has been observed in the lower animals.

Dysidrosis was the name given by the late Dr Tilbury Fox to a curious affection of the skin of the hands ('Path. Trans.,' 1878), described as *chiropompholyx* by Mr Hutchinson ('Lancet,' 1876). It consists in large vesicles without any surrounding inflammation, occurring in groups upon the palm and back of the hands and the fingers, especially near the web. These vesicles have been compared to sago grains, though they sometimes reach a much larger size. Rasori, who published a case in the 'Transactions' of the International Medical Congress for 1881, vol. iii, p. 146, calls it hydro-adenitis diffusa. Hans v. Hebra records a case in his 'Kr. Veränderungen der Haut,' p. 426. It affected the palms and soles of a woman forty-two years old, and some of the larger bullæ were surrounded with a red halo. Mr Hutchinson has observed relapses of this singular affection on several occasions. Whether it depends, as Dr Fox supposed, upon obstruction of the duct and accumulation of its contents is doubtful. Possibly two rare affections have been confounded: bullous erythema and true retention-blebs of sweat (cf. p. 139).

Sudamina.—However this may be, there is a well-marked cutaneous affection which undoubtedly depends upon accumulation of sweat in little vesicles under the cuticle, and has been known for centuries as ἵδρωα, sudamina, or miliaria. It is often seen during the profuse sweating of rheumatism. The orifice of the duct becomes obstructed, and the horny cuticle is raised as a thin transparent layer enclosing a drop of transparent fluid (*miliaria crystallina*). This ruptures before it exceeds the size of a pin's head, but sometimes the contents become turbid and alkaline from slight inflammation. On the chest and back these sudamina are most common; they never occur on the face, and on the thick skin of the palm attain larger dimensions before they burst, so as to form the "sago-grain" vesicles of dysidrosis.

The profuse sweat which causes sudamina also produces, especially if not quickly removed, local irritation. This seldom goes beyond the stage of papules or erythematous

redness, except where it is aggravated by friction. The commonest seats for this *dermatitis a sudore* are the vertebral groove from between the shoulders to the sacrum, and the front of the chest.

The more severe inflammation which occurs from sweat and friction combined, in the axillæ, between the toes and between the cheeks of the nates, is known as *intertrigo*.

Hydradenoma.—This title has been given to certain very rare cases of multiple small tumours which are ascertained by histological examination to be hypertrophies of the sweat-glands. The first case was recorded by MM. Darier and Jacqet ('Ann. de Derm. et de Syph.,' 1887), another by Torök in 1889, and a third by my colleague, Dr Perry, which is figured in the 'International Atlas of Rare Skin Diseases,' part iii.

RINGWORM AND ITS ALLIES, WITH OTHER AFFECTIONS OF THE HAIR

RINGWORM—*Tinea tonsurans—anatomy—course—events—histology—detection of the fungus—ætiology—prognosis—treatment—parasiticides—irritants—mode of application—epilation—precautions against contagion—Tinea circinata—form and locality—Burmese ringworm—Tinea marginata—Treatment of ringworm of the body—Onychomycosis—Erythrasma.*

FAVUS—*history—anatomy—the fungus—treatment.*

TINEA VERSICOLOR—*names—parasitic nature—appearance—distribution—diagnosis—treatment—Tinea vel Pityriasis rosea.*

ALOPECIA—*physiological—febrile and syphilitic—Area—its appearance—locality—spread—question of its parasitic nature—prognosis—diagnosis—Universal alopecia—Congenital alopecia.*

TRICHOCLASIA, *or brittleness of the hair—Piedra—Beaded hairs.*

WE have now to consider diseases of the skin which depend upon the growth of microscopic fungi. In most cases the cryptogamic spores and mycelium lodge in the deep hair-sacs.

We will take, first, the most important of this group, then the remaining parasitic affections, and, lastly, it will be convenient to deal in this chapter with non-parasitic affections of the hair which need to be distinguished from ringworm.

RINGWORM OF THE SCALP.*—This troublesome disease was only proved to depend on the presence of a cryptogamic

* *Synonyms.*—Tinea tonsurans, the Porrigo scutulata of Willan. *Fr.* Teigne tondante.—*Germ.* Herpes tonsurans, Kopfgrind.—*Angl.* The Skall (in part), the Ringworm.

parasite in 1844 by Malmsten, the Swedish microscopist. He named the fungus *Trichophyton tonsurans.*

Origin and spread.—We seldom see the earliest stage of the disease, but the first obvious effect of the entrance and growth of the fungus in the hair-sacs is for the affected hairs to lose their glossiness and colour and become dry, shrunken, and brittle. They break short, and probably thus expose fresh spores to spread the contagion. At the same time the growth of mycelium in the hair-sac produces slight irritation, partly from the inflammation directly excited, and partly from the patient's scratching. Moderate hyperæmia and corpuscular exudation follow, so that by the time a small bare patch appears it is raised, slightly red, and covered with a few scales. The process extends, partly by the spores being conveyed to fresh places, partly by their steady advance to the next adjacent hair-sacs. Thus, one, two, and often numerous round patches are developed, each of which closely resembles the other. The form is often geometrically circular, sometimes oval or irregular; the hair is replaced by a few broken, dark, and thick stumps, which can be recognised by the naked eye, while their characters are still more obvious under a lens; the surface is usually covered with greyish-yellow desquamation composed of epithelial cells and sebaceous material mixed with broken hairs, spores, and mycelium. The scales have a uniform, granular, closely adherent look, which is almost decisive to a practised eye. At the edge of the circle a little redness may sometimes be observed, occasionally a few papules, and, still more rarely, a vesicle or two. In the immediate neighbourhood individual hairs may be found by the aid of the microscope to be already affected by the spreading evil.*

A ringworm patch may increase to several inches in diameter without materially altering its appearance, but more often it is modified as it expands in one of the following ways.

* They may be more easily detected by the naked eye if, as Sir Dyce Duckworth suggested, chloroform be first applied ('Brit. Med. Journ.,' November, 1873). This gives the affected hairs a dry, pale, brittle look, like that of burnt-up hay, apparently owing to its solvent power on the oily constituents of the air. But this reaction is far from decisive alone.

Either from scratching or from the effect of the fungus on the naturally irritable scalp, or as the result of irritant applications, more or less of ordinary superficial dermatitis appears, so that many cases of ringworm appear as impetigo capitis, and their true nature is not manifest until the scabs and crusts have been removed. In neglected cases, moreover, pediculi are not unlikely to breed, and further aggravate and confuse the condition. Such horrible masses of felted hair, mingled with inflammatory products, vegetable and animal parasites, and all kinds of filth, constitute the *plica polonica* of Eastern Europe, which may still be sometimes seen at Vienna.

On the other hand, if the hair is kept short and the head clean, and if the skin is not naturally irritable, the fungus, while spreading at the edges of the patch, appears to exhaust the soil in the centre, and dies away, like the larger cryptogamic fungi which form "fairy-rings" upon the grass. The result is that the middle of the patch is more or less completely bald, with only a few short stumps or thin, feebly-growing hairs, while the circumference is occupied by a zone of flat brownish scales, granular desquamation, papules, and broken hairs. This is the most typical form of traditional ringworm, and probably suggested the specific title *scutulata*. When growing patches of the disease meet they form figures of 8 or dumb-bell-shaped patches, and as they still grow and unite with others, irregular gyrate figures, like those of old-standing psoriasis, of erythema marginatum, or of syphilodermia. At last almost the whole scalp may be invaded, and reduced to baldness. There is, however, never a perfectly smooth clear skin left, as in alopecia areata, but a few ill-developed, thin, pale, scattered hairs are always to be found. Moreover, the process is seldom or never quite universal; on one or the other temple or on the occiput more or less unaffected portions of hair remain.

Events.—The disease does not spread continuously beyond the scalp, but fresh patches arise, sometimes in the eyebrows, occasionally in the beard, more frequently on the skin of the neck and shoulders, and even on more distant parts. If left to itself, the course of the disease is extremely chronic, and —if the patient is a child—shows little or no tendency to

recovery until the period of puberty is reached. It must not, however, be supposed that among neglected children in a village or a school, where ringworm has invaded the community and scarcely a child has escaped, the disease constantly assumes the severe and inveterate character above described. A single bald patch may remain for months or years, or it may more or less completely recover, and fresh patches go through the same series of changes; or, what is still more important to notice, the spores falling upon an unfavourable soil may continue to multiply and thus to spread the contagion, but yet do not sufficiently interfere with the nutrition of the hair to produce obvious bald patches. In a family or school in which ringworm has appeared one may find evidence of its presence in the heads of children who are entirely without the characteristic bald patches.

Histology.—If one of the broken stumps of a ringworm patch be extracted with forceps, and placed in a drop of liquor potassæ under a quarter-inch objective, it may often be at once recognised by its opacity. When less densely packed with spores, or when soaking in potash has cleared it, the condition is equally manifest by the complete destruction of all the normal histological characters of human hair. The cortex and medulla are undistinguishable, the surface is rough, the pigment no longer normally distributed, and the free end, instead of tapering to a point or being transversely cut off, is broken, slightly bulbous, ragged, or split into a sheaf of fibres. A less degree of infection is recognised by a few spores in clumps or chains or a little branch of mycelium, in the substance of an apparently healthy hair. Dr Frederick Taylor has pointed out that the parasitic fungus does not invade the cutis itself, nor even the follicle, and only slightly affects the adjacent epidermis. The inner root-sheath is full of spores, the outer root-sheath free. (Compare his paper, 'Med.-Chir. Trans.,' lxii, with Dr Thin's, ibid., vol. lxi.)

The spores differ from oil-drops, with which they are often confounded, in the following particulars: first, they are uniform in size; secondly, they do not run together; thirdly, they are not perfectly spherical, but some at least perceptibly spheroidal or oval; next, they do not refract light so strongly, and though glistening and having a well-marked outline, the

centre is not so bright, nor the circumference so broad and black; they occur in little groups or in chains. Lastly, potash, instead of dissolving them by forming a soap, as it does with

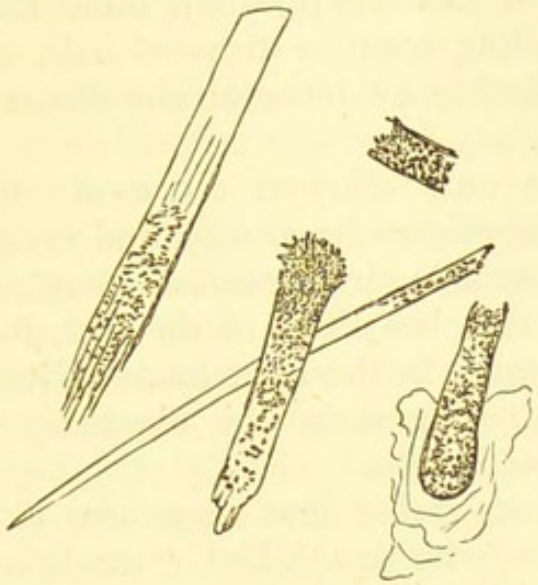


FIG. 20.—Diseased hairs in ringworm, showing the opacity, the fracture, the minute spores of the fungus, and the invasion of the bulb without the sheath being affected.

oil-drops, is powerless to affect their protoplasm, which is protected by a cell-wall; thus it only serves to bring them out clearly by making the surrounding keratin and oily matter transparent. Ether is also without effect. Carmine and other staining agents act slowly, but in the end stain the cell.

Often the most characteristic objects are not the extracted hairs, but short broken fragments, which are conveyed to the glass-slip with scales, oil, and dirt.

Diagnosis.—The recognition of ringworm is in most cases sufficiently easy after a little experience, but we must remember that it may be masked by secondary impetigo, as above described; also, that when of long standing it may produce patches of almost bald skin which may simulate the atrophic patches to be described (p. 226) as alopecia areata; and, thirdly, that the trichophyton may exist in hair which, as explained above, does not show ordinary signs of ringworm such as are visible without a microscope. In all doubtful cases, therefore, we must depend upon careful micro-

scopical observation. This is particularly important when we have to decide whether the disease is cured or not. It is only by taking numerous specimens that we can assure ourselves of the fact. We may sometimes, when to the naked eye the ringworm has disappeared, hunt through a dozen slides without finding a single diseased hair, until in the last we find unmistakeable evidence of the disease being still incompletely cured.

Ætiology.—The only efficient cause of ringworm is the growth of the *Trichophyton tonsurans;* and its almost universal spread under favourable circumstances shows that individual difference of soil has but little to do with it. All that we can see are differences in the luxuriance of its growth, in the irritation it occasions, and in the obstinacy with which it clings to the affected scalp.

It has often been stated that ringworm occurs chiefly in pale thin children, who are called "scrofulous" or "strumous" without enlarged glands or any sign of tubercle. There is little evidence for this opinion, or for its supposed predilection for light-haired, "lymphatic" children. One often sees ringworm in those who are the picture of rosy health. It occurs more frequently in light-haired children than others, because most children in England have light hair, but it is common enough in those with brown hair, black hair, or red hair.

What is really important in its ætiology is that it is most frequent between the ages of three or four and nine or ten. It is not very common in infants, and when present is usually cured without difficulty. This probably depends upon the less development of hair. Why ringworm of the scalp is so seldom met with in adults is difficult to say. Not only do mothers and nurses rarely take the disease from their children, but when it does occur it is far more readily cured. In children above ten or twelve years old it is easier of cure than in younger ones, and about fourteen or sixteen years of age its treatment seldom gives trouble, and it sometimes disappears spontaneously.

Among 100 consecutive, mostly private, cases of ringworm under the writer's care, 13 of the patients were between twelve months and five years old, 34 between five and ten,

40 between ten and fifteen, 3 between fifteen and twenty, 9 between twenty and thirty-four, and one was aged fifty.

Ringworm is probably as common in boys as in girls; but of the above 100 patients, it happened that 63 were male and only 37 female.

It must be remembered that the lower animals are liable to this disease, and that the source of contagion may sometimes be a cat or a horse.

Prognosis.—In infants and in adults ringworm of the scalp is a very manageable disease; in children, though the majority of cases may with care and attention be cured, it often proves obstinate, and now and then, in spite of the best available treatment, may persist for years, and at last yield to advancing age alone. In a school or a family, a third or a half of the cases will be cured in from three to nine weeks, a few of them by three or four days' application of the remedy. The majority of the rest will yield to persevering treatment in from three to six or eight months. A few only out of a large number will last beyond this time, and some of these are pretty sure to prove inveterate.

Treatment.—The principle of treatment is the same as that of scabies. In both cases we know the cause of the disease; we know the natural history of the invading organism and the means of checking or destroying it. The difficulty in the case of ringworm is that most frequently before the case comes under our observation the fungus has already fixed itself deeply in the hair-sacs of the scalp, and it is extremely difficult to apply remedies to reach it. It is moreover protected by the epithelial scales which closely surround the hair-bulb, and by the sebaceous and other products which block its mouth. We shall see that when the same parasitic growth invades the surface of the body its cure is easy.

So great are the practical difficulties of treating ringworm of the scalp that, although with perseverance and skill we can cure the vast majority of cases, and some of them rapidly as well as safely, yet every one who has had much experience in this disease must have met with cases which are so intractable that when after many months or even years they at last

get well, it is to time and the increasing age of the patient that the cure is due.

Preparations of *mercury* are poisonous to all cryptogamic plants, to bacteria as well as to fungi, and probably the most poisonous is corrosive sublimate. A solution of perchloride of mercury in alcohol, two grains to the ounce, is sometimes rapidly effectual in curing recent cases of ringworm. It should, however, only be applied to separate patches, since there is at least one case on record in which its free use over a child's scalp produced (by some unusual accident in the application, or possibly some idiosyncrasy in the patient) absorption of the drug, and death by mercurial poisoning. Lotions, however, have the disadvantage of being repelled by the oily sebaceous infiltration of the natural and diseased structures of the scalp. We therefore usually prefer lard or vaseline as a vehicle, and in early cases of ringworm the white precipitate ointment (*ung. hydrarg. ammon.*) is often completely successful. It should be well rubbed into each patch morning and evening after thorough cleansing with hot soap and water and flannel. Instead of white precipitate ointment the *oleate of mercury*, of the strength of one in twenty or one in thirty-five, is effectual, and by many preferred to the older preparation. The 10 per cent. oleate is too strong unless applied to a very small patch in an elder child.

The effect of contact with white precipitate and with citrine ointment upon the life of the *Trichophyton* has been experimentally studied by Dr Thin. His results confirm those gained from clinical experience, as to the sterilising power of the mercurial ointments, while he found that fats and oils including oleum ricini have no such effect in themselves.

Another parasiticide which has become popular is tincture of *iodine*. This also is sometimes effectual with recent cases.

There is, however, another method of destroying the fungus which is often found to be practically more efficacious. It consists in setting up a local inflammation, the products of which destroy the parasite. This plan is most applicable to the first stage of the disorder. If a mercurial application

does not prove effectual within a few days, then, with elder children, and especially on the first appearance in the family, it is probably better, after isolating the infected member, to attempt the immediate destruction of the fungus by exciting local inflammation. A stronger solution of iodine acts in this manner, but probably the most effectual and least painful application is the blistering fluid made of *cantharides*. The affected spot should be first shaved, including half an inch around it, and a circle of oil be drawn round the margin to prevent the blistering fluid from spreading. The pain of its application does not last long, and in many cases success is immediate and complete.

Too often, however, the fungus has already spread too far to be treated in this decisive manner, which is scarcely applicable except to recent cases with only a single diseased patch.

We will suppose that a child is brought to us with the disease established for several weeks, with numerous rings, and, perhaps, with crusts and pustules from attempts to cure by various irritant applications. The first step is to have the hair cut quite short over the whole of the scalp. Scabs and crusts must then be removed with the help of poultices, and the whole surface made as clean as possible. We then see the real extent of the primary disease. It is often much less than it at first appears; the secondary superficial dermatitis is readily cured, and the diseased patches are soon ready for treatment. Sometimes we find no impetiginous crusts and little active inflammation, but scattered over the whole scalp small spots of ringworm, while the apparently healthy hair between often furnishes evidence of infection. Under these circumstances the shortest and most effectual way is not merely to cut the hair short, but to shave it completely off. In inveterate cases it is much better to wait until the hair is removed, the crusts or scales got rid of, and the inflamed glands reduced, before beginning active treatment. Meanwhile, the whole scalp should be well anointed morning and evening with carbolic oil, one in fifteen or one in twenty, and the child's head covered with a linen cap both by night and by day. In this way no time is lost, and the spread of the affection to other children is prevented. If, without much

active inflammation, there is found considerable accumulation of dead epithelium, and especially when it takes the granular adherent character above described, this must be removed with potash-soap, or other alkaline applications. Dr Foulis ('Brit. Med. Journ.,' 1885, vol. i, p. 536) has recommended for this purpose spirits of turpentine rubbed in until the child begins to feel it tingle, and then washed off with abundant warm water and carbolic soap. This is sometimes a rapid and effectual treatment, but it is only applicable when comparatively small patches are affected, and should not be used in the case of young children.

When the way has thus been cleared for parasiticides, we may in the slighter cases obtain good results by rubbing into each patch the white precipitate ointment as above recommended, anointing the intermediate surface with *carbolic oil*. In many cases, however, this proves inadequate, and we must then use stronger applications, although if the disease is extensive they must be applied only to a limited portion at a time. Equal parts of unguentum hydrarg. nitratis and sulphur ointment form an efficient and usually not too severe application. Dr Alder Smith, whose experience of ringworm at Christ's Hospital has been very large, recommends in obstinate cases a mixture of carbolic acid one part, citrine ointment one part, sulphur ointment one part. With children under ten, two or three instead of one part of the sulphur ointment should be used, and it will then cause no pain. Instead of carbolic oil (1 in 10 or 1 in 5) the carbolic glycerine of the British Pharmacopœia (1 in 4 or diluted to 1 in 8) is often preferred. It is preferable where lotions are being used. Another plan is to use carbolic oil (1 in 10) to the generally diseased surfaces and carbolic acid lotions to successive portions ; but this is apt to produce more pain and less certain curative effects than the compound ointments.

Some writers recommend *chrysophanic acid*, which is the efficient constituent of Goa powder, much used in the East Indies.* As stated in the chapter on psoriasis, it is sometimes an extremely severe irritant, and always stains both the skin and linen unpleasantly. Chrysophanic acid has been

* Chrysarobine is the trade name of Goa powder used at Bombay. It appears to be identical with the araroba powder of Brazil (Thin).

tried, dissolved in chloroform, by Dr Alder Smith (seven grains to the ounce); and he recommends it in recent cases with only one or two spots as more successful than blistering. At the same time he uses a lotion of hyposulphite of soda two drachms to the ounce) or of liquor sodæ chlorinatæ (one) part in eight). Dr Crocker ('Lancet,' January 27th, 1877) reports careful and impartial trial of Goa powder in twenty cases of ringworm. Only eleven were slightly improved after three months' treatment, and only two were cured. Another objection to chrysophanic acid is that it is apt to get into a child's eyes, especially during the night.

A better application in every way is the ointment of *pyrogallic acid*, which is much used against ringworm in Vienna.

Among the more severe applications is one introduced by Dr Coster, of Hanwell Central London Schools, and afterwards published in the 'Medical Times and Gazette,' vol. i, 1867, p. 34. This *Coster's paste* consists of two drachms of iodine dissolved in an ounce of colourless oil of tar, obtained by distillation from common tar, and known as light oil of wood tar or rectified spirit of tar, of sp. gr. 853 to 867. It is applied with a brush to the affected parts, and forms a cake which separates at the end of a week or fortnight. (See a letter by Mr Martindale, in the 'British Medical Journal,' January 19th, 1880.) This was used by Dr Ringer at University College with success. Mr Morrant Baker, at St Bartholomew's, preferred iodine in the same proportion with creasote.

The most severe application is *croton oil*, which produces an artificial pustular dermatitis known as "kerion." A favourite ointment both in Germany and in France is that which is also used in the cure of scabies, a combination of sulphur with an alkali (Wilkinson's and Vlemincqx's ointment). Hardy gives the formula: Carbonate of potash a quarter to half a gramme, sulphur one to one and a half gramme, lard thirty grammes.

Instead of ointments or aqueous solutions the cure of ringworm has often been attempted with alcoholic lotions, but until lately without marked success. Dr Cavafy, however ('Brit. Med. Journ.,' June 24th, 1882), has devised a lotion

composed of boracic acid, alcohol, and ether, in the following proportions: boracic acid, twenty grains; ether, one drachm; spiritus vini rectif., one ounce. The object, of course, is to dissolve the sebaceous material in the hair-sac and thus enable the boracic acid in solution to soak down to the spores which lurk there. This plan has been adopted and recommended by several dermatologists of experience. The writer has found that this lotion, rubbed into the patches not less than four times a day, has proved cleanly and painless. It sometimes effects speedy cure, but, like all other applications, it not infrequently disappoints us.

Salicylic acid has also been employed dissolved in alcohol, ether, or chloroform; and corrosive sublimate may be used in alcoholic solutions—two grains to the ounce.

If watery lotions are preferred, sulphurous acid gas in solution (*Acidum sulphurosum* of the British Pharmacopœia) is one of the best parasiticides. It must be applied on pieces of rag to each patch. Or the hyposulphite of soda (two drachms to an ounce of water) may be used.

Thymol is another unirritating parasiticide which may be employed. It is soluble in alcohol and ether.

Dr Alder Smith recommends Barff's *boro-glyceride* as one of the best applications if the scalp is tender and sore, especially if impetigo is present.

Oleate of copper is an imitation of the old verdigris ointment, as that was of pennies laid in vinegar. It is of a bright green colour and said to be not ineffectual.

With oleates, frequent washing is unnecessary and even undesirable. With solutions, whether in water, alcohol, chloroform, or ether, constant cleansing with common or soft soap is absolutely necessary.

Is it desirable to aid the action of parasiticides by removing diseased hairs? This plan of *epilation* is generally carried out both at Paris and Vienna, and is adopted by many English physicians. Others believe that it is ineffectual. The fact is that to pull out all the diseased hairs over an extensive surface affected with ringworm is impossible even by a skilled manipulator. A certain number are sure to break off in the forceps, and still more are too short to be laid hold of. Moreover, the attempt is extremely tedious

and painful, and the result insignificant. Where, however, a very small patch is for the first time seen, it is well to pull out at once all the hairs not only from the obviously diseased skin, but from a small circle around, before applying acetic acid, blistering fluid, or any other agent by which we hope to destroy the parasite at once. Again, in chronic and extensive cases, removing loose hairs helps to prevent contagion, to clear the scalp, and also to ensure minute observation and care on the part of the nurse. It is therefore well to give her a pair of broad-tipped, well-roughened, and weak-springed forceps, and to instruct her to remove every morning after washing the head, as many hairs as seem to be loose, but not so as to cause the child pain.

Contagion.—While ringworm is under treatment the whole of the child's hair should be kept short—cut, in fact, as close to the head as may be; and this is probably as effectual as shaving. With girls a fringe of hair may be left round the forehead and behind the ears, so that a cap may be worn during the day, and the child's appearance attract no attention out of doors. At night a linen cap should be used. Impervious coverings of gutta percha or oiled silk make the scalp hot, and are unnecessary.

There is no need for a quantity of ointment to be left on the scalp at night. The free application of carbolic oil, or carbolic glycerine, or oleate of mercury to the head is best undertaken in the morning. Although mothers and nurses very rarely suffer from the most assiduous dressing of ringworm, it is well to instruct them to anoint their hands with carbolic oil each time they touch the child's scalp.

With these precautions, and scrupulous avoidance of contact with caps, brushes, &c., it is possible for a child with ringworm to be treated and cured without removal from the family. But if the infected member or members cannot be separated from those who are healthy, they should sleep in separate bedrooms, and, if possible, meet only out of doors. In generally happens that in a family, while most of the cases are cured quickly, there remain one, or perhaps two, extremely obstinate. These may, if necessary, be removed for the sake of treatment; but practically when the child has once been cured it is little liable to take the disease again, especi-

ally if the hair is kept short, if carbolic oil is used as a pomade, and if the nurse (who if at all intelligent will by this time be able to recognise the disorder) is careful to wash and inspect the scalp every week.

It is obviously wrong for a child suffering from ringworm to be sent to school, for other children to be admitted to the house, or for its hair to be cut except by its own nurse.

The only proof of complete cure is the careful microscopical examination of the hairs, not only from the previously diseased spots, but from the surrounding scalp. When the skin is itself healthy, and the hair which grows on it is soft and downy, when no broken stumps and black points are seen under a lens, and when these good signs are associated with an absence of spores in the hairs examined, we may pronounce the child to be cured. It should, however, not be sent back to school for at least a fortnight after this, and should then be carefully examined again before the risk of relapse can be considered past.

Ringworm of the Body.—*Tinea circinata.**—This affection occurs in the form of small rings with a red, papular, vesicular, or scaly margin. They are mostly confined to the face and neck, but are sometimes seen elsewhere on the trunk.

Among 50 cases the writer found the eruption confined to the neck, cheek, or other parts of the face in 23, affecting the trunk in 12, the shoulder, arm, or forearm in 10, and the thigh in 5. The majority of the patients were children under twelve, 1 was fifteen years old, 2 seventeen, and 8 were adults. Ringworm of the body seldom causes much irritation.

The disease is contagious, and if scrapings from the ring are placed in potash under the microscope, the mycelium and spores are apparent. There is more of the former in proportion to the latter than in ringworm of the scalp, and the fungus is not so readily seen, but when thoroughly soaked in potash it can always be discovered.

* *Synonyms.*—Herpes circinatus—Vesicular ringworm—Trichophytie circinée.

It often appears in children along with common ringworm, but may also be seen when the scalp is quite free from disease. It occasionally occurs in adults, especially in the form which will presently be described.

Burmese ringworm is stated by the late Dr Tilbury Fox to be nothing but a somewhat severe and troublesome form of Tinea circinata (see his account of this and other exotic forms of ringworm in his work on 'Skin Diseases,' p. 541). *Tinea imbricata* is the name given to the ringworm of Malacca, Tokelau, and other parts of the South Seas by Dr Geo. Turner and Dr Patrick Manson ('Edin. Med. Journ.,' Sept., 1880, and 'Brit. Journ. of Derm.,' January, 1892).

Tinea marginata.—There is a form of tinea only observed in adults, and of which the parasitic nature was first recognised by Köbner. It was formerly called *eczema marginatum.*

Its distribution is very characteristic. Unlike all other forms of ringworm, it is symmetrical, and occurs only on the thighs, abdomen, perinæum, and buttocks. It begins, probably in all cases, with minute spots, which rapidly form rings; but as these extend and coalesce, they produce gyrate figures, as above explained in the case of psoriasis, erythema, and other disorders which spread at the edge. When a case comes before us it has usually already assumed its characteristic aspect of a somewhat sinuous, broad, yellowish or brownish red, more or less inflamed band, which runs over the upper and inner part of each thigh, passes back to the fold of the nates, or even as high as the sacrum, and returns over the lower part of the abdomen or the groin to the pubes. This peculiar distribution no doubt depends upon the mutual contact of the parts, and is aided by the warmth and perspiration which favour the growth of the fungus. The centrifugal spread is that of all forms of tinea, but the central parts are sooner free from the disease, the margin is more inflamed, and the duration more prolonged than in tinea of other parts of the body.

This curious affection is apparently confined to the male sex and adult age. It is most common in those whose occupation necessitates a sitting position for a long time; thus it is most frequent in cobblers and cavalry soldiers. There is generally much irritation and discomfort; and like all long-

continued forms of dermatitis, it produces pigmentation, not only in the growing margin, but also upon the inner exhausted surface. The cases which have come before me have occurred sometimes in old troopers, but most often in men who have lived in India, where it appears to be at least one of the varieties of "washerman's itch."

The microscope demonstrates the same mycelium as is found in *Tinea circinata;* but the disease may last for ten years or more, and when of very long standing it is often difficult, and sometimes perhaps impossible, to discover the parasite. Fortunately the aspect and locality are sufficiently characteristic.

Treatment.—Tinea circinata is very easy of cure. Among popular domestic remedies, ink is one.* White precipitate ointment or oleate of mercury, verdigris ointment (subacetate of copper two scruples, benzoated lard one ounce), tincture of iodine, boro-glyceride, sulphurous acid in solution—may each be employed with a certainty of speedy cure, in striking contrast with their action in ringworm of the scalp. In England there is no need for resorting to the more severe parasiticides, but in India Goa powder (chrysarobine, chrysophanic acid) was first introduced for so-called Burmese ringworm. It should certainly never be employed in the cases which come before us in this country.

Ringworm of the body is, of course, contagious, and may not only propagate itself, but may lead to the development of tinea in the scalp. Its easy cure, however, renders precautions by isolation almost unnessary.

Tinea marginata, however, is, as above stated, very obstinate and difficult of cure. Sulphurous acid of the British Pharmacopœia freshly made, hyposulphite of soda (a drachm to the ounce), boracic acid (ten grains to an ounce of spirit), and corrosive sublimate (two grains to an ounce of water), may each be used with good effect.

In one very obstinate case the patient, there seemed no doubt, had contracted the disease with a pair of knicker-

* "How shall we make this mode of writing sink?
A mode, said I? 'tis a disease, I think,
A stubborn tetter that's not cured with ink."
CONGREVE.

bockers which had been mended by a village tailor in Switzerland, and most of these remedies were tried ineffectually for some months. At last the effect of pyrogallic acid ointment (half a drachm to the ounce of benzoated lard) was so rapid and unmistakable that the patient complained of this cure not having been used at first.

Onychomycosis.—It is happily very rare for tinea to attack the nails. When present, ringworm of the nails is usually a complication of ringworm of the scalp. Cases were recorded by Meissner in Vierordt's 'Archiv,' by Virchow and by Bazin, as early as 1853. It was carefully described and the microscopic appearance figured by Neumann ('Hautkrankheiten,' p. 347, figs. 48 and 49), by Dr Purser ('Dubl. Quart. Journ.,' Nov. 1865), and by Dr Fagge (Guy's Hosp. Rep.,' 3rd series, vol. xv, p. 553, and 'Clin. Trans.,' vol. i, p. 77). The nails become yellowish and brittle, but not rough as when affected by eczema or psoriasis. The fungus is occasionally that of favus (*achorion*, to be next described), but more often that of common ringworm (*trichophyton*). Good models of onychomycosis due to each of these parasites will be found in the Guy's Hospital Museum, Nos. 536 and 537.

It is the most obstinate of all forms of ringworm, and will often persist during the whole of childhood, and only disappear after puberty.

The *treatment* recommended is scraping the affected nail, softening it with alkalies, and when other means fail, complete removal, together with the sedulous application of sulphurous acid or hyposulphite of soda; but in one case an eminent dermatologist adopted this method, in addition to every other treatment, without curing the disease.

Tinea erythrasma.—Under this name has been described a slight form of inflammation of the skin, which is due to a fungus, but is probably distinct from tinea versicolor. It occurs, not on the exposed surfaces of trunk, but where two parts come in contact, most often on the scrotum and adjacent part of the thigh, sometimes in the cleft of the buttocks or in the axilla. The patches are pigmented, dull reddish yellow or reddish brown, with a slight branny desquamation. The

growth of the fungus is evidently favoured by warmth and moisture, but it does not produce the irritation of intertrigo or of tinea marginata; it spreads very slowly, and, in fact, is rather a blemish than a disease. The fungus was named by Burchardt and Bärensprung *Microsporon minutissimum.* Dr Payne* ('Path. Trans.,' 1886) has described and figured it; and regards it as a specific organism, though mixed with other epiphytes, without spores, and rather like an involution-form of a bacterium than a true fungus. It consists of jointed threads as well as cocci, and requires staining and a high power to be identified. The patches must be distinguished from other kinds of tinea and from syphilitic macula. They are readily cured with sulphurous acid or mercurial ointment.

FAVUS.†—This is a rare affection of the scalp and body, due to the presence of a fungus named *Achorion Schönleini.*

The disease was recognised and named by Bateman, and was figured by Alibert. But it was not till 1839 that Schönlein published in Müller's 'Archiv' the discovery that the yellow crusts of favus were neither pustular nor sebaceous, but were composed of the mycelium and conidia of a parasitic fungus. This discovery preceded that of Malmsten above mentioned (p. 204), and therefore to Schönlein belongs the merit of opening the whole chapter of cutaneous mycology.

In its earliest stage favus is probably undistinguishable from common ringworm, but very soon a characteristic flat, round, yellow object is seen, depressed in the middle, opaque, adherent, and perfectly dry. Its colour has been compared to a honeycomb (*favus*), and its shape to the disc of a lupine seed. The sight of a single case of the disease, of such models as Nos. 523—527 in the Guy's Hospital Museum, or even of a well-executed drawing, is sufficient to enable anyone to recognise favus.

The individual crusts grow, coalesce, and form thick, rugged, porous, yellowish masses, resembling the rind of old

* 'St. Thos. Hosp. Rep.,' 1887, and 'Rare Diseases of the Skin,' p. 31.

† *Synonyms.*—Tinea favosa—Porrigo lupinosa.—*Fr.* Teigne faveuse.—*Germ.* Erbgrind.

worm-eaten cheese. They have a characteristic mouldy odour like that of mice.

The disease may affect any part of the body, but is particularly severe upon the scalp, where it destroys the hair-sacs and often produces complete baldness. It is, as above stated, extremely rare in England, but is less so in Germany, and comparatively common in France. It appears also to be not infrequent in Scotland. Mr Hutchinson published forty-four cases with instructive remarks upon the disease in the 'Med. Times and Gazette" for 1859 (vol. ii, p. 553).

Favus has been recorded by Dr Purser, of Dublin, in a cat (1866), and by St Cyr in rabbits and mice ('Ann. de dermatologie et de syphilographie,' 1869), quoted by Dr Fox ('Skin Diseases,' p. 431).

The *treatment* is unsatisfactory. Ordinary paraciticides produce improvement, and if perseveringly employed, apparent cure; but relapse is almost sure to occur. The old French treatment of epilation by a cap of pitch-plaster, applied to the head and then forcibly pulled off, is no more effectual than less barbarous methods; but epilation is probably necessary for even a temporary cure (see Dr Bulkley's paper in the 'Arch. of Derm.,' April, 1881). Several cases of this remarkable disease are described by Dr Fagge in the 'Guy's Reports' for 1870 (p. 354), where more than one apparent cure by epilation is recorded.

TINEA VERSICOLOR.—This affection described by Willan as *Pityriasis versicolor*, was formerly named *maculæ hepaticæ*, a translation of the vernacular German name *Leberflechte* (liver spots, *chaleur de foie*). Another name still often applied is *chloasma*, but this is better reserved for true maculæ produced by pigment.

In 1846 Eichstädt published in Froriep's 'Journal' the discovery that this affection is due to the presence of a fungus. It is worth noticing, now that its real nature is understood, Bateman's remark, that "the causes of this pityriasis are not well ascertained; fruit, mushrooms, sudden alternations of heat and cold, violent exercise with flannel next to the skin, have been mentioned as probable causes: the most extensive eruption I have seen occurred in a Custom-house officer after

drinking spirits freely during a day of fasting on the Thames."

Tinea versicolor occurs as yellowish-brown spots of various shades, scarcely rising above the level of the skin, and yielding a branny or furfuraceous desquamation when scratched. The spots vary from a pin's head to several inches in diameter. As they multiply and coalesce, they form larger patches and thin rings, which, when united, produce the gyrate or serpentine outline before described as the result of this mode of development of an eruption. It is rare, however, to see such perfect rings as in tinea circinata, and the central parts seldom completely recover, and remain more or less discoloured.

The *distribution* of this affection is very characteristic. In the great majority of cases it occupies the chest, it often spreads to the abdomen, and is frequently seen on the back, especially between the shoulders. It may overspread the whole trunk, but rarely descends below the waist or ascends above the neck. Occasionally a patch or two may be also found on the border of the axilla and on the soft skin of the inner part of the arm and on the bend of the elbow. Even when the abdomen is not affected it is common to find this form of tinea on the inner side of the thigh, whence in males it is apt to spread to the scrotum. We may say, therefore, that the affection never occurs upon parts which are exposed to the air, and that its favourite seat is on skin which is the most protected and the most constantly warm and moist.

On scraping some of the surface and putting the scales in a drop of potash under a microscope, both spores and mycelium can be seen without difficulty. The spores of the fungus, *Microsporon furfurans*, are somewhat larger than those of *Trichophyton tonsurans*, and occur in heaps, which are surrounded by mycelium threads.

The presence of the fungus is of course the decisive point of diagnosis; but with a little experience the colour, the branny desquamation, and the locality of this affection are sufficiently characteristic.

Sometimes patients complain of the irritation occasioned by tinea versicolor, and it may be accompanied, especially in

hot weather, by slight erythematous dermatitis or urticaria, as the result of scratching. Most frequently, however, it produces no symptoms whatever, and is either discovered accidentally, or is only regarded as a disfigurement. The superficial layers of the epidermis are alone affected by the parasite.

The *cause* of this curious affection, or rather of the fungous growth on which it depends, is quite unknown. It is remarkable that it seldom, if ever, occurs in children, and is rare after middle age. It is most often seen in men between twenty and forty, but may also be observed in women, especially under the fold of the mamma. Although the fungus has been proved by experiment to be capable of transmission by direct inoculation, the disease is not practically contagious, or, if at all, to a very small degree.

Treatment.—If left alone tinea versicolor continues indefinitely, but it may be readily removed by any of the milder parasiticides. After thorough washing with hot soap and water, or, if a rapid cure is desired, with soft soap, the affected parts must be well rubbed with oleate of mercury or unguentum æruginis (ƸIij ad ℥j); or, if preferred, sulphurous acid or hyposulphite of soda (℥j ad ℥j) may be applied in watery solution.

Tinea rosea (*?*)—*Pityriasis rosea.*—This affection was first described by Gibert as an acute centrifugal erythema of the trunk. Bazin called it *P. rubra maculata et circinata;* Behrend, *Roseola furfuracea herpetiformis.* Vidal regards it as parasitic ('Trans. Intern. Med. Congr.,' vol. iii, p. 133). Most German writers agree in this view, and follow Hebra in classifying it as a variety of ringworm of the body, *Herpes tonsurans maculosus.*

Believing that it is not a form of ringworm of the body, but unable to admit it as a true erythema, as above defined, I have described it for convenience in the chapter on Pityriasis (*supra*, p. 111).

It will be convenient to consider in this chapter the remaining affections of the hair, some of which were formerly confounded with ringworm, and are still liable to be mistaken for it.

ALOPECIA.*—Baldness, or loss of hair, when not the result of the presence of a fungus, is the immediate consequence of atrophy of the hair-bulbs, which occasions the premature fall of the hairs from the follicles. When this is only partial, and followed by fresh growth of weak hair, the result is thinness or partial baldness; but when the hair-sac is no longer capable of producing a fresh hair complete alopecia results.

Although a senile change, baldness cannot be considered strictly physiological; for it is often absent even to advanced age in men, it is usually absent and rarely complete in women at any age, and it sometimes occurs very early without any other signs of senile decay. In these cases it is frequently hereditary, but by no means constantly so.

The atrophy of the hair-sacs certainly does not depend upon general deficiency of healthy nutrition, nor upon locally-deficient supply of blood. It is not accompanied by anæsthesia, by numbness, or by any other evidence whatever of nervous disorder, so that to ascribe alopecia, whether premature or not, to "vascular" or "neurotrophic disturbance," is an arbitrary hypothesis. It has been asserted that adhesions of the pericranium, and particularly want of mobility of the aponeurosis of the occipito-frontalis, produce alopecia; but many instances disprove the assertion. Neither wearing tight hats, nor going without hats, nor wearing turbans indoors, nor exposure to the sun—nor gout, nor scrofula, nor intemperance, nor abstinence—none of these will in the least explain either senile or premature baldness, for each supposed cause fails on examination.

Alopecia of this quasi-physiological character begins usually in the frontal region, sometimes at the central point at the back of the head, from which the hair falls forward, backward, and laterally; and not unfrequently in both regions at once. There is often seborrhœa sicca or a slight degree of pityriasis which precedes and accompanies baldness; if this

* *Synonym.*—*Calvities*, or more frequently in classical Latin, *calvitium*. *Atrichia* is a modern name. *Alopecia*, ἀλωπηκια, fr. ἀλώπηξ, "quod vulpes hoc malo sæpe corripiatur," is the real Greek name. Celsus distinguishes it by occurring in patches and only in adults, from ὀφίασις, which spread in a serpentine form on the back of the head in children.

is the cause, the thinness of hair can often be cured by restoring the skin to a healthy condition, and even if neglected it does not go on to complete alopecia. However, in many cases, both of senile and premature baldness, the skin is healthy throughout. When the hair has fallen off from the mid-region of the scalp the process almost always ceases, and that on the temples, behind the ears, and on the occiput remains without change. This ordinary alopecia, moreover, never affects the beard, the eyebrows, or other parts of the body.

Many attempts are from time to time made by physicians, as well as by hair-dressers, to check the loss of hair or to restore it. They consist either in applying stimulating lotions, of which cantharides is usually the basis, or in shampooing and manipulating the scalp. It is very rarely that these attempts have even partial success. A process introduced a few years ago by Dr Pincus, of Berlin, promised better, but has not in the sequel fulfilled the expectations of its author.

Alopecia as the result of febrile diseases.—Although this often proves the first step of ordinary baldness, yet it is distinguished therefrom by its affecting both sexes and all ages, by the fall of hair not being confined to any region of the scalp, and by its thinning rather than completely stripping the surface affected. Moreover, it is not only secondary in origin, but usually passes away of itself after convalescence, instead of being practically incurable, either by nature or by art.

Syphilitic baldness agrees in these characters, and its frequency, apart from any other affection of the scalp, as well as its early appearance, likewise point to its ætiology as a febrile alopecia.

AREA.*—A curious and not uncommon form of baldness appears in round, smooth patches on the head, most often in

* *Synonyms.*—Alopecia areata (Sauvages)—Area Celsi—Porrigo decalvans (Willan)—Teigne pelade (Bazin)—Tinea decalvans. Celsus did not particularly describe this variety of baldness, but applied the word "area" ("a bare space," *locus sine ædificio*) to any form of baldness, distinguishing *ἀλωπηκία* and *ὀφίασις* as varieties. The "porrigo" of Willan meant any eruption of the scalp, including true ringworm and impetigo; the term

children. The skin is as polished and white as ivory, and the margin is abrupt. There are almost always more patches than one, and as they grow they may unite and form larger areæ. The skin looks thin, and the hair-sacs and sebaceous glands seem atrophied.

The patient is in most cases at or under puberty, but area is also seen in adults, and may then affect the hair of the beard or pubes. The eyelids are sometimes involved with the scalp. The process of atrophy may go on until little hair is left on the head or elsewhere, but it very seldom or never ends in such complete alopecia as will presently be described. So peculiar is the appearance of this disease, that it is less needful to insist upon its distinction from other kinds of alopecia than upon the fact that it is a true alopecia, anatomically identical with the other forms of atrophy of the hair, though differing in its origin and course. It is independent of the presence of a fungus.

Hebra believed at one time in the statement of Gruby that alopecia areata was parasitic, but before long changed his opinion, so that one can only share in the surprise expressed by Dr Kaposi that Hebra is associated with Bazin as a supporter of the parasitic nature of area by his disciple Dr Neumann. It is possible that the single observation of Gruby in 1843 ('Comptes Rendus,' xvii), which gave rise to the question, was made upon a case of true ringworm. Neumann, who has no doubt that area is not parasitic, once, like the writer, found some spores in a case of the disease, but doubts rather the significance of a single observation than the accumulated testimony of his own and others' experience. In fact, M. Bazin's statements (and those made recently by Malassez and by Eichhorst) are the only ones which rest on

is now almost out of use. The appellation Tinea or Teigne depends upon the erroneous doctrine of the parasitic nature of the disease.

I have many times sought for a fungus and have never found the smallest evidence of its presence, with one single exception. This occurred more than twenty years ago. In one of the late Professor Hebra's patients suffering from area I discovered some spores and scanty mycelium in one of the neighbouring hairs. I showed it to the professor, and he told me that he had never seen it before. He doubted whether its occurrence was more than accidental, and with my present experience I doubt it also. The presence of bacteria is of course a different question.

large experience and assert the presence of a fungus. The French dermatologists call many cases "pelade" or "teigne pelade," which in England or Germany would be regarded as true ringworm in its later stages. In M. Hardy's lectures it is not difficult to recognise in the swelling, irritation, and desquamation of the skin, which he describes in pelade, the characters of ringworm.

Apart from the microscopic evidence, the naked-eye appearance and natural history of the disease would almost disprove the parasitic hypothesis. The hairs around the affected spot are not swollen at the roots, nor brittle in the shaft, but are merely atrophied like normal hairs which are ready to fall out. There is no evidence of local irritation in the hair-sac. The disease, above all, is not contagious, at least as we observe it in England, and it is not curable by antiparasitic treatment.

Dr. Thin ('Proc. R. Soc.,' 1881, No. 217) has figured minute schizomycetes, which he calls *Bacterium decalvans*, but which are rounded rather than rod-like, and probably identical with those described by Dr v. Sehlen in 'Virchow's Archiv.' Even if this were of etiological importance, it would not make area a true tinea.

Another theory is that area is a true tropho-neurosis, but of this there is at present no sufficient evidence. The subject was discussed in the International Medical Congress of 1881 by Liveing, Hardy and Vidal, Kaposi, and others (vol. iii, p. 158). There is no anæsthesia of the bald patches to be demonstrated in at least the great majority of cases.

Area is certainly more common in children and young adults than after thirty. Among 112 patients under the writer's care, 43 were children from four to fifteen, 52 were young men or women from sixteen to thirty, and 17 were above thirty, one being forty-seven and one fifty-eight. In the last case area supervened after ordinary senile alopecia had begun to appear, and the two affections were perfectly distinct ('Guy's Hosp. Rep.,' vol. xlvi, p. 373).

Of these 112 cases of area 72 occurred in male and 40 in female patients.

There were several cases of recurrence of the affection in

the same patient, and three of its appearance in two or more children in the same family (see Dr Tyson's case, 'Clin. Trans.,' 1886).

In many cases area would probably pass away of itself, but recovery is often hastened if not brought about by treatment. This consists in local irritants, and, when necessary, internal corroborants. We may begin with a lotion containing ℥ss to ℥ij of acetum cantharadis to a pint of water. This will often cause slight erythema in children, but in adults and in many children we may increase the strength to two, three, or four ounces with advantage, letting the irritation subside whenever it goes beyond redness. A mild and often efficient application is *linimentum myristicæ* (one part of the expressed oil to three of olive oil). With brown hair the *unguentum iodi* of the Pharmacopœia is a useful application.

Area occurs in persons of all degrees of health, complexion, and temperament; but if the patient is pale and thin steel is certainly useful, and bark or cod-liver oil may be prescribed when indicated by some other symptom than the bald patches.

A second or third attack of area sometimes follows after the first has been completely cured and an interval of time has elapsed.

Universal alopecia.—There are some cases of complete and rapid loss of hair which are neither senile, syphilitic, nor febrile, and which cannot be classed as examples of area. They are distinguished first by the hair falling off almost simultaneously from the whole of the scalp, not gradually from certain regions as in ordinary baldness, nor by the confluence of separate patches as in area; secondly by the baldness not being confined to the scalp (nor even to the scalp and beard or eyebrows, as is occasionally the case in area), but affecting the whole of the body; thirdly, by its not following an illness.

In one case of this kind the patient was a young man, in robust health, and wearing a full beard. Without any assignable cause he lost the whole of the hair of his body in a very short space of time.

This universal alopecia occurs in both sexes, always begin-

ning in adult life, and usually in young adults. It is quite incurable.

Nine cases have come under the writer's care, the ages being 9, 17 (*bis*), 25 (*bis*), 23, 35, 40, 55 ; five were men and four were women. In three of them the baldness had begun some years before, then the hair had more or less grown again, and, lastly, a fresh *defluvium capillorum* had ended in total alopecia.

We may at present distinguish these somewhat rare cases of *alopecia universalis acquisita* from the still rarer cases of *congenital alopecia*. In these the nails, as well as the hair, are affected ; and like other deficiencies of development, the condition may be hereditary. Such cases are comparable with congenital icthyosis, especially in such marked examples as the " porcupine boy," and still more closely with the " hairy family " of Burma, and the blue and hairless horse exhibited a few years ago in this country.

A striking series of examples of this congenital form of baldness occurred five years ago in this hospital under Dr Fagge. It is remarkable that the development, both of hair and nails, was tardy and imperfect, but not absolutely deficient. The italic letters denote the female sex, as in Mr Galton's nomenclature.

F. Born without hair or nails. Hair began to grow when he was about twenty-three years of age, and at thirty he had a full head of hair. The finger-nails also grew after puberty, but were always ill-formed, and he never had toe-nails. *F.* normal.

B. 1. Born without nails or hair ; the former appeared while teething, the latter when she was ten years old. *n.* Born without hair and nails ; none yet grown.

B. 2. Born with hair, but without nails ; died, aged seven.
B. 3. Born without hair or nails ; died, aged five months.
B. *B.* 4—9. Born with normal hair and nails.

B. 10. Born partly bald with ill-formed nails ; he is now twenty-two, and has a fair head of hair, but his nails are not good.

The patient herself, then nineteen years old, the eleventh and youngest of this large family, was born without hair or nails. She had, in 1876, only thin lanugo on the scalp, and imperfect nails.

Trichoclasia (*Wilson*).—A singular disease of the hair which has been described under this title, and also as *Trichoptilosis* (Devergie), *fragilitas crinium* and *Trichorrhexis nodosa* (Kaposi), is characterised by each hair dilating at intervals and breaking at these enlarged points. The dilated node consists of separated cortical fibres, which look very much like the splitting and enlargement of a cane when broken across, and the air which enters between the fibres makes them appear white by reflected light. They have thus a superficial resemblance to the ova of pediculi.

It is almost always confined to the beard, and is non-contagious and non-parasitic. It was described by Devergie as "trichoptylose," and subsequently by Beigel and by Wilks. The writer has seen three or four cases of it, one of which he figured in the 'Pathological Transactions' for 1879 (p. 439). where references will be found to the scanty literature of the subject.*

This is distinct from a parasitic affection of the hair known as "Piedra" from its stony hardness, which occurs in the hair of the scalp, among women only, in Central and South America. It has been described by several French writers and by Mr Malcolm Morris in the same volume of the 'Pathological Transactions' (p. 441).

A third disease or malformation of the hairs consists in "beading" like that of *Trichoclasia nodosa;* but the hairs break at the internodes, not at the nodes. Cases have been published by Dr Walter Smith ('Brit. Med. Journ.,' 1888), Dr Liveing, Dr Thin, and others; also abroad by Vidal and Lesser, and in America by Bulkley. This moniform or beaded condition affects the scalp only and usually in children; it has been confounded with Trichoclasia by some writers, but is a distinct affection. A careful histological account of a case by Dr W. Beatty and Professor J. A. Scott, of Dublin, will be found in the 'British Journal of Derm.' for June, 1892.

Leptothrix is the name given by Wilson to a curious and

* See also a valuable paper, with fuller references, by Dr T. C. Fox, in the 'Lancet,' Dec. 7th, 1878; Hans v. Hebra ('Kr. Veränd. d. Haut,' p. 391); and the account and figures of Dr Payne in his 'Rare Diseases of the Skin.'

not uncommon affection of the hair of the axilla or genitals, in which it becomes thick and lustreless. Under the microscope the shaft is more or less completely encrusted with masses of apparently altered cuticle, which give it a rough irregular outline. It is not known certainly whether a bacterium is common in this abnormality, but it seems probable, since I have repeatedly found it associated with the red sweat described above (p. 199).

CHRONIC DEEP INFLAMMATIONS AND HYPERTROPHIES.

Deep and chronic dermatitis—its definition—its relation to eczema and other forms of superficial dermatitis—to hypertrophy—and to new growths.

GUTTA ROSEA—*Origin in recurrent erythema—development—localities—causes and pathology—relation to dyspepsia—to drink—to ovarian irritation—treatment—Chilblains.*

EPIDERMIC AND PAPILLARY HYPERTROPHIES—*Callosities, tylosis and corns—Leucoplacia lingualis et buccalis—Warts—Condylomata and mucous patches.*

ICHTHYOSIS—*Anatomy—varieties—xerodermia—prognosis and treatment—Ichthyosis intra-uterina—Horns.*

SCLERODERMIA—*History—description—distribution—histology—diagnosis—prognosis and treatment—Sclerema neonatorum—Linear atrophy.*

ELEPHANTIASIS—*Nomenclature—anatomy—pathology—relation to chyluria and filaria sanguinis—clinical characters—Dermatolysis.*

XANTHELASMA—*History—course and symptoms—histology—relation to jaundice—Xanthoma diabeticorum.*

As stated in the introductory chapter, the great majority of affections of the skin consist pathologically in superficial inflammation; that is to say, inflammation which affects only the papillary layer of the cutis and the Malpighian layer of the epidermis, with the resulting change in the cuticle. In no form of this superficial dermatitis are the papillæ destroyed; and no scars result. We have now to speak of a far less frequent kind of inflammation of the skin which originates in the deep layer of the cutis, which secondarily involves the

papillary and Malpighian layers and the cuticle, which destroys the papillæ, which spreads from the skin proper to the subcutaneous connective or adipose tissue, and which after recovery leaves scars behind. Eczema, psoriasis, and their allies, scabies, the erythematous eruptions, and the parasitic affections—are all, in the sense in which the word is here used, superficial ; and, however severe and protracted their course, when cured, they leave either no trace behind or only a pigment spot.

It is true that when inflammation occupies the deep sacs of the hairs and the sebaceous glands a cicatrix is not unfrequently the result.

Thus acne in its severe forms leaves scars behind, varying from white spots, very slightly depressed and otherwise inconspicuous, slight local atrophies, up to the hypertrophied scars which sometimes simulate cheloid. The same applies to sycosis, though obvious scarring is less frequent. Some other pustular diseases destroy the papillæ and thus produce scars. This never occurs with true impetigo (which is one of its pathological as well as diagnostic characters), nor with the pustules of scabies or bullæ of pemphigus ; but variola, when unmodified by vaccination, almost always leaves indelible traces of its presence—either deep-pitted, depressed, white scars, or more extensive and hypertrophied puckering. The same is true, though less constantly, of varicella, and a deeply pitted cicatrix is the well-known mark of the successful vaccination. Lastly, the pustules of zona very often (though by no means constantly) leave more or less marked cicatrices ; and sometimes, especially upon the forehead, these are deep and indelible.

But besides these deep pustules, we meet with inflammation of the skin, which, uniformly and over large surfaces, penetrates below the papillæ and affects the whole thickness of the integument, together with the subcutaneous tissue. Such *deep dermatitis* is usually chronic in course, or, if it shows acute characters, they are repeated again and again, without any tendency for the malady to come to a natural end. Such recurrent subacute diseases become practically chronic, as we see in the case of inflammations of the bronchial tubes, of the eye, and of the colon.

Like other chronic inflammations, those of the skin show in many cases little of the classical signs of the process, and are unattended with fever ; moreover, the exudation is never purulent, but if œdematous gradually assumes the characters of *œdema durum ;* if congestive those of hypertrophy. The

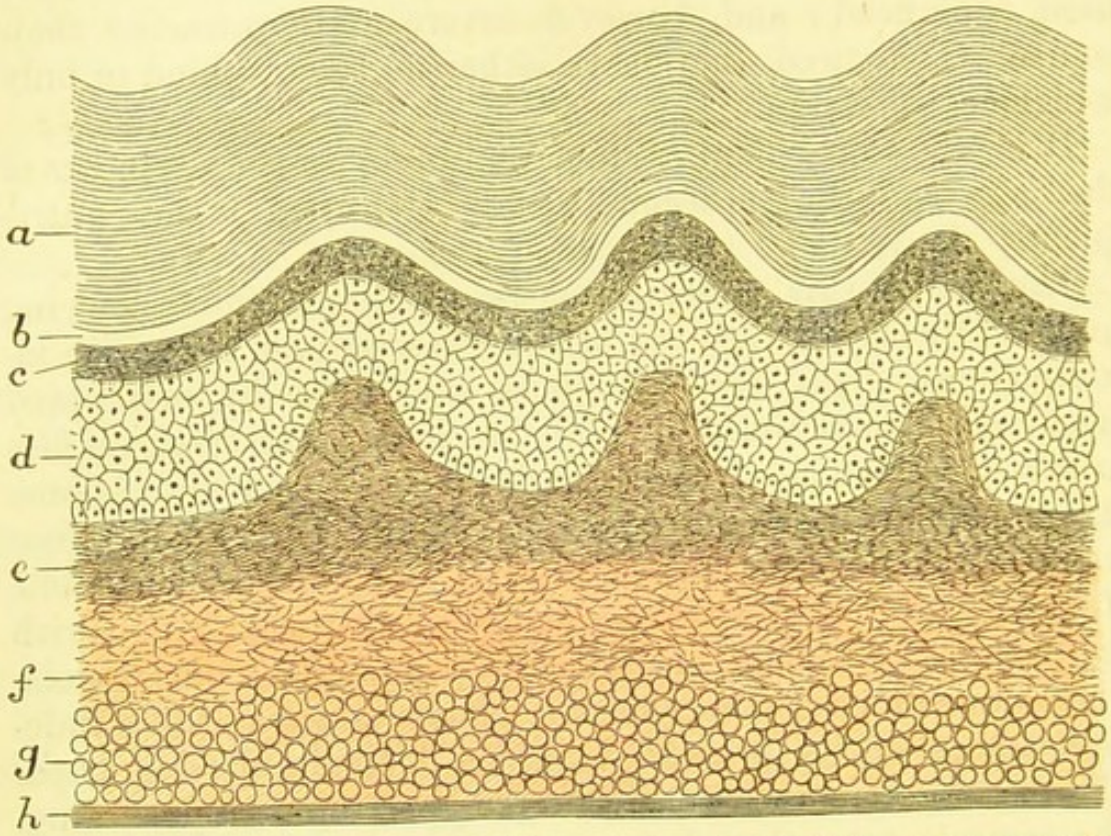


FIG. 21.—Bathymetric distribution of deep dermatitis. (Compare the diagram of superficial dermatitis, Fig. 1, p. 24.)

inflammatory corpuscles, instead of dying and undergoing transformation into pus-cells, become organised into connective-tissue corpuscles, and gradually form fibres. Thus chronic inflammations are closely related to, and often indistinguishable from, *hypertrophy* in the humbler stages of that process, hyperplasia of the connective tissues. An analogy is offered by the case of hypertrophic cirrhosis of the liver.

Again, chronic inflammation is apt to lose the uniform and characteristic qualities which distinguish the catarrhal, adhesive, and suppurative forms of acute inflammation. Thus chronic catarrhal broncho-pneumonia is apt to assume a *caseous* form, and ultimately to lead to the new growths which we call tubercle. Thus chronic inflammation of the urinary

tract often ends by becoming caseous. Thus, also, chronic deep dermatitis not infrequently acquires a tubercular character.

Moreover, the continued irritation which gives rise to inflammation and thickening of the mucous membrane of the tongue, the lips, the pylorus, or the rectum may in time, by almost imperceptible stages, pass into a *new growth*, perhaps of the most markedly "heterologous" and malignant kind. Warts and other innocent growths, condylomata and syphilitic nodes also arise from and are complicated with chronic dermatitis and cutaneous hypertrophy.

It is therefore pathologically justifiable to associate with *chronic deep inflammations* of the skin, *hypertrophies*, *tubercle*, and *new growths;* and this arrangement we propose to follow.

The most important instance of *acute deep dermatitis* is that afforded by erysipelas. The deep and acute inflammations which result from burns and other injuries are best studied in surgical text-books.

GUTTA ROSEA.*—*Definition.*—A deep congestive hypertrophy of the skin, beginning in repeated erythematous attacks, and ending in permanent dilatation of the vessels with hypertrophy, seated in the nose and other parts, and usually associated with reflex irritation. This affection in its more obvious forms is well known beyond professional circles. A classical instance is Bardolph's face, "all bubuckles and welks and knobs and flames of fire," "the lanthorn in the poop," "an everlasting bonfire light," "sometimes blue and sometimes red."

Gutta rosea, however, is far from being always the result of intemperance.

Course.—The affection begins with slight erythematous redness, usually of the tip of the nose, occurring after food and combined with local irritation; the heat and itching are felt by the patient, the redness and even slight swelling are visible. It passes off quickly, and perhaps may not return for days or weeks, but gradually becomes more frequent, until it is at last habitual.

* *Synonyms.*—Acne rosea—Acne rosacea.—*Fr.* Couperose—Acné congestive (Hardy).—*Germ.* Kupferrose—Erythema angiectaticum (Auspitz).

The next step is for the congested vessels to fail to recover themselves in the intervals between the successive states of hyperæmia. What was a recurrent subacute erythema becomes a chronic congestive dermatitis with exacerbations. Frequently-recurrent œdema has moreover ended in hypertrophy, so that the skin and subcutaneous tissue of the affected part are swollen and thickened. Some of the veins become varicose from habitual distension, and remain visible as red tortuous lines. The sebaceous glands are apt to be obstructed or to inflame without obstruction, and pustules

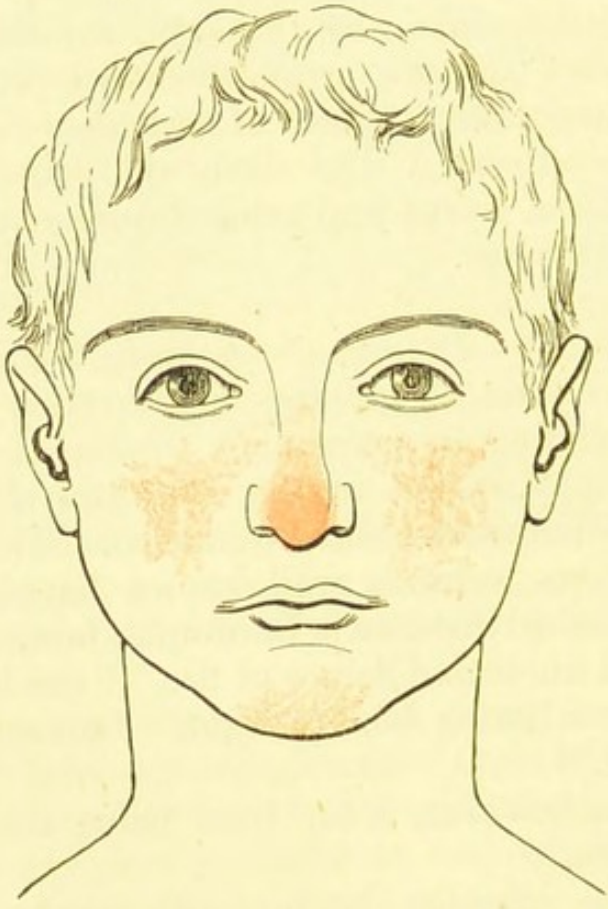


FIG. 22.—Distribution of gutta rosea.

resembling those of inflamed acne result. Hence the common name "acne rosacea." But there are no precedent comedones, and the distribution, ætiology, and entire natural history of the disease are distinct from those of acne.

Hypertrophy may go on until great pendulous masses of thick skin, with the scars of past pustules and abundant

fibrous tissue, form hideous excrescences upon the nose, growing either from the tip, from the alæ, or from the septum.

Distribution.—By far the most frequent and conspicuous seat of gutta rosea is the nose, but it is not the only one. In persons in whom this feature is characteristically affected, we usually find large red pimples, with inflamed base and chronic course, upon the cheeks, the chin, and other parts of the face. When the nose is only slightly affected, and the rest of the face decidedly, the general aspect is very different from that of the hypertrophied form above described when confined to the nose, but the anatomical condition is essentially the same, and every gradation between the two forms may be observed. Beyond the face, similar recurrent erythema, with more or less of hypertrophy, may be seen in the lobes of the ears, although here it is very rare to see pimples or pustules. We never find a corresponding condition of the shoulders or chest, as we do in acne.

Causes and pathology.—Gutta rosea is no less distinctive in its ætiology than in its anatomy and distribution. It is essentially an erythema, or rather the result of frequently-recurring erythema. Like other erythemata, gutta rosea is symptomatic (p. 135) ; it is never the result of local irritants, it always depends upon reflex inhibition of vaso-motor nerves causing active congestion. We saw that the origin of this reflex action is, in some of the most marked forms of erythema, irritation of the primæ viæ by poisons, drugs, or food (p. 151). Gutta rosea is no exception to this rule ; almost always in men, and most frequently in women, it is the result of gastric irritation.

Common notoriety affixes the stigma of drink to the possession of a nose like Bardolph's, but it would be no less unjust than uncharitable to assume this as the necessary cause. No doubt the excessive use of alcohol produces most frequently and most readily the gastric irritation which leads to gutta rosea ; but marked examples of the disease may be seen in persons of habitual temperance, and even in total abstainers. In women, especially at the period of the menopause, there is apt to be a form of dyspepsia which leads to flushings of the face, not only after every meal, but in the

worst cases upon putting the first morsel of food into the stomach ; these flushings are felt by the patient and cause great distress. The frequently-recurring hyperæmia leads to habitual congestion, pimples, and at last more or less hypertrophy, although in these cases the type is more often that of diffused redness with pimples scattered over the face than of marked local hypertrophy. This, however, is occasionally seen, just as the diffused pimply redness is often the result of tippling.

The only cause for gutta rosea, beside alcoholic or non-alcoholic dyspepsia, is uterine or rather ovarian disturbance. The frequency with which the disease occurs when menstruation is becoming irregular, before it finally ceases, seems to make this probable. It many cases of gutta rosea the affection is decidedly worse at the menstrual periods, and is associated with dysmenorrhœa. Considering, however, the great number of cases of menstrual disturbance in which no such effect is produced, and the extreme rarity of gutta rosea even in the worst cases of dysmenorrhœa in young women, as well as the frequency of what may be called climacteric dyspepsia, it seems probable that in almost every case gastric irritation is the exciting cause of the disease, and that the monthly exacerbations, which undoubtedly occur in certain cases, are due rather to direct, physiological, vascular excitation at that time of the whole surface than to morbid irritation of a reflex kind from the ovaries.

Gutta rosea is not produced by the most frequent kind of dyspepsia, that of young adults ; it is rare before the age of forty, even in persons who drink freely. It is often combined with acute dyspepsia, and with gout, but is the result of the dyspepsia which, like the gout, is produced by over-feeding and over-drinking, rather than directly connected with excess of urate of soda. Gutta rosea is very far from being confined to the male sex, though the most typical cases from alcohol are of course more frequent in men.

Treatment.—The rational treatment of this, as of every other disease, depends upon recognising its pathology and origin. The first indication is to remove the gastric irritation which is almost always present, to discover if possible its cause, whether in excess of food, in imperfect and hasty

mastication, or in some particular article which acts as a poison. Salt meat, spices, pickles, melted fats, and sauces—any of these may prove to be the offender; but most frequent of all are wine, beer, or spirits. If we fail to discover the cause of the dyspepsia we may yet do good, apart from regulating diet and the meals, by the exhibition of small doses of soda with rhubarb and calumba, or when gastralgia is marked, by ten grains of subnitrate of bismuth as a powder either before or after meals, to which five grains of carbonate of soda may be added if there is obvious acidity. Gentle laxatives are often desirable, and occasional doses of blue pill. In some cases euonymin is particularly valuable, taken in doses of two three grains every other night; in others a dinner-pill of colchicum and nux vomica with extract of aloes is found useful. Locally, astringent washes, like Goulard lotion, are useful and pleasant; flexible collodion may also be painted over the congested parts at bedtime; but this should be done when the patient is in retirement, for the closely adherent film is unsightly and difficult to remove. In advanced cases, scarification by innumerable punctures with a lancet is sometimes efficacious; and very successful cases have been reported by Mr Squire and Dr Stowers. When the hypertrophied masses are considerable they can only be removed by the knife.

*Pernio.**—Chilblains are examples of chronic and rather deep dermatitis with congestion and œdema. They are the result of frequent local erythematous hyperæmia, and are, therefore, pathologically allied to gutta rosea. The stimulus is not directly that of cold on the tissue of the skin, as in frostbite; but vaso-motor paralysis causes vascular dilatation, probably preceded by contraction of the same arterioles. The itching character of the disorder is produced by the secondary hyperæmia.

The fact that chilblains are most common in childhood and youth probably depends on the greater susceptibility of the vaso-motor nervous system at this period of life. Their

* *Fr.* Engelure.—*Germ.* Frostbeule. "Fiunt etiam ex frigore hiberno ulcera, maxime in pueris, et præcipue pedibus digitisque eorum, nonnunquam etiam in manibus, ... Dolor autem modicus, prurigo major est." —Celsus, lib. v, cap. xxviii, § 6.

prevalence in the winter, and particularly in changeable weather, is explained by the same hypothesis of their pathology. Their localisation follows from the greater exposure of the peripheral parts to cold ; for, as is well known, they are most common on the toes, next on the fingers, and sometimes affect the ears, or even the chin and nose. Moreover, venous stagnation is most apt to occur in the parts most distant from the heart.

The empirical treatment of chilblains is also rational ; preserving the extremities from cold by woollen clothing and exercise, avoiding too rapid warmth, and stimulating the local circulation by friction and rubefacients.

Pathologically similar in the local condition, though different in the cause of the peripheral anæmia, are the cold hands and feet which attend a feeble action of the heart, the "dead fingers" to which many persons are liable on exposure to cold air or water, and the "local asphyxia" which constitutes a slight degree of Raynaud's disease.

Epidermic Hypertrophies.—It was observed by John Hunter that internal pressure produces atrophy, as when a tumour or aneurysm presses upon a vertebra ; but that external pressure produces hypertrophy, as in pressure upon the skin of a labourer's hand. It is better put by Paget, that continuous pressure produces absorption and atrophy, intermittent pressure produces hypertrophy.

When pressure is continuously and uniformly applied, as to a lady's foot in China while still growing, atrophy takes place with only moderate distortion of the bones, and without thickening of the skin ; but when it is applied only while walking, as by the narrow-toed and high-heeled shoes of a European lady, there ensues, along with a certain amount of distortion, hypertrophy or thickening of the prominent parts of the skin. This is usually accompanied with a chronic deep dermatitis, whereby the papillæ are affected, and a new growth forms, or occasionally a deep bursa results. These products, in which chronic inflammation, hypertrophy, and tumour are seen at their point of junction, we know by the names of corn and bunion.

When, without unnatural compression or distortion, the

hand or foot or any other part is exposed to intermittent pressure, the result is something short of this. It is a pure hypertrophy affecting only the epidermis (*callositas*, *tyloma*). Such is the case in the thickened skin of the ball of the foot and the heel in adults, and of the palm of the hand in all who do manual labour. In children the thickening of the cuticle of the palms and soles is but slight; probably an inherited character, since we find it in all plantigrade animals. In adults the degree varies with the habits of the individual. This purely physiological form of epidermic thickening is only seen in those races who go barefoot, for whenever shoes are worn there is a chance of corns appearing even on the sole of the foot. Precisely similar callosities appear in the middle of the palm in workmen who use screwdrivers, gimlets, and augers, in the cleft between the finger and the thumb in shoemakers and others who habitually pass a strap or cord through the hand, over the patella in those who frequently kneel, and on the back of the neck, especially over the seventh vertebra, in those who carry burdens on their shoulders, as may be often observed in railway porters.

It will be found on section that the horny layer or cuticle is enormously increased, the Malpighian layer slightly if at all, and the cutis vera quite unaffected. Hence these callosities appear lighter than the rest of the skin in negroes.

*Tylosis** was the name given by Hebra to great epidermic thickening, without the inflammation described above at pp. 31, 56. It usually affects the palms and soles. A marked case is described and figured by Dr Crocker in the 'British Journal of Dermatology' (vol. iii, p. 109). This was an instance of tylosis following over-secretion of sweat, but more often the condition is a congenital exaggeration of the natural thickness of the palmar and plantar epidermis. In a case reported in the same article, blisters formed every autumn, perhaps from retained sweat; and the patient could trace the

* Tylosis palmæ manus plana (Hebra); Keratosis manuum aut pedum, Ichthyosis palmaris (Auspitz). Τύλωμα and τύλωσις are both genuine Greek derivatives of τύλος or τύλη, from τυλόω, to make callous. So Theocritus, μακέλᾳ τετυλωμένος ἔνδοθι χεῖρας, *i. e.* hands made hard on the palms by using a pickaxe.

same malformation in his mother and grandfather, in three of his own children, and in a grandchild.

In some cases great chronic thickening of the epidermis of the palms and soles is accompanied by redness and inflammation along the border of the affected parts. Such cases appear to be distinct from hypertrophic eczema of the soles and from syphilitic affections. A characteristic one was figured and described by Mr Brooke, of Manchester, in the 'Brit. Journ. of Derm.' for Nov., 1891,' under the title "Erythema keratodes;" and another is described from Bordeaux in the same journal for June, 1892.

The corn (*clavus*), as was first shown by the anatomical researches of Gustav Simon, consists of a diseased growth of the horny cuticle into the subjacent living Malpighian and papillary layers. The horny downgrowth is of a more or less conical shape, and causes atrophy of the immediately adjacent papillæ, but at the same time a thickened layer of cutis forms around by true chronic inflammation. Here the cuticle is but slightly thickened, and not hard, as in the central part, and the papillæ become gradually hypertrophied.

Occasionally the original central hardening appears never to take place, especially in the soft parts of the skin between the toes, which are continually in contact and moistened with perspiration. The result is what is known as a "soft corn."

There may be a mere horny plug pressing on the skin beneath, without exciting inflammation around, as occurs most frequently on the naturally thickened skin of the ball of the great toe or heel. In this case the resulting pain is that of an occasional sharp prick, when the sharp, hard, horny plug is suddenly driven home by accidental pressure, and is very different from the continual, wearing, and disabling pain of a clavus mollis.

The commonest kind of corn, partaking of both characters, combines the discomfort of each.

When a cyst or bursa forms beneath the corn, and increases so as to become obvious, it is called a *bunion*. A small cyst is often to be found beneath an ordinary corn of old standing and large dimensions; but the large cysts seldom form except over the metatarso-phalangeal joint of the great toe, when this has been rendered artificially prominent

from the distortion caused by short, narrow-toed, and high-heeled shoes. The bursa from time to time inflames, and the tension then occasions severe pain, although suppuration is rare.

Treatment.—The proper treatment of corns is prevention. Children's shoes should be made low in the heel, broad in the tread, straight on the inner side, and each shoe markedly unsymmetrical. In measuring for shoes, or for making a last, one should not sit, but stand, so that the weight of the body may expand the foot into the natural shape and size which it then assumes. In a perfect covering for the foot similar expansion would be afforded by the elasticity of the upper leather, and the yielding of a thick and soft stocking; but practically the sole should slightly project, so as to equal the greatest length and width of the foot. Even in adult life the trouble of insisting upon boots being properly made is well repaid by the increased comfort and ability to walk, and the disappearance of acquired corns and distortions. In bad cases it is well for the patient to wear stockings with divided toes like a glove, and to have a stout vertical piece of leather fixed so as to separate the great toe from the rest, and to press it outwards into its natural position, a plan devised by the late Aston Key.

Beside removing the thickened epidermis and extracting the conical plug of hard keratin from time to time, relief may be obtained by treatment with salicylic acid, 2 per cent., mixed either with mutton suet (the ointment in use in the German army), or in the stronger proportion of five or ten grains to the ounce of vaseline.

In many cases, however, beside the presence of both hard and soft corns, the whole foot is tender and painful. The remedy then consists, first, in large and low shoes, so as to diminish the heat and moisture; secondly, in thick and loosely knitted stockings, which are at once absorbent and pervious; and thirdly, in soaking the foot night and morning in alum lotion, or brine, or solution of tannin. Thread and cotton coverings for the foot should never be worn. When wool or merino mixture cannot be borne, silk is the only proper substitute.

Until comparatively lately the shoes supplied to the

English army were symmetrical, that is to say, there was no difference between right and left. This is now happily corrected, owing to the efforts of Dr Parkes and other medical reformers; at present our soldiers are probably better shod than the French with their shoes and gaiters, or the Prussians with their high boots. The best foot covering of all is, perhaps, a kind of sandal worn by the Spanish infantry. In the handsome and serviceable costume of the Hungarian army an excellent laced boot is worn, much like that of our own troops, but somewhat higher than a shooting-boot, without the addition of a leather legging. The importance of anatomical knowledge in army clothing is conspicuous in this instance; but in civil life, apart from artistic considerations, the misery and ill-temper produced by ill-fitting shoes render the subject one of serious importance.

Tylosis is best treated by soaking the parts in hot water, with the use of alkaline soap. Or the hardened skin may be covered with salicylic acid as an ointment or plaister. The best method of applying this valuable keratolytic agent is probably that introduced by Dr Unna, of Hamburg, as a plaister made by saturating an alcoholic solution of gutta percha with salicylic acid (see Dr Thin's paper, with four cases so treated, 'Clin. Trans.,' xvii, 9). But the writer has seen excellent results from an ointment composed of ac. salic. ʒss to an ounce of vaseline or lanoline.

*Leucoplacia buccalis.**—Closely allied anatomically to corns and callosities, consisting, like them, in hypertrophy of epithelium, are the milk-white patches or "corns" upon the prominent parts of the heart, both auricle and ventricle, and the thick gristle-like white fibrous patches on the surface of the spleen, with similar conditions less frequently met with in the pleura and the peritoneum.

Still more closely connected with corns are the white patches upon the mucous membrane of the tongue and inner lining of the cheeks. These patches have been erroneously described as "psoriasis of the tongue" and "ichthyosis." They are of much diagnostic interest. They sometimes occur as the result of irritation from a rough tooth. They also are

* *Synonyms.*—Ichthyosis linguæ—Psoriasis linguæ—Leucoma—Tyloma—Keratosis linguæ et oris.

produced, or at least aggravated, by smoking: not by the chemical action of nicotin, but by the heat of a cigar or pipe or by the friction. Very similar patches may be the result of syphilis, but these may generally be recognised by their being unsymmetrical, and not confined to the mucous membrane but dipping beneath it; moreover in most cases there is either an ulcer on the patch, or more or less contraction around it from previous loss of substance. The diagnosis from syphilis, however, is sometimes difficult. Such patches of leucoma are not unfrequently met with in cases of lichen planus (p. 86). They are more common in men than in women.

These white patches may be the seat of subsequent cancer: they are not its first stage, for they may last many years before malignant action appears, but they are the seat of irritative proliferation of cells, which only needs a determining condition, whatever it be, to produce carcinoma.*

The treatment depends, first, on removing any source of irritation, as rough teeth, smoking, or taking pepper, hot soups, and, perhaps, carbonic acid in water; secondly, in applying such local remedies as borax and honey. Balsam of Peru has been lately recommended by Dr Rosenberg ('Therapeutische Monatsheft,' 1888, No. 10), applied two or three times a day.

WARTS.—*Verrucæ—papillomata.*—These are small cutaneous tumours consisting in overgrowth of the papillæ of the cutis.

A vertical section shows that the horny layer of epidermis is unaffected, or is somewhat thinner than usual. The Malpighian layer is sometimes slightly thickened, and in many cases is the seat of more abundant pigment than usual. There is seldom or never any evidence of inflammation; the process is one of hypertrophy and new growth.

Warts are very rarely painful, but their removal is desired from their unsightliness and also because of their inconvenience, or sometimes the pain occasioned when they are accidentally pressed upon. They are sometimes single, more often multiple, and in rare instances occur in innumerable

* See the discussion at the International Medical Congress, 1881 (vol. iii, p. 171), introduced by Dr Schwimmer, of Buda-Pesth.

abundance. They appear to be never congenital, but are most common in children, and are comparatively rare after early adult life. We can sometimes trace their origin to certain definite sources, usually to some form of local irritation.

The most common seat of warts is on the hands, not the palm, but the fingers, the dorsum, and the wrist. They may also occur on the arms, the face, not unfrequently on the scalp, and more rarely on the trunk or lower extremities. They are decidedly rare on the feet, but are not uncommon on the penis and vulva, around the anus, and at the orifice of the lips and on the mucous membrane of the mouth. A similar condition occurs also in the œsophagus, especially in certain cases where pressure has produced irritation of the mucous membrance, and also where chronic cardiac disease has led to its habitual congestion. Warts are usually of a rounded, hemispherical, or pointed shape, but sometimes are flat at the surface; and by growth or coalescence a large flat mass may be formed, which is called a condyloma.

Pathologically we may recognise the following varieties of papillomata:

1. The innocent and painless warts of youth, easily removed, and not recurrent. They are almost always found upon the hands. When one of them appears, others quickly follow, and their prevalence among children of the same age has led to the popular belief that they are contagious. Dr Payne has lately brought forward a case in which he was himself the recipient of the contagion ('Brit. Journ. Derm.,' vol. iii, p. 185). Probably it is bacterial, but none has yet been identified. Occasionally a wart will follow a sebaceous pustule. After the inflamed follicle has burst, the resulting crust of epidermis grows, and in a week or more has become a papilloma with rough hair-like surface (*Spitzcondylom*).

These multiple warts disappear as readily as they come, with the help of a charm or without. They may, however, be removed by salicylic acid dissolved in collodion or gutta percha, or by frequent applications of nitric or strong acetic acid. If a drop of the *Acidum Aceticum* of the 'British Pharmacopœia' be applied two or three times a day with a glass rod, the wart becomes dark, softens, and finally after three or four days falls off, leaving a smooth epidermic surface.

2. Small multiple warts, usually flatter, and of a pinkish colour, thus differing from the yellowish tint of those first described. Beside their small size and colour, they differ in their often occurring in large numbers so as to simulate papular dermatitis; or, again, if rather large, discrete, and somewhat flat, they may simulate molluscum, a variety of which has been named "verrucosum" from this resemblance. These multiple warts are usually seen covering the arms, but may also be met with on the neck, face, and forehead. In one patient, in a girl of eighteen, they covered the back of both hands; in another, a healthy woman of twenty-eight, they closely resembled lichen planus. In a third, a young man of twenty, they occupied the neck and left side of the nose, where I counted more than three dozen. He also had warts, though less numerous, on both hands and forearms. They all came in six months, starting with one large one on the pomum Adami. This patient had had warts on his thumbs when a boy.

3. Warts of old age (*Verruca senilis pigmentosa*), usually few in number, large and deeply pigmented. They are apt to occur around the orifices of the body, on the eyelids, the lips, the genitals, and around the anus. Similar papillomata occur on the tongue and mucous membrane of the mouth. They are very liable to degeneration, and often become the seat of epithelial cancer, after having existed for months or years without showing the slightest malignancy. The abdomen of an old woman under the writer's care suffering from internal cancer was covered with these pigmented warts, but they were themselves non-cancerous (March, 1886).*

4. Warts following gonorrhœa: multiple and confined to the glans and skin of the penis.

Condylomata and mucous patches.—The composite warts known as condylomata, hard condylomata, Spitzcondylom (*C. acutum*), are true papillomata in structure, but are always local, never scattered about as other warts are. They occur most frequently about the anus and genital organs. They are certainly not always syphilitic. They may follow the

* A singular case of multiple pigmented warts occupying one half of the body in a girl of seventeen came under the writer's notice in 1883 and 1887, and is briefly recorded in the 'Guy's Hosp. Rep.,' vol. xlvi, p. 408.

irritation caused by the discharge of a soft chancre or a gonorrhœa, in the latter case being identical in all but size with gonorrhœal warts. They may also occur in the cleft of the nates as the result of friction from riding, when there is not the least probability of other than mechanical origin.

The latter variety only needs dryness and protection, with the help of citrine or some other mild mercurial ointment. The harder venereal warts and condylomata must be removed by curved scissors, or with nitric acid, arsenical paste, or some other caustic application.

Soft condylomata (*plaques muqueuses*, or mucous patches) are believed to be always syphilitic, and they almost alone of secondary lesions have the power of transmitting the virus. They occur on the lips, on the mucous membrane of the tongue, cheeks, palate, and tonsils, occasionally on the eyelid, sometimes on the female mamma, and frequently around the anus and vulva. Here they may grow to great hypertrophic masses, the tertiary *syphilis vegetans* of authors. They are best treated by dusting with calomel, and occasional application of nitrate of silver.

Ichthyosis.—This is a very remarkable and in its fully developed form a rare affection. It is an example of diffused epidermic hypertrophy and malformation rather than of chronic inflammation. It was classed by Willan among his squamæ, and its name, "the fish-skin disease," was given for the same reason. The scales of ichthyosis are, however, very different from the branny desquamation which follows all superficial dermatitis, from the large pearly coherent scales of psoriasis, and from the thin squames of pityriasis rubra. In the most marked cases the surface of the skin resembles the rough, dark, and scaly surface of the bark of a tree, or it may be compared to the rugged hide of an elephant. Sometimes the roughness and horny excrescences are so marked that they rather resemble the prickly skin of certain sharks; indeed, persons affected with an extreme degree of ichthyosis have been exhibited as "porcupine-men" (*Ichthyosis hystrix*).*

The malformation is congenital, but does not appear until

* Willan's case of *Ichthyosis cornea* was probably Sclerodermia.

infancy is past, although the mother will generally admit that the infant's skin was from the first more rough, dry, hard, and shining than that of other children.

Ichthyosis is most marked upon the limbs, but its characteristic feature is that it is practically universal. In a fully developed case no portion of the body is absolutely healthy. The parts least affected are the scalp, face, palms, soles, genital organs, and the flexures of the joints; in other words, the thinnest portions of the skin. The greatest accumulation of horny epidermis is on the outer side of the arms and legs, and especially about the elbows and knees; but the back, the nates, and the whole of the trunk are often scarcely less affected. The scales are not large, and are more adherent than those of psoriasis, so that, considering the thickness and extent of the mass, there is less free desquamation than might be expected. The surface is dry as well as rough; there is almost complete absence of perspiration; the sebaceous glands, instead of their natural lubricating oil, secrete a thick material (seborrhœa sicca) which helps to form the bulk of the crusts, and gives them more power of attracting and retaining dirt. The difficulty of keeping the rough scaly skin clean is extreme, so that children affected with it have a dingy appearance, which in some cases and in the worst parts becomes almost black. The name "ichthyosis nigra" has been very unnecessarily applied to this condition. There is no deposition of pigment, and mere friction will sometimes rub off the superficial dirty scales from the most exposed parts, and leave a grey abraded surface which is characteristic and hideous enough. The thick dry skin is apt to crack in a somewhat regular square fashion like the skin of certain kinds of armadillo, and these cracks may penetrate to the cutis and become painful bleeding rhagades.

Except for this accident, ichthyosis is completely painless, and apparently does not affect the general health. One or two children under the writer's care affected with it have been remarkably plump, rosy, and in other respects well developed and healthy.

As above remarked, ichthyosis is a congenital disease or rather malformation, and it is not unfrequently seen in families, as in the famous case of John and Richard Lambert,

two brothers who were exhibited as the porcupine-men, and whose father had a similar state of skin.

Among 15 patients reported by the writer in the 'Guy's Hospital Reports' (vol. xlvi, p. 389) 11 were under eighteen, and the rest aged between twenty-one and thirty. One was a case of ichthyosis or tylosis of the palms, and was present in a brother and sister of the patient although not in his parents.

Histology.—On vertical section the diseased masses are seen to consist of beautifully arranged wavy layers of horny scales exactly like those of the thicker parts of the normal cuticle. A section of the skin shows that the Malpighian layer of epidermis is proportionately small, and that the ridge-and-furrow cells ("prickle-cells") have more or less completely disappeared; in other words, the keratinous transformation of epithelium is here more rapid than usual. The cutis is completely unaffected. Contrary to the statements of earlier writers, the independent observations of Fagge and of Esoff first showed that although the papillæ are often elongated, this is a secondary change,—that they are really atrophied, and not hypertrophied. The sweat-glands have disappeared or only exist as cysts, and the sebaceous glands are smaller and less numerous than usual. The hair-sacs are thickened by overgrowth of epidermis, and the hairs are atrophied, tufted at the root, and easily shed.

If the above account of ichthyosis be correct, there is no need for the distinction which Erasmus Wilson attempted to make between true and false ichthyosis. His "false ichthyosis," the *ichthyosis sebacea* of other authors, is seborrhœa sicca corporis. In true ichthyosis there is no doubt a certain amount of sebum, which is mixed with the epidermic masses, and can be extracted by ether in the form of stearin and cholesterin; but this is not the essential part of the disease.

Nor is there any need to continue the distinctions of Devergie and other writers into *Ichthyosis alba*, *I. brunnea vel nigra*, and *I. hystrix*, or Alibert's of "Ichthyose nacrée and I. cornée."

In some cases of ichthyosis hystrix there are papillomata mingled with the epidermic lesions, as in a boy in Philip Ward in 1887, where the horny warts were arranged in long

stripes down his arms and legs. The scalp, the palms, and the soles were alone free.

Xerodermia.—We must recognise as true ichthyosis, though of a much milder form, that affection of the skin which was named by Wilson "xeroderma."* This dryness of the skin is accompanied by roughness, to be felt rather than seen, which chiefly affects the outer side of the arms and legs. There is but little desquamation, and the morbid change is so slight that it is difficult to believe it can be essentially the same as that which produced the porcupine-men. But of this there is no doubt, for we meet with every gradation between the two conditions. On the one hand, such an extreme degree of the affection as the *ichthyosis hystrix* of Tilesius is extremely rare; and, on the other, even the slighter forms of xerodermia are more extensive, obstinate, and clinically important than they at first sight appear. At the same time we may admit two groups of the affection, the more severe, which corresponds with the classical description of ichthyosis, and the milder forms, for which the term xerodermia might be used, if it had not since been unluckily conveyed to a totally different and malignant form of cutaneous disease (*v. infra*, p. 322). Each case has its own characters from an early period, and when once established in the second or third year of life does not usually become much worse. Both alike are congenital malformations, both have the same distribution and probably the same histology.

The chief importance of this remarkable disease, even in its mildest form, and quite apart from the hideous deformity of the worst kinds, is that the dry, harsh, unlubricated skin is extremely disposed to superficial dermatitis; or, as it is usually put, ichthyosis and xerodermia are often complicated by eczema.

Treatment.—The first indication is to cure the inflamed, red or weeping patches, and the deep painful fissures by the same methods which have been above described for the treatment of eczema rubrum, madidans, and rimosum. The second indication is to supply the deficient natural lubricant

* In this, as in other similar compounds, the name of the disease, the condition of the derma, should be spelt with *i*. So sclerodermia, pachydermia, &c., words analogous in formation to anæmia and anuria.

of the skin by oils or ointment; suppleness is thus restored, the characteristic dryness is removed, and the liability to dermatitis reduced to normal limits. In the more severe cases, however, it is necessary, before this can be done, to remove the products of disease; and for this purpose warm baths, alkaline baths, friction with soap and water, and above all with soft soap, are the measures which are necessary. The only caution is not to be too vigorous in softening and removing the diseased epidermis until local inflammation has been relieved. From time to time the process of cure may have to be interrupted, and the tender skin soothed by zinc or lead ointments or olive oil. Dr Fagge, as also Dr Liveing, recommend glycerine of starch, but often oil is more soothing than glycerine in any form.

It is astonishing what excellent results may be obtained, even in the worst cases of ichthyosis, when treated with perseverance and with an intelligent appreciation of the object in view. Within a few weeks children, whose portraits would almost go side by side with that of the porcupine-men, present an appearance which it requires the scrutiny of an experienced eye to recognise as more than "a little roughness of the skin."

Salicylic acid may be employed in obstinate cases, and "ichthyol" (a mineral oil obtained from rocks rich in animal deposits) has been strongly recommended for this, as for most other cutaneous diseases.

The disease, however, is relieved, not cured. As soon as the patient is neglected it returns as before, and he can only maintain his skin in a bearable condition by constant attention to cleanliness, by frequent warm baths, and continual inunction. Dr Fagge recommended antimonial wine internally ('Guy's Hosp. Rep.,' 1870), and many physicians administer cod-liver oil.

The term *ichthyosis congenita* has been applied to a rare and remarkable form of disease described by Lebert, in 1864, as *keratosis diffusa intra-uterina*. It affects the whole of the skin with thickening of the epidermis, which is too small for the body, so that the child is literally hidebound. Numerous and deep fissures result, and the appearance which ensues has been described as the "harlequin fœtus."

The horny layer is greatly thickened, the papillæ and the rest of the cutis unaffected, the sebaceous glands are atrophied, and the ducts of the sweat-glands enormously stretched.

Cases of this curious and very rare affection have been described by several authors. The best account of it is that given by Hans von Hebra in his 'Krankhafte Veränderungen der Haut,' p. 348. Mr J. B. Sutton believes that it consists essentially in a perverted secretion of the vernix caseosa. He has figured a case in a fœtal calf in the forty-second volume of the 'Pathological Transactions.'

CORNU CUTANEUM (*ichthyosis cornua* of Willan and Bateman*) is the name applied to those remarkable cases of horny growth which have been figured as "freaks of nature." They are occasionally seen in old women, less often in old men, and very rarely indeed in early life.

In many, perhaps in most cases, they originate in a sebaceous gland. Lebert collected 109 cases. Most often they spring from a sebaceous cyst. They may occur anywhere, often on the lip or the glans penis, and sometimes are followed by cancer.

The growth can always be readily removed, and shows no tendency to return; although, as Bateman remarks, if merely sawn or broken off, they invariably sprout again, like hair or nails.

Several remarkable cases of cutaneous horns, on the face, neck, and hand were modelled by the late Mr Towne for the Guy's Hospital Museum (Nos. 333—339).

SCLERODERMIA.†—This is a rare but interesting disease of

* Bateman objected to calling them horns on the ground that they have no connection with the bones or other part beneath, and are of purely cuticular growth. But this is the only ground on which we call them true horns and not exostoses or antlers. What he meant was that they have no bony core as the horns of ruminants; but they are exactly identical in structure with that of the rhinoceros.

† *Synonyms.*—Scleriasis cutanea—Sclérème des adults (Thirial)—including "Addison's keloid" and Morphœa. Vitiligo (in part), *Cutis tensa.* Morphœa, or Morphea, or Morfea, a low Latin word of uncertain derivation, was corrupted into *morphew*, and, in this form, was very widely applied in popular usage. In Holland's translation of Pliny it is used as the equivalent of *vitiligo.*

the skin. Pathologically it is a chronic, deep, indurating dermatitis, followed by atrophy, and often ending in complete involution.

One of the best contributions of the late Dr. Fagge to dermatology was his masterly account of this disease in the 'Guy's Hospital Reports' for 1867, in which he conclusively proved the essential identity of the diffused sclerodermia of authors with the circumscribed sclerodermia which was also known as *Addison's keloid*, and is synonymous with many cases described as *morphœa* by older writers. See also his second paper (*ibid.*, vol. xv, p. 297).

Course.—The disease begins very gradually in a hardening of the deeper layers of the skin. The epidermis is unaffected, the surface smooth, not elevated, and the colour is unaltered; but the patient finds that the affected spot is stiff, and on feeling it a more or less marked induration is recognised, the skin cannot be pinched up into folds as in health, and instead of the natural elastic softness of the integument a characteristic hardness appears.

In the circumscribed form the edges are well defined, so that it feels as if a disc of hard, smooth leather were let into the skin. In the diffused form, the stiffness and induration become gradually less and less, until they are lost in the natural softness of the skin; but even then one may generally find some directions in which the sclerosed patch has a more definite edge. Sooner or later the local appearances become more marked; the affected skin becomes white, or assumes a sallow, yellow tint, or becomes pigmented with a pale yellowish brown, which is usually most marked towards the borders, and is never uniformly diffused over the entire patch. In the early stage a slight rosy circle may be observed around the patch, occasionally forming a distinct ring in the circumscribed form, or a more ill-defined and irregular blush in the diffused form (*scleriasis*). The smooth white patch, with its colour heightened by the pink margin, has been often compared to an ivory disc. There is no œdema of the integument at any period, and this alone suffices to distinguish sclerodermia from pachydermia (elephantiasis) with which Rasmussen would associate it.

A patch of morphœa may go on increasing until a disc

several inches in diameter is formed, or it may lose its distinctive characters and pass into the diffused variety.

Diffused scleriasis usually has its own characters from the beginning, and slowly extends, with no definite margin, until it involves a considerable part of one limb, or one side of the neck, or half the trunk. The surface is then as hard as a board, and as unyielding to the touch. After a time contraction begins to appear, and scar-like bands vary the surface of the disease. This, together with increasing pigmentation, gives some resemblance to the contracted cicatrices from a scald or burn, and explains Addison's application of the term keloid to the affection.

Locality.—A patch of morphœa most often develops on the trunk, particularly on the skin of the female mamma, where such parchment-like *plaques*, or ivory indurations, like the skin frozen by an ether spray, have been sometimes called "vitiligo."

Diffused sclerodermia may be seen on the scalp, the forehead, the chin, or other parts of the face; and the expressionless mask-like aspect it gives to the features is very striking, particularly since the immobility is not uniform, but affects one side or certain features only. Scleriasis is also frequent in the arms, hands, and fingers, which become contracted and useless, and on the side of the neck, where a distortion may be produced which resembles torticollis; or it may invade extensive regions of the trunk or lower extremities. In the well-marked case of a young and healthy soldier, reported by Dr Curran ('Edin. Med. Journ.,' 1871), the disease covered the whole surface of the body. It has been unsymmetrical in all the cases seen by the present writer, and in the numerous drawings, as well as models, in the museum of Guy's Hospital. But in a case described by Dr Van Harlingen in a negro (1873) the disease was symmetrical, and he regards this as the rule. Occasionally, but only as an exception, it may be traced in the course of a cutaneous nerve.*

Cases have been described in which sclerodermia or a similar affection involves the mucous membrane of the mouth.

Symptoms.—Sometimes patients complain of considerable

* See Mr Hutchinson's cases in his 'Archives of Surgery,' ii, p. 233, and iii, p. 29.

pain as well as stiffness in the affected parts, but this is often completely absent. There is little or no itching, and, as a rule, no accompanying inflammation or pyrexia. Sometimes, however, deep and very intractable circumscribed ulcers form on the sclerotic patches, as in a remarkable case brought by Mr Morrant Baker before the Pathological Society (vol. xxxii, p. 261). There is no hyperæsthesia, nor true anæsthesia—at least, as a rule; but patients may complain that they do not feel as distinctly as on the normal skin. The hidebound state of the affected parts makes them almost immoveable.

Histology.—There is scanty evidence of a true inflammatory process in this singular disease, nor does there seem to be anything which can fairly be called a new growth; the epidermis is unaffected, the papillæ atrophied only in the later stages of the affection, the hair-sacs, sebaceous and sweat glands normal, as also are the unstriped muscles of the cutis. The seat is primarily in the deeper layer of the cutis and the subcutaneous tissue. Here the fibrous bundles become thicker and the fat between the meshes is absorbed, while increased pigment is gradually deposited both in the papillæ and in the cutis. No cell proliferation is to be seen, according to the careful observations of Chiari in the 'Vierteljahresschrift f. Derm. u. Syph.,' 1868. This process of mingled hypertrophy and atrophy leads to the characteristic results both of the earlier and later stages of the disease. In the earlier stage, by compressing the blood-vessels the peculiar pallor is produced; and by the increase of fibrous tissue and disappearance of fat the scleriasis of the later stages. Along with increasing pigmentation, the affected parts sink below the level of the healthy skin, instead of being, as at first, on the same level; and the contraction leads to cicatrix-like bands which crumple the fingers or deform the face or breast.*

Ætiology.—The true cause of sclerodermia is quite unknown. It is more common in women than in men. Putting together 22 cases reported from Guy's Hospital (seven by Addison,

* See a valuable paper on "Sclerodermia" by Dr Rasmussen, of Copenhagen ('Edin. Med. Journ.,' Sept., 1867); and another by Dr Van Harlingen, of Philadelphia, with a full list of references ('American Journ. of Syphilis and Dermatology,' October, 1873); also an acconut of the "Histology of a Morphœa Patch," by Dr Crocker, 'Path. Trans.,' 1880.

three by Fagge, and twelve by the present writer : 'Reports' for 1867, 1870, and 1889), nineteen of the patients were women and only three men. In 40 cases collected by Rasmussen the numbers were thirty women to ten men. It has been observed at all ages, including children under six and adults up to seventy. Among our twenty-two patients, ten were between eight and twenty, six between twenty-five and forty, and six between fifty-five and sixty-four.

Prognosis.—Dr Fagge made the remarkable discovery that sclerodermia, both in its circumscribed and diffused forms, is liable to spontaneous involution. He tracked one of the most marked cases described by Addison, and found that the patient's skin had recovered its normal condition. The same thing has been repeatedly observed since, although it is too much to say that complete recovery is an invariable or even a frequent result. The disease, at all events, shows no tendency to develop into any active or malignant form, and beyond the disfigurement and disablement due to contractions and the occasional pain, the most serious result is the rare one of ulceration as above noticed.

No efficient *treatment* has been devised. Emollient oils, warm douches, and manipulation have been tried with some apparent benefit. Electricity has also been employed, either in the form of continuous galvanism to the affected patches, or by interrupted galvanism to the neck in the somewhat vague hope of stimulating the cervical sympathetic, and the equally vague expectation that occasional stimulation of the cervical sympathetic would have any effect upon the disease.

Sclerema neonatorum.—This affection, sometimes called Thirial's disease, is best named as he called it, *sclerème*, in distinction from the sclerodermia or scleriasis just described. It is the condition which is known as "hidebound" in newborn children, affecting the whole of the surface, and characterised not only by hardness, want of elasticity, and pallor, but also by œdema. The temperature is lowered, and the child generally dies within a fortnight.

Linear atrophy.—Somewhat resembling sclerodermia in appearance, and perhaps also in pathology, is a curious affec-

tion of the skin, which takes the form of long streaks, generally broader in the middle than at the ends, or less frequently of round, more or less regular patches: in both cases it appears like a scar, for there is loss of pigment and atrophy of the cutis vera. It was first described by Dr Wilks ('Guy's Hosp. Reports,' 3rd series, vol. vii, p. 298) as an idiopathic affection which exactly resembles the cicatricial marks caused by overstretching of the skin and rupture of its deeper layers—well known under the name of *lineæ gravidarum* as a result of abdominal distension from pregnancy, but also seen in ascites or whenever the abdominal skin is similarly stretched, and over joints which have enlarged and stretched the skin.

The spots are palpably depressed below the level of the healthy surface, and on a microscopical section, which was carried out by Kaposi at Vienna, the papillæ were found atrophied or vanished, the epidermis in both its layers thinned, and the subcutaneous tissue and glands atrophied.

This curious affection has been seen upon the leg, the knee, the ankle, and the hand, as well as on the trunk. In the early stage the marks are somewhat pink, but there are no signs of inflammation, no pain, or any other symptom. In a case described by Dr Liveing the maculæ were at first slightly red and raised above the skin; they occupied the upper part of the sternum and neck, and after passing into the atrophic stage above described, ultimately underwent gradual involution.

In a girl who lay ill with renal dropsy in Miriam Ward in 1886, there was during her illness and after recovery a remarkable zebra-like arrangement of atrophic stripes on the forearms, loins, and hips. A still more extensive case of the same kind has since occurred in a youth of nineteen, who recovered after more than a year's illness from tubal nephritis with extreme anasarca and ascites. His back, flanks, buttocks, and thighs were covered with parallel transverse stripes of white cicatricial tissue.

There are some good models of these striæ atrophicæ in the Guy's Hospital Museum, Nos. 340—347.

ELEPHANTIASIS.*—This, among many other names, has been given to a curious form of chronic deep inflammation with hypertrophy of the skin, chiefly met with in tropical climates. It is not necessary to enter upon the tangled labyrinth in which this, like so many other names of cutaneous diseases, is involved. It will suffice to say that the word elephantiasis was used by Aretæus and by Celsus for the very different disease known to the Greeks as lepra, and to English readers as leprosy. They used it because of the magnitude and monstrosity of the disease (cf. *infra*, p. 304, *note*). Unfortunately the comparison was supposed to be between the appearance of the disease and that of an elephant's hide, and since the legs affected with pachydermia have some resemblance to the thick and shapeless limbs of an elephant, the two diseases and their names were long hopelessly confused.

The most important pathological fact about elephantiasis, using the term as applied by the Arabian translators of the Greek authors, is that it is hypertrophy dependent upon recurrent deep dermatitis, which we may compare to that of gutta rosea and of pernio. All observers in countries where the disease is endemic agree that it begins and is accompanied by recurrent attacks of what has been called erysipelas, each attack leaving the tissues more thickened and infiltrated. Inflammatory œdema of the skin and subcutaneous tissue is the characteristic lesion. This gradually becomes œdema durum, and no longer yields to pressure; the infiltrated tissues undergo hypertrophy, and masses of fibrous tissue are thus produced, which may be described as a diffused new growth. The skin itself appears at first to be unaffected, at least in its papillary and epidermic layers; but after a time it also hypertrophies, the papillæ becoming enlarged, and the surface coarse, thick, scaly, and pigmented.

Histology.—On section, the hypertrophy of the deep layer of the cutis, and the massive fibrous bands of white and elastic tissue, with œdematous connective and adipose tissue, are very characteristic; the lymph-spaces of the cutis are enlarged, and the lymphatic vessels are frequently found

* *Synonyms.*—Elephantiasis Arabum or Elephas—Bucnemia or Bouknemia—Arabic, Dal fyl—Pachydermia—Barbadoes leg.

dilated and varicose. Occasionally an ulcer will accidentally open one of these enlarged lymphatics; and a discharge of normal lymph, more or less milky if it has passed through several lymph-glands, is poured out.

The disease does not spread to the deeper fasciæ or bones, and it never affects internal organs or leads to any but local results.

Such a condition is occasionally seen as the result of long-continued inflammatory dropsy of one limb. An example in a case of old dermatitis of originally syphilitic origin is figured in the 'Guy's Hospital Reports' for 1877, pl. ii. A similar result may also be seen in cases of enormous obesity and general hypertrophy of fat and subcutaneous tissues. Or, again, it may be the result of local pressure upon the veins and lymphatics, as by enlarged inguinal glands or other tumours. But in many hot countries, particularly the West India Islands, in Cape Colony, Egypt, South America, in China and Japan, and in the Pacific Islands, elephantiasis is idiopathic and endemic. Dr Turner, of Samoa, sent the writer numerous photographs of this disease, which presents exactly the same features there as in the other races and climates where it is found.

The *distribution* of elephantiasis is almost limited to the legs and scrotum. Sometimes only one foot is affected, sometimes the thigh remains free. One leg may entirely escape while the other forms a huge tumour, and the scrotum may be diseased independently or along with the legs. Lymph-scrotum is the name given to elephantiasis scroti. The size of these scrotal tumours is sometimes enormous, the mass reaches to the ground, the penis is completely lost within it, and the whole weight may exceed that of the rest of the patient. The organs involved in this monstrous tumour are, when dissected out, found perfectly normal, except that the tunica vaginalis is often the seat of hydrocele. Many remarkable cases with numerous illustrations will be found recorded in Esmarch's and Kulenkampff's monograph 'Die Elephantiasistischen Formen,' 1885.

Ulceration of the unwieldy mass of flesh often occurs, and the pain and discharge of the ulcers may produce a certain amount of cachexia.

The *cause* of the endemic disease was until lately perfectly unknown, but owing to the remarkable discoveries made by the late Dr Timothy Lewis, Dr Manson, and other observers, it is now known that a certain proportion of cases of elephantiasis, particularly when it affects the scrotum, coincide with chyluria and the presence of a parasitic worm in the blood (*Filaria hæmatobia*). It is supposed that the lymph-channels are mechanically blocked by the parasites ; this leads to œdema and inflammation on the one hand, and, when rupture into the urinary tract occurs, to chyluria on the other.

There is no doubt, however, that many cases of elephantiasis have been observed in which no filariæ could be detected in the blood. See a case with discharge of milky lymph recorded by Dr Wagstaffe ('Path. Trans.,' 1875, p. 215), and in the same volume one with great lymphatic dilatation figured by Mr Stewart, as well as a third case of ordinary pachydermia with histological details by Mr Butlin. Moreover we not infrequently have cases indistinguishable from the milder forms of tropical bucnemia in our wards in persons who have never been out of England, and in whose blood we searched in vain for filariæ. These sometimes occur in young women, and there is usually a history of recurrent attacks of "erythem" or "erysipelas"—subacute dermatitis affecting the whole limb. Probably some obstruction to the efferent lymphatic vessels takes place. In one case lately under the writer's care there were caseous cervical lymph-glands present, but in otherc ases no evidence of tuberculous disease can be discovered.

The *treatment* of this disease is purely surgical. There appears to be little or no power of restraining its course until the tumour is sufficiently large to be removed. From the famous cases of Clot Bey in Egypt to those of Dr Turner in Samoa, and other medical missionaries, the removal of these frightful masses of flesh has been one of the most brilliant benefits conferred by European surgery.

The slighter cases met with in this country are often much benefited by elevation and bandaging.

Closely allied to elephantiasis are the curious cases, decribed as *cutis pendula*, *pachydermatocele*, or *dermatolysis*, in

which the skin hangs in great folds like garments. They are often associated with the presence of multiple fibromata. A classical instance was recorded and figured by Meek'ren in 1657; the patient, a young Spaniard, could bring the skin of his chest up to his eyes and down to his knees. Dr Valentine Mott, of New York, published in the 'Royal Med.-Chir. Trans.' for 1854 five cases, with two portraits; in all of them the redundant masses of skin were successfully removed by operation, but in one the growth twice returned. A photograph of a recent case not unlike Meek'ren's was reproduced in the 'Illustrirte Zeitung,' July, 1891.

XANTHELASMA.*—This remarkable affection was originally described by Addison and Gull under the name of Vitiligoidea. See 'Guy's Hosp. Rep.,' for 1851 (plates); *ibid.*, 1866 (plates); *ibid.*, 1877, with thirty-eight tabulated cases; and 'Path. Trans.,' 1868, p. 436 (plates); *ibid.*, 1882, p. 376, with thirty-six cases of multiple xanthelasma. Afterwards Dr Pavy, Dr G. H. Barlow, Dr Fagge, and many others published similar cases.

Xanthelasma may be defined as a chronic deep atheromatous inflammation, with special distribution over the surface.

It is observed in two distinct forms. One is the commoner, and was first figured and briefly mentioned by Rayer as yellow patches on the eyelids in 1835. These flat patches (*Vitiligoidea plana* of Addison and Gull) cannot be detected by the finger, although they look raised and have defined margins.

The first indication of xanthelasma is the appearance in one of the upper eyelids, just above the internal canthus, of a yellow, cream-coloured, or washleather-like patch. Afterwards similar ones come out in the same neighbourhood, and these may ultimately coalesce so as to form a broad ring surrounding the eyes. Like patches may show themselves elsewhere—on the surface of the body, on the backs of the

* *Synonyms.*—Plaques jaunâtres des paupières (Rayer)—Vitiligoidea plana et tuberosa (Addison and Gull)—Xanthelasma, *i. e.* yellow laminæ from ξανθός and ἔλασμα (Wilson)—Molluscum lipomatodes (Virchow). The term Xanthoma (yellow tumour) was suggested by Dr Frank Smith in 1869, and has been generally adopted in Germany.

hands, on the scrotum, and also on the palms and soles, where they either present a peculiar dotted appearance, or form long streaks following the creases of the skin. This plane variety of xanthelasma may affect mucous membranes as well as the skin. It occurs in the gums and palate, and in the larynx and trachea; Dr Wickham Legg saw it on the side of the tongue, and in two cases Dr Fagge found it in the lining of the bile-ducts.

The second and rarer form of xanthelasma consists of raised solid nodules or tumours (*Vitiligoidea tuberosa*). These make their appearance later than the flat patches. They occur on the ears and on the limbs, especially on the extensor surfaces; they form aggregated tubera on the olecranon, and swellings on the knuckles not unlike those of gout. They are occasionally found, not in the skin itself, but in the adjacent tendons of the extensor muscles of the fingers. Several cases have been recorded in the 'Guy's Hosp. Reports' and in the 'Path. Trans.' Two are reported in 'Virchow's Archiv' (1883 and 1885) in which the eyelids were unaffected, but nodules and tumours occupied the elbows, fingers, knees, and buttocks.

When the flat plates and the nodules are found in the same patient, the term *Xanthelasma multiplex* has been applied. Twenty-three cases are tabulated in the thirty-third volume of the 'Pathological Transactions.' See also Dr Payne's case ('St Thos. Hosp. Reports,' vol. xiii).

Symptoms and course.—Xanthelasma is important, not only because of its pathological interest, but because it is often attended with much suffering to the patient. The parts affected with it are sometimes exceedingly tender. A patient of Dr Fagge's was unable to stand, or even to sit with comfort, on account of the pain produced by the slightest pressure on the xanthelasmic patches, and for a similar reason she could not use her needle. In this case the affection became much less marked under internal treatment, most of the raised tubera disappeared, and the pains were in great part removed.

Similar involution has been observed in other cases, *e. g.* a remarkable one associated with icterus from atrophy of the liver, recorded by the late Dr Frank Smith, of Sheffield ('Path. Trans.,' xxviii, 236).

Histology.—Microscopical examination shows that xanthelasma is essentially a chronic deep dermatitis with early fatty degeneration, the yellow colour depending upon the presence of innumerable fatty granules in the tissue. In the nodules there is also present a dense fibrous tissue, and even in the plane variety a few ill-formed cells have been detected. The minute structure of xanthelasma is thus identical with that of atheroma in an artery. Some dermatologists, however, taking the less frequent tuberose form as the type, describe the disease as a new growth. The distinction between chronic inflammation, hypertrophy, and granuloma is, as we have already found, by no means easy to make in every case, and we may regard xanthoma as one of the transition forms between the hypertrophic kinds of chronic dermatitis described in this chapter, the granulomata of syphilis, lupus, and leprosy, and tumours, such as cheloid.

Pathology.—The multiple and tuberous form of the disease is most frequently seen in chronic cases of *jaundice*, from whatever cause it may arise, although it may also be found, particularly in children, in cases entirely free from icterus. Of eight cases of infantile xanthelasma multiplex not one was associated with jaundice; and in these the eyelids were not affected, as they almost always are in adults ('Path. Trans.,' vol. xxxiii, p. 383). In most cases it does not make its appearance until the patient has been jaundiced for a year or more, but in one case it began within six months after the jaundice, or perhaps even earlier. The more common *plane* form of xanthelasma which is confined to the eyelids has been shown by Mr Hutchinson to occur in those who have suffered from sick headaches ('Med.-Chir. Trans.,' 1871).

Xanthelasma has been observed more frequently in women than in men. It occurs, like atheroma, most often in adults over forty years of age. Several examples are recorded in children, and two congenital cases by Dr Stephen Mackenzie and Dr Thos. Barlow ('Path. Trans.,' 1882 and 1884). Dr Church met with six cases in the same family (St Barth. Hosp. Rep.,' vol. x).

Among 31 cases, I found 10 in men and 21 in women. The ages of the patients were: 1 twenty-eight, 22 between thirty and fifty, and 7 between fifty and sixty-six.

No plan of treatment is known; but it is only in exceptional cases that symptoms arise, and there is some reason to hope for spontaneous recovery.

Xanthoma diabeticorum is the name given to a curious and rare affection of the skin, of which the relationship to classical xanthoma is probably only nominal. The earliest case was the fifth in Addison and Gull's original paper (vol. vii, p. 268). The patient was a man aged twenty-seven, and during the course of diabetes a papular eruption appeared on his arms, and rapidly spread over the trunk, the head, and the limbs. The papules were large, yellowish, and mottled, and looked like pustules. After several weeks these "tubercles" began to subside, leaving no obvious change behind them. This is certainly very different from the affection above described, and Dr Fagge ('Path. Trans.,' xix) and myself ('Guy's Hosp. Rep.,' 1877, p. 131) agreed in excluding the case. Several similar cases have, however, been since reported by Dr Bristowe (as "keloid"), by Mr M. Morris and Dr Thos. Barlow ('Brit. Journ. Derm.,' vol. i, and vol. iii, p. 106), by Dr A. R. Robinson (from New York), and by Gendre and Besnier (from Paris). They have been called diabetic "lichen," and Addison called his original case "lichenoid."

The histology of these papules is different from that of xanthoma ('Path. Trans.,' xvii, p. 414, and xxxiv, p. 284), and so are their distribution, origin, and course. The papules are rather large, raised, and yellow, as if they were pustules. They occur chiefly on the limbs, but also on the trunk and head, and come out somewhat rapidly. They last a long time and then gradually fade away.

Instances have been reported of a similar cutaneous disorder without diabetes (*e. g.* Dr Cavafy's case, 'Brit. Journ. Derm.,' vol. i, p. 76), so that this rare condition must at present be regarded as uncertain in everything except its having no claim to the title of xanthoma; and even this statement would not be accepted by all dermatologists

SYPHILODERMIA*

Importance of lues as a cause of cutaneous lesions—their pathological character—The roseolous exanthem—the papular—squamous—pustular—bullous—macular—Alopecia—Tertiary lesions—Cicatrices—Diagnosis of syphilitic dermatoses—Hereditary syphilodermia—Treatment.

THERE is no doubt that the only satisfactory classification of diseases, whether of the skin or of other organs, would be an ætiological one; that is to say, one which expresses their true origin and natural history, not as so-called morbid entities, but as derangements more or less extensive and profound of physiological function. For if we know the origin of a disease, we not only understand its nature or pathology, and may hope to adopt rational means for its cure, but we also may still more confidently hope to prevent it, which is better than curing it. The objections to much of what passes for the ætiology of diseases are that the causes are too often assumed instead of proved, and that no cause can be logically admitted which is not an invariable antecedent of the effect. Hence it is that we demur to explaining pneumonia and other inflammations as due to cold, that we doubt the origin of rheumatic fever from the same cause, and cannot accept a gouty diathesis, a scrofulous tendency, or a neurotic disposition without a careful examination of the grounds on which such causes are assigned. The same reasonable scepticism applies to the dartrous or arthritic diathesis which is invented as a cause for many diseases of the skin. But just as no one believes firmly and intelligently in the use of any remedies if he believes in all, so we shall not either appreciate or trust to true ætiology until we have separated it from what is spurious. Enteric fever and scabies

* *Synonyms.*—Syphilis cutanea—Lues in cute—Les syphilides—Dermato-syphilis.

were both at one time ascribed to meteoric causes, to the influence of the seasons, to diathesis, to dyscrasia of the blood and humours, to chills, to mental affections, and to all the other commonplaces of unscientific speculation. We now know that their single, constant, and exclusive cause is the transference, in the one case of a plant, in the other of an animal, to the human organism. So dropped wrist depends solely and exclusively upon the presence of lead, and so a large group of diseases of the skin depend solely and exclusively upon the presence of the syphilitic poison.

In the time of Willan, and even in the present day in some quarters, psoriasis, for example, was regarded from the anatomical point of view as a scaly disease caused, among many other vague and uncertain conditions, by the presence of syphilis. We now know that true psoriasis is a definite and well-marked derangement of cutaneous nutrition, with its own natural history, cause, and characters, and that it is never due to syphilis; but what used to be called syphilitic psoriasis is no more entitled to the name than a rash caused by belladonna is to that of scarlatinal. If diagnosis is not to be mere learned or unlearned trifling, it means drawing a distinction —not between one pimple and another, but between morbid processes as distinct in their origin, nature, and practical consequences as poisoning by a drug, invasion by a fungus, and infection with a fever.

The separation, therefore, by Biett, of the *syphilides* from all other cutaneous diseases (p. 8) was a great improvement upon Willan's pathology, an advance none the less important because it was unfortunately followed by a premature extension of the same excellent principle upon far less solid ground.

Syphilitic eruptions.—The first fact to remember is that syphilis is one of the specific febrile diseases. Its earliest effect on the skin is the production of an exanthem or specific rash strictly comparable to those of measles, typhus, and smallpox. The syphilitic process is, however, drawn out far beyond that of any other fever; and its exanthem is accordingly protracted in duration and extremely varied in form. It is as if a case of variola lasted not for a few weeks, but for as many months. We should then see an early roseolous

rash, followed after an interval by the appearance of papules with characteristic distribution and anatomy; afterwards vesicles would succeed, then pustules, crusts, hæmorrhages, and finally cicatrisation; while the orderly march of the eruption would be interrupted by local modifications during its tardy and irregular progress.

We may therefore ascribe to its peculiarly protracted course that the cutaneous lesions of syphilis present so multiform a variety, and are so irregular in their appearance, locality, and course.

The second important pathological point is that syphilis, like many diseases, has sequelæ, and is itself so chronic, that it is often difficult to say when the disease is exhausted and the sequelæ have begun. Compared with the secondary lesions, which may be considered as forming part of a prolonged exanthem, the latter forms of syphilodermia may be regarded as sequelæ; but, nevertheless, they are certainly parts of the true syphilitic process, and may in their turn be distinguished from affections like tabes dorsalis, which correspond more strictly to what in other cases we call sequelæ, the results that is, but not parts of the original disease.

The syphilitic exanthem ("syphilitic roseola").—The rash is erythematous in form, like that of measles and scarlatina; it occurs in patches, not uniformly; it is not raised above the skin, and disappears on pressure; the colour is in most cases an inflammatory redness tinged with brown pigmentation, so as to produce a tint which differs from the bright red of scarlatina, and from the purplish or rose-tinted hue of measles by the admixture of a yellowish tint, producing a salmon-coloured, coppery shade, which French writers compare to that of the lean of uncooked ham. The patches are not sharply defined at the margin, and are irregular in shape. The most characteristic distribution is on the trunk, particularly the front and sides of the chest, on the abdomen, and on the neck. The rash is not infrequently seen upon the face, but is rare upon the limbs, and seldom or never reaches the hands or feet. It appears at a variable time after the primary infection, usually three or four weeks, but sometimes much later. It occupies, as a rule, several days, and often

a week, in its development; when it comes out unusually quickly, it may simulate the rash of measles or that produced by copaiba or some other drug.

The papular form ("syphilitic lichen").—Sometimes as a part of the early exanthem, more frequently after an interval, papules show themselves, large, pointed, discrete, and very early covered with small scales. They are more like those of guttate psoriasis than of papular erythema or lichen planus, and are larger and less confluent than those of eczema. They appear on the trunk and limbs, and also on the forehead, at the roots of the hair. Like the exanthem, they produce as a rule neither pain nor irritation.

One variety of papular rash is marked by each papule being formed around a hair-sac. Hence Bäumler has proposed to call it the *follicular* syphilide. The papules are small and pointed, "miliary." They may be discrete or clustered, they appear in successive crops, and may last for several weeks or even months. They sometimes become scaly, sometimes vesicular, but most often, perhaps, pustular.

Squamous syphilodermia, formerly known as "syphilitic psoriasis," or "lepra," most frequently occurs as a further development of the papular eruption just described. The scales are much smaller than those of psoriasis, and have a dirty yellowish colour instead of a silvery lustre. The distribution of the scaly syphilide is much like that of the papular stage, except that it frequently affects the palms and soles even thus early. The trunk, limbs, the face, the scalp, and the genital organs may all be the seat of this form of eruption; but it affects the flexor rather than the extensor surfaces, and avoids the regions peculiar to psoriasis, the elbows and the knees. At this stage Mr Hutchinson describes the occasional appearance of a kind of erythematous ring on the arms and trunk, which appears again and again, when the patient has left his bed or has taken his bath, and lasts for a short time.

Pustular syphilide (syphilitic "impetigo" and "ecthyma").—Venereal pustules are usually developed out of the papular stage, but sometimes seem to come independently; they are often large and discrete, whence they have been called by the obsolete name of ecthyma. They are frequently mixed with papules and scales and injected maculæ, giving the polymor-

phic aspect which is characteristic of syphilis. This pustular eruption is irregular in locality, but is frequent on the scalp, face, and trunk, and comparatively rare upon the limbs. The pustules are very commonly followed by minute white scars, which are often useful in subsequent diagnosis. Crusts form much as they do with eczema and impetigo, but instead of being green or yellow they are usually a reddish brown.

The pustular eruption of syphilis has often to be carefully distinguished from varicella and from the modified form of smallpox.

A single large ecthymatous pustule (a "painless boil") is usually syphilitic.

A form of pustular syphilide, which Bäumler calls "follicular," is that in which each pustule is pierced by a hair. It has a swollen dark reddish base, forms a minute yellowish crust, and leaves a white cicatrix. Such pustules come out in great numbers on the face, chest, shoulders, and limbs. They were formerly known as "syphilitic acne."

Vesicular and bullous syphilides —The older dermatologists did not admit "syphilitic eczema," and there is no doubt that vesicles are extremely rare as the result of syphilis.*

Bullæ are not at all uncommon among the later secondary lesions. They become pustular, and form massive conical crusts, sometimes with a curious resemblance in form and colour to a limpet shell. This is the eruption which was formerly known as *rupia*. When the crust is removed, ulceration is found beneath it. A bullous syphilide is also common in congenital cases upon the palms and soles; it used to be known as "pemphigus neonatorum syphiliticus."

Macular syphilides.—All the eruptions just described are marked more or less decisively by the coppery pigmentation characteristic of the disease, but somewhat late in the secondary stage maculæ without any other lesion begin to appear. These primary syphilitic stains are much more common in women than in men. Hardy described them as usually appearing on the neck and front of the chest, consisting of

* Hutchinson speaks of a form of syphilide which is attended with clusters of vesicles like those of shingles, but which is bilateral and widely distributed; and Hardy describes three varieties of syphilide which he terms eczematous, varioliform, and herpetiform.

irregular spots of a *café-au-lait* colour, as large as a franc or half-franc piece, and often confluent. In the Guy's museum are two models (Nos. 90, 91) and drawings, taken from a typical case of this form of syphilide which was under Dr Barlow's care in 1856. The patient, a woman, had dark brown maculæ scattered over her chest and arms; it was eight months since the beginning of the syphilis, and the stains faded under treatment.

We shall see in a subsequent chapter (p. 331) that increased pigmentation (melasma, melanodermia) frequently coincides with an adjacent deficiency of pigment (leucodermia), and this is what often occurs with the pigmentary syphilide just described, defined white patches appearing in the diffused dark patch. Varieties of aspect and distribution have been distinguished as "marble-like," "macular," and "lace-like."

Beside the most frequent position on the neck, it may appear on the flanks, or the chest or abdomen.

Its period is often early, from three to six months after infection, less frequently somewhat later; and when once developed it continues unaltered for three or four years or even longer. It then disappears spontaneously. Its appearance usually coincides with that of mucous patches and condylomata, but sometimes is as late as tertiary nodes.

Syphilitic alopecia is an early symptom, and is not always dependent upon a scaly or pustular affection of the scalp; when this is absent, we are probably right in regarding the loss of hair as of the same nature as that which often follows many of the specific fevers. It is distinguished from *alopecia præmatura* by not specially affecting the forehead or the back of the head. It is distinguished from *area* by the absence of circumscribed smooth hairless patches. The hair becomes thin, and forms irregular bald patches in various places.

Tertiary dermato-syphilis.—The pustular and especially the rupial eruptions often come so late in the secondary period that they are accompanied by syphilitic ulcers, and, again, true gummata may occasionally appear in the skin at a comparatively early period; in fact, the yellow nodules of early syphilitic iritis are considered by good pathologists to be themselves minute gummata. Moreover, scaly papules on the palms and soles may persist or appear for the first time

several years after infection. We cannot, therefore, draw an absolute line between the preceding forms of syphilodermia as symptoms, and the tertiary lesions as sequelæ; but whether we use the word tertiary, or speak only of late symptoms, the distinction is practical and important between the roseolous, macular, papular, squamous, and pustular syphilides on the one hand, and the later nodes and ulcers on the other. The former are forms of dermatitis, the latter of granuloma. The former are associated with sore throat and iritis, the latter with the visceral affections of inveterate lues.

Syphilitic *condylomata* and mucous patches have been described already (pp. 247, 248).

"Tubercular" eruptions and "syphilitic lupus" are names formerly given to lesions of the skin which are neither tuberculous nor lupus in the modern sense of these terms. They are varieties of tertiary syphilis (cf. p. 283).

The syphilitic *ulcer* may begin in a cutaneous gumma or beneath a rupial crust, or in a patch of syphilitic scales or pustules. It spreads from the margin, or, as the phrase is now applied, it is serpiginous. It is usually, but not always, multiple; the edges are rounded and punched out. It causes remarkably little irritation or pain. It may occur upon any part of the body—trunk, head, or limbs; so that it may often be distinguished by its presence upon parts which are little liable to other forms of ulcer. Hence an ulcer of the arm is more likely to be syphilitic than one of the leg, and an ulcer over the fibula than one above the inner ankle.

Syphilitic cicatrices follow the pustular, the rupial, and the ulcerating lesions. They are often rounded or horseshoe in form, pigmented, smooth, and atrophic rather than hypertrophic. The amount of pigmentation depends partly on their age, but it comes earlier in the cicatrices of syphilis than in any others. Their painlessness is also a character of some diagnostic value. Their irregular localisation is, however, the best evidence of their nature.

Diagnosis.—It is of the utmost importance to distinguish syphilitic diseases of the skin from those of traumatic, febrile, and idiopathic origin; since, apart from other considerations, an error in diagnosis is fatal to successful treatment.

The rules for recognising syphilis so far as relates to the skin may be briefly given as follows.

(1) What is called *history* is a most fallacious guide. In hospital practice the writer was accustomed to neglect it entirely; and although, when the patient's statements are carefully sifted, they have a certain value, the greatest mistakes are those which are due to reliance upon this misleading character; for we must always remember that even the most truthful patient may be quite deceived in supposing that he had syphilis, when he suffered from a different venereal malady, or may have been erroneously informed that a venereal sore was non-specific; lastly, syphilis is, in a considerable minority of cases, a non-venereal disease, and in a certain number may be transmitted without any primary lesions at all.

(2) The elementary lesions of dermato-syphilis are *multiform*, not mere stages of inflammation as in eczema or erythema multiforme, but diverse from the beginning.

(3) The *colour* is an important character, but is sometimes absent from the earliest exanthem, when its presence would be most useful for diagnosis. Even in subsequent forms it is occasionally much less marked than usual, and may be simulated by certain cases of chronic eczema or psoriasis, or still more frequently by lichen planus.

(4) The irregular *distribution* of the syphilides is an important aid to diagnosis. Syphilis in its early stage may, if extensive, be symmetrical in the same sense as measles. But true symmetry, where homologous regions are independently affected—such as we see in psoriasis and eczema—is seldom or never seen in syphilis, with the exception of that which affects the palms and soles.

(5) The absence of *itching* from the earlier, and of *pain* from the later, eruptions is very remarkable, and almost though not absolutely constant.

(6) Lastly, the presence of *concomitant lesions* in other organs than the skin—in the eyes, the throat, the lymph-glands, or the testes—the presence of scars or maculæ, will often render a doubtful diagnosis certain, or their absence will be decisive against a suspicious eruption being specific. Nevertheless we must be on our guard against the common fallacy of sup-

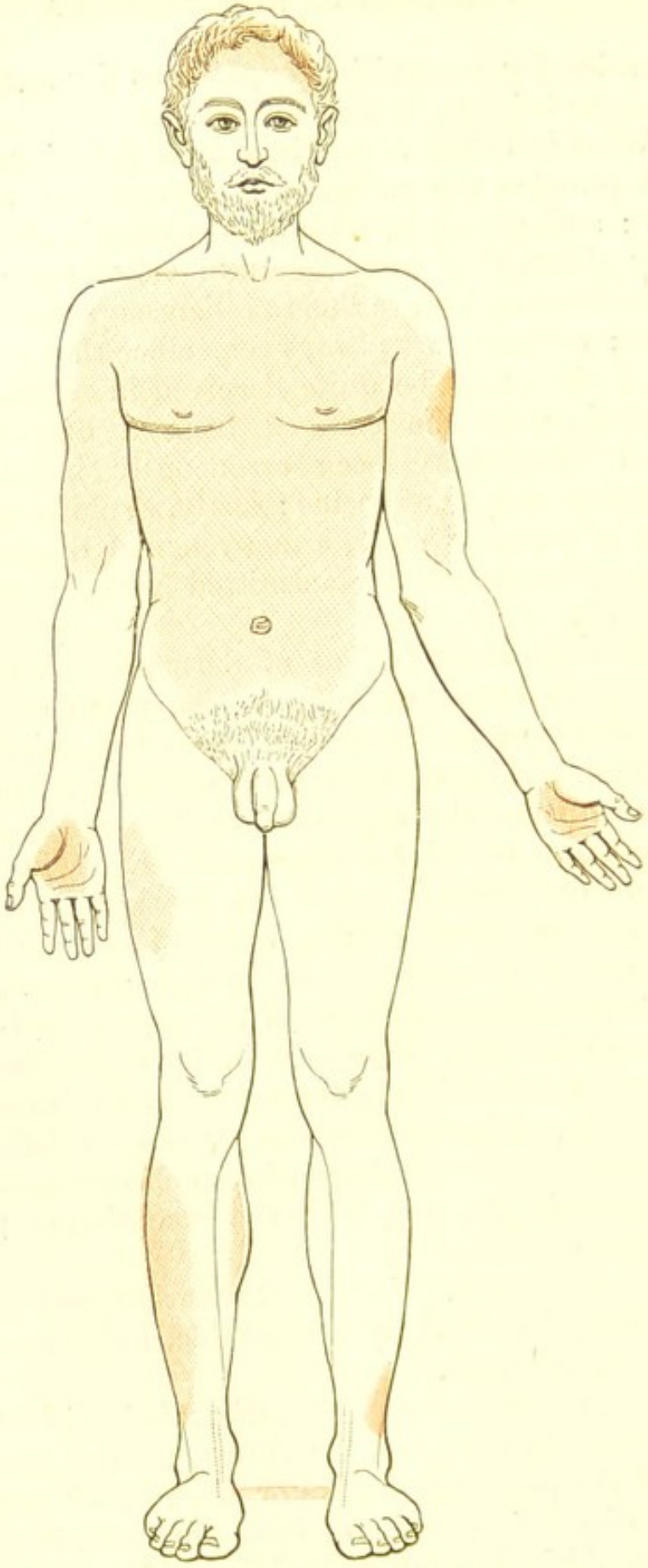


FIG. 23.—Distribution of syphilis cutanea.

posing, because a patient has had syphilis or is even suffering from syphilitic lesions at the time of examination, that any affection of his skin must needs own the same cause. We have only to remember that a man suffering from syphilis may be attacked by smallpox, typhus, or scabies, and that a patient suffering from chronic psoriasis or varicose ulcers may contract lues, to see the fallacy of trusting to what after all is only a probability.

Congenital syphilodermia has essentially the same characters as that due to an acquired lesion ; in infants the commonest eruption is a coppery, blotchy rash on the nates and thighs. The bullous syphilide of the soles is almost peculiar to the congenital disease ; this is often accompanied with mucous tubercles of the anus. In later childhood, typical gummata may develop and leave the characteristic ulcers.

The *prognosis* and *treatment* of dermato-syphilis are those of the general disease of which it is part. Mercury is almost always indicated, and iodide of potassium or sodium should only be substituted when cutaneous gummata or tertiary ulcers are present. Phagedænic ulceration always calls for treatment by opium.

Locally, the slighter forms of eruption need no special treatment. Ulcers and raw surfaces should have black wash or red ointment applied, and condylomata should be dusted with calomel ; while, if there is a sloughing or otherwise unhealthy surface, iodoform is often used with great benefit.

When all symptoms have disappeared, it is advisable for the patient to take a long course of solution of perchloride of mercury.

LUPUS*

AND ITS ALLIES

Lupus—Definition, history, and nomenclature—Anatomy, histology, and local course—Locality—Symptoms—Age, &c.—Diagnosis from cancer, rodent ulcer, and syphilis—Pathology—Relation to tubercle and scrofula—Clinical course and prognosis—Treatment: local, internal, and by inoculation with Koch's fluid—Scrofulodermia and tubercular ulcers.

Lupus erythematosus—Pathology—Locality—Course—Histology—Treatment.

Disseminated erythematous lupus—Rhinoscleroma.

Definition.—A chronic deep ulcerative dermatitis with presence of granuloma and of bacilli indistinguishable from those of tubercle.

Of all diseases which affect the skin alone, lupus is the most destructive. Unlike syphilis, leprosy, and malignant growths, it is a purely cutaneous disease. It affects the deep layer of the cutis, and the epidermis is only involved subsequently. It also spreads to the subcutaneous tissue and occasionally to adjacent mucous membranes, but rarely to the cartilages or fascia propria beneath the skin; and it never attacks muscles, bones, or other deep structures. Lupus is at once a chronic deep dermatitis of a special kind and a new growth in the modern sense of the word. Virchow included

* *Synonyms.—Lupus vulgaris, Noli me tangere, Tentigo prava, Impetigo rodens,* and *Herpes exedens.* The word "lupus," which has been traced back by Virchow to the school of Salerno in the thirteenth century ('Archiv,' vol. xxxii, 1865), expresses the destructive ravages of the disease. It is applied to an incurable ulcer by Alexis of Piedmont (1578). The dramatist Webster uses the English equivalent in the phrase "the ulcerous wolf." Wolf is also mentioned as a disease by Jeremy Taylor.

it with tubercle, leprosy, and syphilis among the Granulomata, or new growths which consist of the same corpuscular elements which form the granulations of a healing ulcer. By the French writers it has been almost universally assumed to be tubercular in nature, and forms the type of a supposed natural family of Scrofulides. In earlier times lupus was confounded with ordinary chronic ulcers, with cancer, with leprosy, and above all with the later forms of lues. The lupus exedens of older writers was in most cases tertiary syphilis, *e. g.* the woodcut given as a type of the disease in Druitt's 'Vade Mecum.'

Lupus was first carefully defined and described by Willan, and was figured by Bateman in his sixty-seventh plate. He placed it among Tubercula, and noticed its characteristic preference for the face. The distinctions subsequently introduced—*Lupus exedens* and *L. non-exedens* (Rayer), the lupus "qui détruit en surface—en profondeur—avec hypertrophie" (Cazenave and Schedel)—*Lupus serpiginosus*, *syphiliticus*, and *vulgaris*—with many others—are unnecessary or mischievous. Only one aberrant form, or rather allied disease, *Lupus erythematosus*, need be separately described or named.

Anatomy.—Lupus begins by the formation of minute nodules of granulation-tissue in the deeper layer of the cutis. These can be felt like shot in the skin, although without hardness, and show as reddish spots which mark the "macular" stage. When exposed, they are found to be vascular; and when several are seen together a yellowish tint is sometimes observable, which with their soft translucent appearance has led to their being compared to apple jelly.

Histologically they consist at first of small nucleated exudation-cells, with very scanty stroma. As the disease goes on, these granulation nodules unite, and undergo changes in two directions. The intercellular substance may become a stroma of delicate connective tissue. This may increase and acquire firmness until it becomes connective tissue with spindle-shaped corpuscles; and finally may form a firm, fibrous, contracted, or œdematous tissue which resembles an atrophic or hypertrophic cicatrix. More frequently, however, either universally or with only a certain amount of the fibrous transformation just described, the new-

formed lupous tissue breaks down, the nodules become confluent, the cells undergo fatty degeneration, ulceration destroys the new growths, the epidermis gives way, and an ulcer results. The floor of this ulcer is formed by lupous nodules which can be distinguished by the naked eye from the healthy granulations of a healing sore. The edges are somewhat raised, and can generally be felt to consist of nodules which have not yet softened. The pus secreted is usually thin and scanty. While fresh deposition of nodules and fresh softening and ulceration ensue, there is usually some effort at repair by the fibrous transformation above described.

The scars left after the healing of lupous ulceration are usually thick, puckered, and sometimes hypertrophic; they have but little pigmentation, but often show a purplish tint, and not infrequently are marked by a few dilated venules.

The skin around, though red and slightly swollen, does not feel hot, and the redness is of a venous tint.

The whole process is strikingly similar to that which occurs in the lungs during the course of phthisis. There, also, we have minute nodules of granulation-tissue, which have been described both as new growths and as inflammatory. There, also, the nodules undergo softening and ulceration; the ulceration spreads, with chronic inflammation and continual deposit of fresh "tubercles." There, also, the ulcerative process is rarely unaccompanied by some amount of fibrous transformation, which in favourable cases leads to the involution of the disease and the formation of a cicatrix. The bearing of this resemblance on the theory of lupus will be presently seen.

The process above described is extremely slow. We may watch lupus for more than a year before it ulcerates. It usually begins at a single spot and spreads irregularly therefrom, sometimes in a serpiginous form and comparatively swiftly, more often with an irregular rounded shape. It is rare for two independent foci of lupus to be seen, but this may sometimes occur. Whether in separate patches or as a single spreading surface, the disease is decidedly unsymmetrical, unless it happens to begin in the median line.

The epidermis is usually more or less thickened, particularly the deepest layer; but the original seat of the process

is in the papillary layer of the cutis, whence it spreads downwards as well as upwards, until the whole thickness of the true skin is infiltrated. According to Auspitz, the sebaceous glands are destroyed, the sweat-glands are unchanged, the hair-follicles disappear or are transformed into cysts. Rindfleisch asserts that lupus begins in the sebaceous glands, not the erythematous or so-called sebaceous form, but lupus vulgaris; and he therefore calls it an adenoma. But this no doubt is a mistake: any inflammatory disease will show most exudation in the more vascular parts of an organ, and the most vascular parts of the skin are the papillæ and the sebaceous glands; but the glands themselves are not involved except as a secondary result in the disease. Neither Neumann nor subsequent histologists agree with Rindfleisch.

Giant-cells are frequently observed (Friedländer in 'Virchow's Archiv,' 1874; and Thin, 'Med.-Chir. Trans.,' vol. lxii). Bacilli, either identical with those of tubercle or closely resembling them, were discovered by Doutrelepont in 1883. These characteristic bacilli, though no doubt always present, are very few in number, so that it takes much time and many sections to discover them.

Locality.—Lupus by preference attacks the face, particularly the alæ of the nose, the edges of the lips, the cheeks, the eyelids, and the conjunctiva. It also occurs upon the ears and spreads to the neck. It is rarely seen on the scalp, and is not common on the trunk and limbs; but there is probably no part of the body on which lupus has not been observed, and although, as just stated, it is rare to see two lupous ulcers at once, it often, after appearing and being cured upon the face, reappears in another region. In Vienna the trunk and the buttocks are said to be more often the seat of lupus than the arms and legs; the hands and feet are almost exempt.

Lupus also affects the mucous membrane of the nose, the lips, the gums, the hard and soft palate, and the larynx. It very rarely affects the tongue or the deeper mucous membranes. According to Hebra, however, there is no doubt of the cartilages of nose and ears being occasionally affected, and even tendons and ligaments of joints; the latter complication must be extremely rare. The lymph-glands are occasionally



FIG. 24.—Distribution of lupus.

but very rarely affected, I have never myself seen a case. Lupus vaginæ has been described by Dr Matthews Duncan.

Symptoms.—As the progress of the disease is slow and its local signs torpid, so its symptoms are but slight. It is astonishing how little pain is felt even when extensive tracts of the skin are deeply ulcerated; as we shall presently see, the remedy is far more painful than the disease. The general health is also unaffected; so that, except for the disfigurement, lupus would be one of the most easily borne of all serious and destructive diseases.

Ætiology.—Apart from the question of its relation to tubercle, which will be presently discussed, we have no knowledge whatever of the cause of lupus.

It is probably equally common in both sexes. With respect to *age*, it is, as commonly seen, a disease of young adult life. But it has then lasted in most cases for several years, and it may occur in young children. I have observed it in

those not above four or five years old, but it is more common about puberty, and usually begins at from fourteen or fifteen to twenty. After thirty it is certainly rare for it to begin, though cases of undoubted lupus may be occasionally observed which start even later. Dr Payne has published a case which began at fifty-nine.*

In young subjects it shows an almost constant tendency to spread, even when repair, as generally happens, is to some extent occurring at the same time; but after thirty lupus tends to undergo involution, and if left to itself will in most cases end in cicatrices, disfiguring or disabling the patient, but no longer active.

Lupus is not hereditary, and has never been seen at birth, nor does it often affect more than one member of the same family.

Devergie noticed that lupus is more often seen amongst hospital patients than in private practice, and this is certainly true in England as well as in France. It is more common in Vienna than in London or Paris, and more common in temperate Europe generally than in North America or in the tropics.

Diagnosis.—The fact of lupus being a deep inflammation of the skin, and leaving scars, at once distinguishes it from eczema and all the superficial forms of dermatitis enumerated in the earlier chapters of this book; nor is there much practical difficulty in the diagnosis from varicose and other traumatic or accidental ulcers. The real difficulties of diagnosis arise between lupus, syphilis, rodent ulcer, and cancer of the skin.

Lupus is distinguished from *cancer* by the absence of pain, by its slow progress, by its beginning early in life, by the presence of granulations, the absence of hæmorrhage, and the nodulated, but not uniformly and densely infiltrated, edge. Invasion of deeper structures and secondary enlargement of the corresponding lymph-glands decide the case to be cancerous, but our object is to establish a diagnosis long before this point has been reached.

Rodent ulcer is covered by an adherent reddish-brown scab,

* According to Hebra and his disciples, it always begins before puberty, occasionally in infancy, but usually from the fifth to the ninth or tenth year.

which when present is characteristic, but it may often have been removed by accident, by poulticing, or by other remedies before the lesion is seen. The edges are neither thick, hard, and infiltrated like those of epithelial cancer, nor do they contain little nodules as in lupus. Granulations are absent, the ulcer being of the kind known as "indolent," while that of lupus is what is called "weak." Like lupus, the face is its favourite seat, but the neighbourhood of the eyes rather than the cheeks and nose; it is always single, and never extends so widely as lupus; it makes no attempt at spontaneous cicatrisation; and it only occurs in those who are past middle life.

Syphilitic ulcers have an undermined, not an infiltrated or nodular edge, the colour of the surrounding skin is brownish or yellowish, whereas that of lupus is of a more venous, *i. e.* purplish red. In both there may be considerable crusts, forming what is described as "rupia" and "ecthyma" in the one case, and as "lupus pustulosus et crustaceus" in the other; but when these are removed, the more characteristic ulcerated surface beneath will be seen. The *scars* which result when a syphilitic ulcer is healed often resemble those of lupus, but they are less apt to be hypertrophied, they are much more pigmented, and seldom present the pink aspect and enlarged veins which are often seen after lupus is healed.

Moreover, tertiary syphilitic ulcers begin as a rule in the formation of a gumma in or under the skin, deeper than the nodules of lupus and less early affecting the epithelium. In the case of the nose this distinction is most applicable—lupus begins at the edge of the nostril and slowly creeps on, only affecting the cartilages (if it does at all) in its latest stages; whereas syphilis begins in the perichondrium or periosteum, and has already destroyed much underlying tissue before the ulcer on the skin appears. The nose which has lost its tip or alæ has usually been affected by lupus; that which has lost its bridge by syphilis. Extensive disease of the skin, with the cartilages and septum intact, is most likely lupus; a small ulcer with a deep foul cavity beneath it, and exposed bone and cartilage, is almost certainly syphilis. The frightful cases of destruction of the greater part of the face and opening of the orbit, pharynx, and posterior nares, which figured in museums and plates as lupus exedens, were tertiary syphilis, neglected or ill-

treated, cases which the better diagnosis and improved therapeutics of modern times have happily banished from civilised countries.

Apart from the local characters, diagnosis between syphilis and lupus will be much helped by remembering that syphilitic ulcers are frequently multiple, lupus very rarely so; and that secondary implication of lymph-glands, with characteristic induration, is common in syphilis—rare in lupus and only as the accidental consequence of temporary inflammation, which renders them soft and painful. Again, the syphilitic ulcer is usually accompanied by other cutaneous lesions; the lupous ulcer has no complication. Syphilis begins after puberty, often long after; lupus before puberty or shortly after. Lastly, lupus is a disease of the skin and nothing else, whereas syphilitic gummata and ulcers will be generally accompanied by other signs of lues in the bones, glands, tongue, or viscera.

Of the cutaneous lesions of congenital syphilis, the early coppery rashes have no resembance to lupus, and the later gummatous ulcers are exactly like those of tertiary acquired syphilis.

Pathology: relation to syphilis.—Although it is scarcely possible to confound lupus with the ordinary lesions of congenital syphilis, it has been supposed by respectable authors that lupus is the result of inherited syphilis which does not show itself in the ordinary form. Hebra himself was led into this opinion by a striking case in his own practice, where a syphilitic father had borne to him—first, a stillborn child; secondly, one which died in a few months with the ordinary marks of inherited syphilis; then a third, who survived, after suffering from congenital syphilis of the skin and bones; while the last, who was born apparently healthy, remained so for some years, but became before puberty the subject of typical lupus. The case is no doubt striking, and is supposed to show that lupus is the feeblest and most diluted effect of transmitted syphilitic virus. But no one pretends that a child with a syphilitic father or brothers is thereby prevented from becoming the subject of lupus, and if so the two diseases must occasionally occur in the same family or the same individual. Persons affected with lupus may acquire syphilis, and persons who inherit syphilis may be attacked by lupus. Owing to Mr

Hutchinson's clsssical observations, we can now recognise congenital syphilis not only in infants, but in later life. Such persons are not more liable to lupus than others; and one ought to be very sceptical in admitting that congenital syphilis is present when it shows itself by none of its unequivocal characters.

The assumption that there is such a thing as "syphilitic lupus," a kind of hybrid between two diatheses, is also unjustified; and, like similar diagnoses of "rheumatic gout" or hybrids of scarlatina and measles, is practically mischievous. At the same time the diagnosis between syphilis and lupus is often difficult, and even with care and experience one may mistake the one for the other—at least the present writer has done so.

Relation to tubercle.—Is lupus, as the French school assert, a "scrofulide"? This word was invented by Bazin and Hardy in imitation of the Syphilides of Biett and Alibert. Bazin includes among "Scrofulides bénignes," chilblains, erythema, strophulus, prurigo, lichen, eczema, impetigo, and some forms of acne. These are justly excluded by the sounder judgment of M. Hardy, who precisely defines his scrofulides as depending exclusively upon scrofula as the syphilides do upon syphilis, never developing without it, and diagnostic of its presence. He would place under this definition lupus, which Biett had, with his usual good sense, separated from all other diseases, without inventing an ordinal name for it, while Alibert had lumped it with eczema and psoriasis among the dartres. Cazenave described four species of scrofulide under lupus—erythematous, tubercular, ulcerous, and hypertrophic. Bazin's division of "Scrofulides malignes" was into erythematous, tubercular, and *scrofulide crustacée ulcereuse.* Hardy addresses the same reproach to the third of Bazin's as to the last two of Cazenave's species, and himself describes five varieties of scrofulides:

1. *Scr. érythémateuse.*—This corresponds to erythematous lupus, an undoubtedly distinct form, which will be described below.

2. *Scr. cornée et acnéique.*—This is not what other French writers describe as acné cornée, a curious affection of the sebaceous glands unaccompanied with inflammation ("ich-

thyosis follicularis "), very rare, and in the cases which the writer has seen without the slightest claim to the epithet scrofulous (p. 176). The *scrofulide cornée* of Hardy consists of groups of comedones, placed on a purplish-red patch, and is followed by depressed cicatrices unpreceded by ulceration. It appears upon the face, has a very slow course, and occurs (we may presume) only in persons who for some other reason are entitled to the epithet scrofulous. It corresponds to Devergie's *Herpès crétacé*, and to Chausit's *Acné atrophique*.

In London, and probably in Vienna, this affection would be called lupus erythematosus or lupus sebaceus, indifferently or conjointly.

3. *Scr. pustuleuse.*—This is the most frequent variety ; it begins either with a number of pin's-head pustules grouped on a small red patch, lasting from a week to a fortnight and leaving a yellow scab, or else with a large pustule, like that of ecthyma, which when ruptured gives place to a dark prominent crust, like that of rupia. The part usually affected is the nose, the course is very slow and unaccompanied by itching or pain, but the most characteristic point is that when the crusts, which are very adherent, are removed, ulceration is found beneath. This ulceration is not deep ; the surface is pale, and sometimes presents little hard, dry, rough, warty nodules, which led Hardy originally to describe the variety as " scrofulide verruqueuse."

This form would by German, English, and American dermatologists be recognised as typical lupus (*Impetigo rodens*), which, as above described, frequently begins in pustules and is accompanied by large scabs. The slow course of the disease makes the subsequent ulcerated stage much more familiar ; but if watched from the beginning, cases of lupus with pustules and large prominent crusts are seen in London, in a minority not less, perhaps, than a third or fourth of the whole.

4. *Scr. tuberculeuse* is divided again into a superficial and a deep variety, and the former distinguished as sometimes disseminated over various parts of the body and sometimes localised, sometimes inconspicuous and ending in a light atrophic scar, sometimes hypertrophied, especially when it affects the genital organs. M. Hardy speaks of the deeper

tuberculous scrofulides as producing "ces vastes destructions, ces plaies épouvantables et hideuses qu'on ne rencontre que trop souvent à la face," and as occasionally proving fatal, with profuse suppuration, cachexia, and hectic. This form, according to the eminent author quoted, produces enormous cicatrices on the eyelids, the lips, the neck, the ears, the nostrils, like those produced by severe burns.

This is obviously lupus exedens in its severest and most destructive form, but not differing from the slighter forms accompanied with true ulceration, except in degree. Moreover, even when untreated, the ravages of lupus, however hideous, are more remarkable for their contrast with the deeper destruction of syphilis and cancer than for their extent and severity considered as a disease of the skin.

5. *Scr. phlegmoneuse.*—This is a superficial ulcer which begins in a phlegmon as big as an almond or a nut; this gradually softens, fluctuates, acquires a purplish-red colour, and at last discharges a little thin pus; a scab forms, and this process may be repeated and become chronic until a large surface is ulcerated. The disease appears chiefly on the face, but also on the trunk and limbs. It also leaves a scar, at first violet-coloured, afterwards pale, irregular, and reticulated.

This somewhat rare variety will be recognised as what older surgeons, and especially the late Mr Hilton, used to describe as "scrofulous ulcer." No doubt it deserves separate mention, but whether regarded histologically, or from the point of view of pathology or of treatment, it is closely allied to lupus. When, however, it occurs on other parts than the face, the primary abscess is often due to suppuration of a tubercular lymph-gland, of which there are not a few too small to be recognised by the anatomist, but apparent when enlarged by the hypertrophy of Hodgkin's disease or by caseous inflammation.

A review of these varieties of the scrofulides defined by the most experienced and the most rational of the successors of Biett, and described in his admirable 'Leçons'* with the clinical acumen and skill characteristic of Professor Hardy, shows that the only diseases of the skin which have any

* The later volume ('Maladies de la Peau'), published in 1886, does not on this subject deviate from that which was taught in 1864.

title to be called scrofulous are those which Willan and Bateman, with their successors in England, and Hebra, with his disciples in Germany, would agree in calling lupus. It is remarkable that the rare papular affection of the skin described by Hebra as lichen scrofulosorum (p. 83), and also the dry, harsh, unoiled condition called pityriasis tabescentium (p. 178), are not included in the above account of scrofulides.

What ground, then, is there for ascribing lupus to Scrofula? This raises the question of the meaning which we attach to that much-abused word.

Scrofula originally denoted a swollen neck, which in some children makes the head pass into the shoulders with scarcely any constriction, as it does in a pig (*scrofa*). It is found that this usually depends upon a chronic caseous enlargement with characteristic suppuration and subsequent cicatrices of the cervical lymph-glands. The word *struma* also meant a swollen neck, and while in England it is used as a more or less vague synonym of scrofula, which had better be discarded, in Germany it is applied to another cause of a chronic swollen neck, namely, bronchocele or goître.

The mere form of degeneration is, as Virchow long ago pointed out, not characteristic; for it may occur in a traumatic abscess and in atheroma, in the middle of tumours and even of cancers. Moreover, most cases of caseous disease of the lympharia would, on careful examination, be found not to be idiopathic, but secondary to mucous or cutaneous irritation. If indurated lympharia are discovered, we at once seek for a primary affection in a chancre, if cancerous in a primary tumour or an epithelial surface, if suppurating in a primary wound or inflammation of the skin or mucous membrane. In the same way caseous lymph-glands can generally be traced to chronic inflammation of the surface from which they receive their lymph. In the neck they are most frequently traceable to the throat with its tonsils and other lymphatic organs, more rarely to the scalp, the teeth, or the ear; bronchial lymph-glands become caseous in consequence of chronic or repeated subacute bronchitis and broncho-pneumonia; mesenteric lympharia in consequence of chronic or subacute enteritis and diarrhœa. These three groups of lympharia in the neck, the thorax, and the abdomen are the principal

seats of so-called scrofula, and the reason is probably because the mucous membrane of the fauces, the bronchial tubes, and the small intestine is pre-eminently rich in adenoid or lymphatic tissue. According to the more rational believers in scrofula as a diathesis, disposition, or general pathological tendency, caseous disease of lymph-glands is clinically found connected with caries of the bones, with chronic inflammation of the articular ends or of the synovial membranes in joints, and with certain forms of catarrhal ophthalmia. On these points we do not presume to speak with authority; but a physician certainly sees many children with caries of bones or chronic inflammation of several joints, who have no affection whatever of their lymphatic organs; and there are many children, and some adults, with caseous inflammation of cervical and other lymph-glands, which lasts for years without their bones, their joints, or their conjunctiva ever being affected. Watson's classical account of the two types of scrofulous children left one sceptical of the same morbid disposition showing itself in such opposite ways; and it is now clear that "pretty scrofula" was in most cases tuberculosis, and "ugly scrofula" inherited syphilis.

This brings us to the question of the relation between scrofula and tubercle, and the relation of lupus to each. After phthisis and scrofulous pneumonia had been long assumed to be pathologically identical with scrofulous glands and joints and bones, Virchow introduced the critical light of histology into the confused mass of doctrine on this difficult subject. Regarding miliary tubercle as the type of that condition, and as essentially a granuloma or new growth of an adenoid or lymphatic type, he defined the scrofulous diathesis merely as "vulnerability," that is, inability of the organism to recover from slight injuries. Subsequently, however, scrofula, in the only definite anatomical sense of the term, has again approached tubercle; for, first, the giant-cells of Schüppel, which were imagined to be characteristic of tubercle, were found also in scrofulous lymph-glands by Friedländer; and now the still more famous *bacillus* of Koch has been discovered in these same organs.

The nodules and granules of lupus contain a minute bacillus, which in form, size, and reaction to staining agents

is indistinguishable from that found in phthisical sputum. Nevertheless no physician with clinical experience is prepared to admit that the uniform presence of a bacillus, any more than of a histological element or of a chemical product, can settle the true affinities of a morbid process, which must be judged of ultimately by its natural history and physiology, not by its anatomy, chemistry, or mycology. In this as in other matters, to use Hebra's dictum, where the pathologist and the clinical physician differ, clinical knowledge must be the master: "Wo der Patholog und der Kliniker im Streite sind, muss der Kliniker Meister sein." Admitting, then, that the *bacillus lupi* is constant, and that the same organism occurs in tubercle, in scrofulous lymph-glands, and in lupus, the question still remains whether lupus commonly occurs in persons who have definite signs of "scrofula" (*i. e.* tuberculous inflammation of lymph-glands), or who are subject to other tuberculous diseases.

To the latter question we must answer, No. It is extremely rare to see lupus among the countless victims of phthisis, *i. e.* of chronic tuberculous inflammation of both lungs, beginning at the apex, travelling downwards, ulcerating and destroying the tissue, and associated with laryngitis, enteritis, and tubercles in the viscera. Nor, looking at the question from the opposite point of view, has the writer found among patients with lupus, either in the large numbers under Hebra's own treatment which he had the opportunity of daily observing when a student at Vienna, or in subsequent hospital practice in England, any considerable number of cases of phthisis;* and yet phthisis is remarkably common both in England and in Vienna, so that it has been regarded by English writers as the characteristic scourge of this country, and by Austrian writers as so peculiar to Vienna that its prevalence has been explained by the geological condition of the soil.

Nevertheless we do sometimes meet with caseous glands or scrofulous scars in patients with lupus. Perhaps the occurrence is not more frequent than mere coincidence would

* There was lately a man in Philip Ward, aged thirty, who has suffered from lupus for eighteen years, who has had hæmoptysis at intervals since he was seventeen, and who now shows the physical signs of phthisis; but such cases are in the writer's experience decidedly rare.

explain, when we remember that both lupus and scrofula principally affect children and young adults. This very predilection, however, for a certain period of life may be fairly brought forward as an argument for a relation between the two diseases. A more powerful argument is the considerable resemblance in the mode of treatment which is found effectual for both.

On the whole, we conclude that lupus has a certain clinical relation to caseous or tubercular disease of the cervical lymph-glands, independent of its histology and of the presence of a bacillus; but that (apart from the latter important link) it has no connection with phthisis or with general tuberculosis. In fact, the clinical relation between phthisis and general tuberculosis on the one hand, and tubercular or caseous lymph-glands on the other, is itself slight and uncertain. It is also clear that with the unimportant exceptions of lichen scrofulosus, pityriasis tabescentium, and the tuberculous form of verruca necrogenica, all the diseases of the skin which have any true connection with scrofula or tubercle may be comprised under the name of lupus. Lastly, notwithstanding these concessions, it does not appear justifiable to forsake the old, well-understood, short, and expressive term of lupus, one merit of which is that it expresses no theory and begs no question. In many cases of lupus, those who believe in tendencies and diatheses may call the patient scrofulous, just as in many cases of eczema they may call him gouty, and in many cases of erythema, rheumatic. Few would deny that lupus may be called scrofulous if the patient shows scars which prove that he has had caseous lymph-glands, that eczema may be called gouty when it occurs in a patient who has tophi in his ears or in his joints, and that erythema may be called rheumatic when it occurs in a patient who has suffered or is suffering from rheumatic fever. But in the great majority of cases of lupus, as seen by the writer in Paris and Vienna, and since then in London, there was nothing which an unbiassed observer would have called a sign of scrofula excepting the disease of the skin.

Auspitz—who has widely departed from Hebra's classification—puts lupus among what he styles "chorio-blastosen," or

anomalies of growth of the corium and subcutaneous tissue. He subdivides this group into simple hypertrophic growths (macrosomia) and paratypical or abnormal growths, which include the granulomata. Here lupus finds a place side by side with leprosy, scrofulodermia papulosa (or lichen scrofulosus), and scrofulodermia pustulosa (or acne cachecticorum), scrofulodermia ulcerosa (or scrofulous ulcers of the skin), tuberculosis cutis (as a separate condition), syphilis, and lastly, rhinoscleroma.

This is practically following Virchow's arrangement of tubercle, lupus, and leprosy among the granulomata in his primary group of "new growths which are framed on the type of connective tissue."

In 'Ziemssen's Handbook' Neisser places lupus close to tuberculosis of the skin and scrofulodermia, and makes them one division of a group of chronic infectious diseases of the skin, which includes in addition leprosy, syphilis, glanders, rhinoscleroma and framboesia. He, however, excludes erythematous lupus from the group.

Kaposi and Baumgarten both oppose the recognition of lupus as a tubercular disease. Auspitz and Frederic Lander, Neumann, and other modern dermatologists in Germany admit it, and even Baumgarten allows the possibility of a genetic relation between the two.*

In England, Plumbe spoke of lupus as a strumous affection. Erasmus Wilson maintained the same relation. Dr Fagge thought that "it is apt to occur in scrofulous persons," and Dr Liveing states that "it belongs rather to the scrofulous diathesis." The late Dr Tilbury Fox "could not subscribe to the view that lupus is an evidence of the strumous diathesis, and was more inclined to regard it as having a predilection for tubercular subjects."

Looking back on the facts and arguments as above stated, there can, I think, be no doubt that lupus is always associated with a presence of a specific bacillus, and that this is none other than Koch's *B. tuberculosis*, but that it grows under unfavourable conditions, a low temperature being one of these, as has been argued by Mr Hutchinson and by Dr Payne. But it is

* The opimions and classifications of French dermatologists have been already mentioned (pp. 284-6).

rarely associated with tubercle elsewhere, whether in lymph-glands or lungs, and the process is far more chronic, local, and benign than in most cases of tuberculosis.*

Clinical course and prognosis.—Lupus is one of the most chronic of diseases. It creeps on, usually with an imperfect attempt at healing, sometimes retreating until it almost disappears, and then again advancing with a persistence and rapidity foreign to its usual character. In the end, if left to itself, it probably heals; leaving, however, indelible marks of its presence in hideous scars, contracted limbs, distorted features, or obliterated orifices. It is singularly free both from pain and from irritation, and never affects internal organs. Whatever its true pathology may be, it does not produce secondary caseous inflammation of the lymph-glands which correspond to the affected skin, and never leads to general tuberculosis of the internal organs. Happily it is amenable to the efficient treatment which has been established within the last twenty or thirty years, so that the prognosis almost entirely depends upon the early recognition of the disease by a skilled practitioner.

Treatment.—Bateman remarks that he knows "no medicine which has been of any essential service in the cure of lupus," and that "it requires the constant assistance of the surgeon." Wilson, in the first edition of his treatise (1842), by a remarkable omission, mentions neither the disease nor the name; in the later ones he recommends caustic applications and a prolonged course of liquor arsen. et hydrarg. iodid., *i. e.* Donovan's solution. The usual practice of the earlier English dermatologists appears to have been to use arsenic and so-called tonics. It was Hebra who, regarding lupus, like most other diseases of the skin, as a purely local lesion, resolutely attacked the diseased tissue, and by destroying it produced a healthy inflammation which ended in cure. The determination with which he carried out this method often led to the most remarkable success. Tilbury Fox introduced the Viennese treatment into England, and maintained that the real treatment of lupus

* See the summary for and against the tubercular nature of lupus in Dr Payne's 'Manual of General Pathology' (p. 500), and in his remarks introductory to a discussion on lupus at the meeting of the British Medical Association in 1891 ('Brit. Journ. of Derm.,' p. 369).

consists in destruction of the diseased tissue by caustics. Even Hardy, though he begins with general treatment of lupus as a scrofulide, admits that in certain cases local measures are also necessary, that emollient applications are unimportant, and stimulating lotions seldom useful. He recommends iodine —one part dissolved in thirty of water with the help of three of iodide of potassium. Even this he admits is useless in most cases, and recourse must then be had to stronger caustics, as *chloride of zinc*, *potassa fusa*, and particularly *binoxide of mercury*.

Often less severe measures suffice, and Hebra himself accomplished admirable results with the solid *lunar caustic*. A strong solution of the same silver salt (a drachm to the ounce) may sometimes be substituted with good effect. The acid nitrate of mercury may also be applied, especially to small and comparatively superficial spots.

But the most satisfactory method of treating most cases of ulcerative lupus is by *scraping* with the sharp spoon introduced by Volkmann, of Halle.* Chloroform should be given, and the whole of the diseased surface scraped away. It is astonishing how boldly a skilful surgeon can use this instrument or an analogous one, employing enough force to remove all the diseased tissue without injuring the more resistent healthy cutis which surrounds it. Indeed, Hebra's use of the pointed nitrate of silver pencil almost converted it into a scraping, or mechanically as well as a chemically destructive, agent. The hæmorrhage produced by these operations is less than would be supposed. While it is almost always necessary to repeat the application of a caustic, one advantage of the scraping is that it is sometimes sufficient after a single sitting, and seldom requires more than two or three. The saving of time as well as of pain to the patient is certainly remarkable.

Caustic potash, applied as it used to be in stick, is not only extremely painful, but even with the greatest care will destroy healthy as well as diseased tissue. Hebra's *arsenical paste* is less destructive, but causes great inflammation as well as pain, and is every way inferior to scraping.

The *pyrogallic acid* introduced by Järisch is probably the next best local application. It should be used as an ointment

* See his paper on "Lupus and its Treatment," translated for the Sydenham Society in 'German Clinical Lectures,' 1876.

of 10 per cent., which is better than solution or plasters. It causes, however, considerable pain.

Another plan of treatment, also introduced by Volkmann, and carried out by Videl and Besnier in France, by Mr Squire and Dr Stowers in this country, is *scarification*, or, as the operation is now performed, minute stabs with a lancet, or an instrument made for the purpose. This section of immense numbers of blood-vessels produces temporary hæmorrhage, but afterwards obliteration of their channels and anæmia of the lupus spots.

The *galvanic cautery*, though sometimes applicable and less painful than would have been supposed, has the same drawback as caustic potash and sulphuric acid, that is, it destroys diseased and healthy tissues alike.

Whatever agent be chosen, it is of paramount importance, for the successful treatment of lupus, to recognise its character as a new growth which must be destroyed. So long as any of the granulations remain it is liable to return. Once rooted out, it is rare for this to happen, or even for it to appear in another part of the skin. Occasionally the knife may be employed to excise part of the tip of an ear or some other circumscribed piece of skin; but scraping and caustic, or the two combined, are in a great majority of cases as effectual, and the results are better. Indeed, when early and thoroughly treated, lupus becomes a manageable disease, and the cicatrices which result are often surprisingly slight.

In the more superficial forms of lupus, and especially in the variety to be described as lupus erythematosus, such vigorous means are generally unnecessary, though wherever ulcers or granulations are seen, their destruction by some means or other is the only thorough method of cure. The milder applications which have been recommended, such as tincture of iodine, iodoform ointment (half a drachm to an ounce), pyrogallic acid ointment (a drachm to the ounce), and strong solution of nitrate of silver (a drachm to an ounce) may probably stop the disease at an early stage. They certainly check its progress, and may be usefully employed whenever more decisive treatment is counter-indicated or postponed.

In cases of lupus of the nostrils, gums, and palate, rubbing with lunar caustic is often efficacious, and is better than the

application of nitric acid, or acid nitrate of mercury, being more easily limited and giving less pain.

Although local treatment is essential for lupus, and is often sufficient without any other methods, many dermatologists strongly recommend the internal administration of *cod-liver oil*. Even Hebra admits its value, and used to apply it locally to the sores as well as internally. It is unwise to trust to this remedy without attempting local measures as well; but wherever swollen glands or phthisical symptoms are present, or when want of weight and flabby muscles show malnutrition, oleum morrhuæ ought undoubtedly to be given. Syrup of phosphate of iron, steel wine, or tincture of steel, is indicated by pallor.

Arsenic is of doubtful service. Some of the most scaly forms of lupus are said to be cured by this drug, but if we cannot recognise such transition forms as are called psoriasis-lupus, we may suspect these cases of being really psoriasis, and not lupus at all; just as serpiginous lupus is often extremely difficult to distinguish from syphilodermia, and owing to this difficulty has sometimes been supposed to be cured by iodide of potassium.

Treatment by inoculation.—A preliminary announcement of the discovery of a cure for phthisis made by Prof. Koch to the International Medical Congress of 1890 was followed by the publication of his method of treatment of tuberculous diseases by injection of a fluid prepared from the products of the specific bacterium. The mode, time, and circumstances of this publication were unfortunate, but the reputation of the discoverer secured respectful consideration for the new plan of treatment. The result of considerable experience appears to be that for cases of phthisis this method of inoculation is sometimes dangerous, often mischievous, rarely beneficial, and, so far as yet known, never curative.

With respect to lupus, Koch's method seemed at first to have stronger evidence in its favour. It has been widely tried in Germany, France, and England, and with the following results. The injection is followed by marked febrile reaction, so far confirming the conclusion above reached, from consideration of its histology and general characters, that lupus is truly tubercular. The bacilli are not killed, but

this is of less importance where they are so few. The granulation tissue becomes more vascular, swollen, and painful, as in tuberculous lungs, lymph-glands, and joints. After repeated injections tolerance is established, and the local excitement subsides.

In some few cases the result is decided improvement. In others there is no visible change, and in all the cases which the present writer has seen, the improvement has been only temporary, and the result has been just the same state as before. What would seem reasonable would be to add scraping to the results of injection, and so get rid of the products of tubercular inflammation in a way that is impossible in the case of the lungs or the joints. Thus inoculation may perhaps be recognised as a preparatory and auxiliary method to that of destruction by mechanical or chemical means, or as a last resort in obstinate and extensive cases.

But whatever subsidiary place further experience may assign it, the method has scarcely more claim to be regarded as a cure for lupus than for phthisis itself.

Tuberculous ulceration of the skin.—It may seem contradictory, after the evidence above given that lupus is itself an ulceration which is accompanied by the characteristic microbe of tubercle, to distinguish another disease which is also ulcerative and also tuberculous. But clinically we are bound to follow the natural history of diseases rather than their mere anatomy, and those which differ in aspect, course, and treatment demand separate notice.

Lupus, though a deep inflammation, is not exclusively ulcerative; scales, pustules, and other inflammatory products make up much of the diseased structure; and although tuberculous in nature, it is not often associated with other forms of tubercle in the bones, joints, and lungs. But there has long been recognised an ulcer which is distinct in appearance from lupus, which is more like that of syphilis, and which is characteristic of the condition known as tuberculosis of the lymph-glands and joints, the lungs, and the serous membranes.

Tuberculous ulceration is usually multiple; the ulcers are rounded, without the thickened border of lupus, often some-

what undermined, not sloughing or phagedænic, but with pale, large, œdematous granulations. They are situated on the face, trunk, or limbs, most often on the last, and are irregularly placed. They may occasionally be seen on the lips, or about the genital and anal orifices. They are more sensitive than the sores of lupus or of syphilis. They are most often seen in children or very young adults,* and are often accompanied by signs of caries, by caseous glands, or by other tuberculous lesions.

The local appearance, the locality, and concomitants are unlike those of lupus vulgaris or lupus erythematosus. Confusion with acquired or congenital syphilis is easier. But the ulcers are not the result of a sloughing gumma; they have a purplish cyanotic, not a brownish, coppery border; they are more painful, and they are accompanied by the concomitant lesions of tuberculosis, and not of syphilis.

The treatment is chiefly internal, by oleum morrhuæ, steel, good food, and good air, with soothing or gently stimulant local applications.

The only other cutaneous lesions which the writer has seen accompanying the ulceration are—the curious dry condition known as pityriasis tabescentium (p. 178), and pustules, which might be called impetigo or ecthyma, scattered over the limbs.

Under the title *Tuberculosis verrucosa cutis*, Riehl and Paltauf described in 1886 an infectious disease derived from handling the skin of tuberculous animals, either dead or alive. It is said to be intermediate between dissection-warts (verruca necrogenica), lupus verrucosus, and tuberculous ulceration.

LUPUS ERYTHEMATOSUS.†—The essential nature of this somewhat rare disease still admits of doubt. There is no question that the sebaceous glands are much affected by it; it is

* A remarkable case in an aged woman, reported by Dr van Harlingen of Philadelphia ('Arch. of Derm.,' April, 1879), may perhaps be regarded as a senile and malignant form of this disease.

† *Synonyms.*—This curious affection was first described by Biett and named *Erythème centrifuge*. It was called by Hebra *Seborrhœa congestiva* (1845), and the same view of its nature has led to the titles *Lupus sebaceus* and *Lupus acnéique* (Hardy). It has also been named *Scrofulide érythémateuse, Herpes crétacé* (Devergie), and *Lupus de Cazenave*. It is, however, more generally recognised by Cazenave's name, Lupus erythematosus (1850).

equally certain that a slow chronic dermatitis, accompanied with a violet or rose-tinted erythematous blush, is always present. But it is seldom that one fails to discover evidence of a destructive process of the papillary layer in more or less well-marked cicatrices, and in many instances of undoubted lupus erythematosus the scars are obvious. It is, therefore, still usually associated with the ordinary disease known as lupus, the two forms being distinguished as *lupus vulgaris*, *lupus exedens*, or *lupus exulcerans* on the one hand, and *lupus*

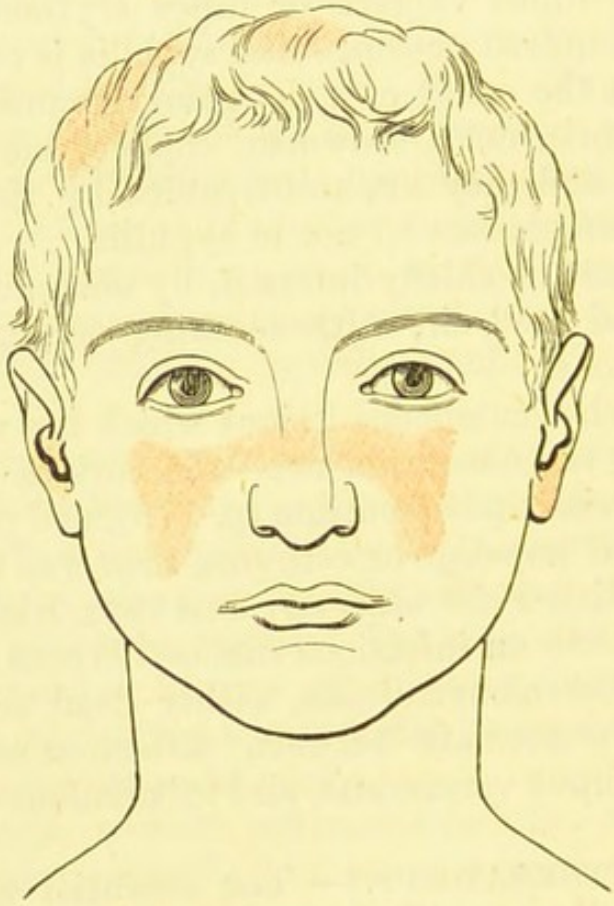


Fig. 25.—Seats of predilection of lupus erythematosus.

erythematosus, *erythematodes*, *sebaceus*, or *non-exedens* on the other.* It is, however, very different from lupus vulgaris, in the age

* In favour of this view see Mr Hutchinson's 23rd lecture ('On Certain Rare Diseases of the Skin'). For arguments in favour of a more complete severance of lupus erythematosus from true lupus see Kaposi's and Veiel's papers ('Trans. Intern. Med. Congr.,' vol. iii, pp. 162, 167), with comments by Schwimmer and Thin; and also Dr Payne's remarks ('St Thomas's Hosp. Rep.,' vol. xiii).

of the patients, in its locality and course, and there is no reason to connect this form of disease with tubercle.

The *locality* of this affection is very characteristic. It almost always occupies the face, and usually the bridge of the nose, together with both cheeks; for, in contradistinction to ordinary lupus, it is remarkably symmetrical. The figure produced by this distribution has been compared to a butterfly, a bat, or the sphenoid bone, and when once seen is easily recognised. Lupus erythematosus is also found on the ears, and sometimes on the scalp. The hair is then destroyed—a sufficient proof that lupus erythematosus is not, as it is classed in 'Ziemssen's Cyclopædia,' a superficial dermatitis. It occasionally appears upon the limbs or trunk, sometimes preserving its symmetry, but sometimes being confined to one arm, and most often to the hand. On the trunk and legs it is certainly rare, but in one patient of the writer's it spread over the shoulders and buttocks. Two separate patches are far more often seen than in lupus vulgaris, and the disease is much more symmetrical.

It is seldom that we see the beginning of erythematous lupus. It shows itself as a red patch, not unlike that left after impetigo or an early stage of tinea circinata. It spreads at the edge, which is marked by injection, swelling, and desquamation, while the centre becomes pale, smooth, and slightly depressed; hence Biett's epithet *centrifuge*. The sebaceous glands are enlarged, sometimes prominent, resembling acne punctata, sometimes forming black comedones within the affected surface. It thus spreads until it has attained the form and dimensions above described as characteristic. Sometimes, however, fresh spots occur at a distance, and this is decidedly more frequent than with ordinary lupus. The dry, whitish scales, formed chiefly of sebum, suggested the epithet *herpes crétacé* to Devergie, and *seborrhœa congestiva* to Hebra and others.

Its course is extremely slow, and, like ordinary lupus, it is accompanied by neither pain nor itching. It has no claim to be called scrofulous, and no bacilli are present.

On making a microscopic section of the diseased skin, infiltration of the cutis with leucocytes and dilated blood-vessels is obvious; and the congestion and proliferation is

most abundant around the sebaceous glands. These cells never become caseous, or soften down so as to form the granulations and pus of an ulcer. They gradually become transformed into connective-tissue corpuscles; and as the fibres thus formed take their place, the papillæ atrophy and the glands shrink and disappear (Neumann, Geddings, Thin). These histological characters appear to show that no sharp line of distinction can be drawn between chronic deep-seated inflammation with hypertrophy and consecutive atrophy on the one hand, and development of such simpler forms of new growth as lupus, tubercle, and syphilis. On the other hand, there is a clearly marked line between deep inflammations with destruction and atrophy on the one hand, and superficial inflammations which do not destroy the papillæ and are never followed by ulceration or cicatrices on the other.

Lupus erythematosus occurs chiefly in adults, but sometimes in children. Veiel says that most cases occur between twenty and forty, and the average age of this affection is certainly later than that of ordinary lupus. It is perhaps commoner in women than in men.

Some good observers regard true lupus and this affection as altogether distinct and unrelated both in pathology and in clinical course; but on the whole it appears to the writer that while admitting the difference of type, both are chronic serpiginous inflammations of the deeper layer of the skin, and therefore are related as nearly perhaps as psoriasis and lichen planus.

Lupus erythematosus in some cases simulates nævus. See the account of patients under the care of Mr MacCarthy and Mr Higgins given by Mr Hutchinson in his 'Lectures on Clinical Surgery,' vol. i, p. 284.

The *treatment* of erythematous lupus is not often satisfactory. It is that of the milder forms of lupus vulgaris. Alteratives of a stimulant kind take the place of destructive methods. Hebra's diachylon ointment or solution of soft soap (sp. sap. alk.) is sometimes sufficient. Iodide of mercury ointment (one to fifteen) was recommended by Cazenave, and pyrogallic ointment is sometimes useful. The writer has often found the effects of iodoform the most satisfactory. In some cases very mild applications can alone be borne, such as

unguentum metallorum, yellow oxide of mercury, or unguentum hydrargyri ammoniati. In others, again, the true nature of the disease is shown by the treatment which dermatologists, whatever name they give it, are led to adopt—scarification, and even scraping or the galvanic cautery.

Mr Hutchinson strongly recommends the continued use of an ointment consisting of half a drachm of liquor carbonis detergens to an ounce of petroleum gelatum. The ung. picis carbonis of the Guy's Pharmacopœia is stronger, and is also a useful remedy.

Lupus erythematosus disseminatus.—Kaposi has named lupus erythematosus as above described *discoid*, in order to distinguish it from a rare and remarkable form of disease, which he regards, and probably with justice, as a form of lupus. The latter he has named the "disseminated" or "aggregated" variety of lupus erythematosus. Here the patches do not grow by the enlargement of the circumference, but by fresh ones appearing. Moreover the disease is not confined to the face, but is seen upon the trunk, the course is sometimes acute, and the whole character of the disease is far more severe than that of ordinary erythematous lupus, or even of lupus exedens; there is considerable pain, and sometimes synovitis; there is high temperature, nervous symptoms which sometimes end in coma, and in not a few cases the result has been fatal. Cæsar Boeck saw two well-marked cases of this curious disease in Norway.

The acute form is, however, the exception. More often the disease persists with more or less frequent exacerbations, the face appearing as if affected with constant erysipelas. Here also the end is frequently death, either from marasmus or from an intercurrent disease.

An example of this remarkable affection occurred in the practice of Dr Cavafy at St George's Hospital. The patient was a woman between thirty and forty; the affection occupied not only the face, head, and neck, but the greater part of the back and trunk. It looked like erythema of a somewhat gyrate form, and there was unquestionable scarring. The patient succumbed to pneumonia.

An obscure case which came under my care in 1891 occurred in a young and otherwise healthy woman, and may perhaps be referred to the same disease.

Rhinoscleroma.—This uncouth epithet was applied in 1870 by Hebra and Kaposi to a newly recognised form of disease—a hard, smooth infiltration or new growth of the septum of the nose and the adjacent tissues of the alæ nasi and of the upper lip. It has a general resemblance both to lupus and to syphilis, but is said not to be prone to ulceration, a characteristic which would also distinguish it from epithelial cancer. Mr Hutchinson has not seen any case which corresponds with the fourteen or fifteen seen in Vienna, but thinks he has observed cases of lupus which by their unusual hardness and other characters approached rhinoscleroma. He showed a case in an old women of sixty-eight to the Dermatological Society in April, 1883. A few additional cases have been published in Germany, reference to which will be found at p. 496 of Hans von Hebra's 'Krankhafte Veränd. d. Haut.' I have seen very few cases which may have been rhinoscleroma, and only one which was certain. The first occurred before 1870, in a young man at Vienna; it was diagnosed and treated as tertiary syphilis, but it consisted in "a thickening and stony-hard induration of the nose," which had lasted for six years when seen. A second case seen a few months later, recorded as one of "syphilitic sclerosis of the nose," not nearly so hard, and accompanied by redness and ulceration, is more doubtful. A third was seen at Guy's Hospital, in November, 1886, in a man of thirty-five; there was dense induration of the upper lip, with surrounding œdema and a little superficial ulceration; it had lasted several years. I also saw the typical and very remarkable case in a patient of Dr Payne's, a young man from South America, which will be found described and figured in the 'Path. Trans.' for 1885. Here the palate and larynx were also affected; and the local ulcerative condition and histological characters were not unlike those of some forms of sarcoma. Dr S. Davies has recorded a well-marked instance from Egypt ('Brit. Med. Journ.,' May 29th, 1886).

The ivory-like induration, the singular locality, and the absence of ulceration separate it from lupus; and Frisch discovered a bacterium not identical with that of lupus ('Ziemssen's Hdbh.,' xiv, 713). Since then Cornil and Alvarez and others have seen it ('Ann. de Derm. et de Syph.,' vi, No. 4,

abstracted in the 'Lond. Med. Rec.,' August, 1885, p. 345). It is figured in Dr Payne's 'Manual of General Pathology' (p. 672, and *front.*, fig. 1).

The histological characters are not distinctive, for Kaposi found only infiltration of the cutis with very minute leucocytes. Geber recognised giant-cells and spindle-cells ('Arch. f. Derm. u. Syph.,' 1872). Payne found large nidus-cells beside granulation tissue, and "nests" like those of epithelial cancer. In a doubtful case, brought by Mr Morrant Baker before the Pathological Society in 1881, Mr Hutchinson, Dr Cavafy, and the writer were appointed a committee, and drew up a report, which will be found at p. 262 of the 'Transactions' for that year. A figure is given at p. 458 of 'Ziemssen's Handbuch' by Schwimmer and Babes.

Rhinoscleroma has returned after removal in cases reported from Germany and from Italy; but is said to have been favourably influenced by salicylic acid, applied in the belief that it would act as a germicide.

LEPROSY*

History and terminology—Geographical distribution—Anatomical lesions and course—Histology—The bacillus leprœ—Symptoms and event—Ætiology—Treatment.
Other exotic diseases—Frambœsia—Aleppo evil—Acrodynia, &c.

THIS disease, interesting from an historical point of view, is still of practical importance in many parts of the world; but we have only space here for a brief account of it, referring the reader for further information to the elaborate article by Kaposi in Hebra's great work, and to Dr Liveing's Gulstonian Lectures for 1873.

Nomenclature.—The names given to the disease by the Greeks were *lepra* and *elephantiasis;* it was divided into *alphos*, *melas*, and *leukos*.

Celsus, however, who describes *alphos*, *melas*, and *leuce* as species of *Vitiligo* (lib. v, cap. xxviii, § 19), portrays leprosy separately and distinctly as a disease affecting the bones and the whole body, almost unknown in Italy, "*quem* ἐλεφαντίασιν *Græci vocant*" (lib. iii, cap. xxv).

The term applied by Willan and Bateman to leprosy was "elephantiasis Græcorum" (cf. p. 259), while they unfortunately used "lepra" for part of the innocent, white scaly disease which

* *Synonyms.*—Lepra vera—Lepra Arabum—Elephantiasis Græcorum—Leontiasis—Satyriasis—Morbus Herculeus.—*Fr.* La lèpre.—*Germ.* Aussatz.

It must be remembered that the terms Elephas and Elephantiasis do not refer to rough skin or huge and shapeless limbs, but to the magnitude of the disease. "Elephantiasis a magnitudine et diuturnitate nomen accepit" (Aëtius).

> "Est lepræ species elephantiasisque vocatur,
> Quæ cunctis morbis major sic esse videtur,
> Ut major cunctis elephas animantibus extat"
> (Macer Floridus, 1160).

Aretæus says it is called elephas, partly because it is unlike anything else, partly because it is black and terrible, and partly because the skin is rough and cracked ('De Morb. Chron.,' lib. ii, cap. xiii).

the ancients would possibly have recognised as *alphos*, but which all modern dermatologists call psoriasis.

No doubt many other cutaneous affections, obstinate chronic eczema, syphilis, lupus, and perhaps psoriasis, were confounded with leprosy in ancient times; but there is no question that one and the same destructive form of disease has existed in Palestine under the Mosaic law, in Western Europe during the Middle Ages, and at the present day in many parts of the globe; and this is best named by its historical title, Leprosy, *lepra*, or *lepra vera*.

Leprosy appears to have been rare in ancient Greece, and it seems to be not quite certain that the Septuagint translators were correct in rendering *zaraath* of the Hebrew Scriptures by the Greek work λέπρα. The latter term, however, is universally applied to leprosy in the New Testament. It refers to the scaly surface often seen. The Arabic name of true leprosy, according to Dr Greenhill, is *Judzam* (= *lepra Arabum*). *Barat* (= *leuce* = *vitiligo*), or "white leprosy," is nothing but leucodermia. In the Middle Ages leprosy was known to the school of Salerno as *mal morto* and *mal di San Lazaro*.

Geographical distribution.—Norway is the only European country in which leprosy is still common; there were 900 lepers in the asylums at Bergen and Molde in 1884; it is there known as *Spedalskhed*. It is also found in some parts of Sicily and in Malta (28 lepers were reported in the latter island in 1886), in certain parts of Portugal, in the Levant, in the Crimea, and at Astrakan; it is more common in Syria, Arabia (Palgrave), Persia, Bengal, S. India, Burma, and Siam; in Japan and in China, where it is said to have been known for ages; in Egypt, Nubia, the Soudan, the Cape Colony (where it co-exists with elephantiasis Arabum), and most parts of the African coast (though apparently it is rare in the interior); in Madagascar* and the Mauritius, St Helena, the Canary Islands, and the Azores; in New Brunswick, Mexico, and the West Indies (especially Trinidad), Central America, Ecuador, British Guiana and Surinam, Bahia, and

* See an interesting account of the disease founded on more than 100 cases seen at Antananarivo, by Dr Andrew Davidson ('Edin. Med. Journ.,' July, 1864).

the coast of Brazil; in New Zealand, the Sandwich Islands, and some other parts of the Pacific.*

Accounts of the disease from many of these places will be found in a report on leprosy by the College of Physicians prepared for the Colonial Office, and issued as a blue-book in 1867. In 1874 Dr Vandyke Carter published an official report upon leprosy in India, and within the last six or eight years Dr Beaven Rake has contributed valuable clinical and pathological papers on the subject from Trinidad.

Unhappily, while leprosy has receded from civilised Europe during the last four hundred years, there is reason to fear that it is reappearing in new countries. Thus it has been introduced within historical times into the Sandwich Islands, and quite recently cases have been reported from various parts of the United States, and from Australia. In Minnesota it appears to have been introduced by Norwegian immigrants, in New South Wales by Chinese labourers; but this explanation of its spread, whether by contact or inheritance, does not apply to certain isolated cases observed. For instance, Dr George Dock sent the writer in 1889 a careful account of two cases which occurred at Galveston on the coast of Texas, one in a German, the other in an Alsatian, neither of whom had had intercourse with lepers from Mexico, China, or South America. It had not spread to the wives or families of either of these patients.

Varieties.—Leprosy is essentially one and the same disease, but one of two forms is usually predominant—the *nodular* or "tubercular," and the *anæsthetic*. The two, however, are often combined. Either may be preceded or accompanied by pigment spots, which have led to a third species being formed —*lepra maculosa*. All end in an ulcerative stage, and all may lead to loss of members—*lepra mutilans*. "Black leprosy" is the only genuine form; "white leprosy" is not leprosy at all, but leucodermia.

Description.—The disease begins insidiously, usually as an erythematous redness, but in some cases with an outbreak of bullæ resembling those of pemphigus. Then follows the

* See Dr Ransome's maps and statistics, 'Brit. Med. Journ.,' March 1st, 1890; and Dr P. S. Abraham's pamphlet with a map (Epidemiological Soc., 1889).

appearance of red or violet patches, varying from a finger-nail to the palm of the hand in size, which gradually become darker in colour. At the same places, or independently, are seen flat, firm, raised nodules, consisting of an infiltration of the deeper parts of the skin. The lymph-glands at the same time enlarge. These nodules of tubercular leprosy may shrink and be absorbed, leaving atrophied and sometimes pigmented spots; but more often they soften and ulcerate. The leprous ulcers secrete but little pus, and show few and feeble granulations. They slowly increase both in extent and depth.

Local distribution.—The leprous patches usually appear first upon the limbs, and afterwards on the trunk and face. When fully developed in the face the disease produces a singular deformity, which the ancients described as *leontiasis* and *satyriasis*, and which, once seen, is never forgotten. The disease also affects the neck, shoulders, back, chest, and abdomen, but is most frequent in the extremities, especially on the extensor surface. Nodules occasionally occur, even upon the palm and sole. The hands and feet are swollen and distorted, with thickened and rough skin; the ulcers burrow deeply, and affect tendons, bones, and fibrous tissues, until at last toes, fingers, or the entire hand or foot undergo gradual necrosis and fall off.

Some of the mucous membranes are also affected, particularly those of the mouth, nostrils, and larynx, and even the conjunctivæ.

Moreover, the disease involves the great nerve-trunks, where the leprous nodules can often be felt during life.

Histology.—Careful microscopical investigations by Virchow, Thoma, and others showed that the disease consists in infiltration of the deepest layers of the cutis with granulation tissue. Leprosy was therefore classed by Virchow in proximity to lupus, from which, however, it is widely separated by its clinical course, geographical distribution, and natural history.

A bacillus was discovered by Hansen, of Bergen, in 1874, which he described and figured in the 'Quart. Journ. of Micr. Sci.' for 1880 (vol. xx, p. 92).* These microphyta appear

* It has since been found by Doutrelepont, Neisser, Cornil and Babes, Köbner, Dr Hillis ('Path. Trans.,' 1883, pl. xxii), Dr Thin ('Med.-Chir. Trans.,' vol. lxvi), Dr L. J. Steven, of Glasgow ('Brit. Med. Journ.,' vol.

constantly in leprous nodules, and in great abundance. The *bacillus leprœ* is 5 μ long, very slender, and immobile. It stains like the bacillus of lupus and tubercle (see Crookshank's 'Bacteriology,' pl. xxiii). Attempts at cultivation have hitherto failed.

Course.—Leprosy is extremely slow in its progress, and it resembles syphilis and lupus in producing but little pain. Patches of anæsthesia are sometimes found, and may be followed by ulceration before tubercles appear. It is said that in rare instances hyperæsthesia precedes or takes the place of loss of sensibility. The anæsthetic spots usually show some amount of atrophy, and the hairs of those parts are small and deficient in colour.

While this terrible disease goes on its course, interrupted from time to time by temporary improvement and healing of the ulcers, but never more than checked, the general condition of the patient is wonderfully little affected. Even perspiration takes place very much as usual. The hair, however, is gradually lost, not only that of the scalp, but also the beard, eyebrows, and eyelashes. There is no fever, the temperature is usually subnormal, and the patient suffers much from cold. The pulse is slow, and the appetite and organic functions, including the quality of the urine, are very little altered. There appears to be no foundation whatever for the assertion of the ancient physicians that the sexual instinct is increased: perhaps the name *satyriasis*, first applied to the distorted and hideous features of the sufferer, was afterwards misinterpreted.

Death seldom occurs directly from leprosy; for there is neither excessive pain nor hæmorrhage nor invasion of vital organs to cause it; but when once fallen into a condition of anæmia and marasmus, the miserable leper is cut off by some intercurrent affection—pleurisy, pneumonia, dysentery, or Bright's disease, all of which have been recorded by the Norwegian pathologists, Boeck and Danielssen, but none with sufficient frequency to show more than an accidental connection with leprosy. The patients become dropsical in the later stages; and they are often cut off by phthisis, in which the leprous bacilli appear to take the place of those of tubercle.

ii, 1885), Drs Klein and Gibbes, Dr Rake ('Path. Trans.,' 1887), and in fact all modern observers. Köbner tried inoculation unsuccessfully.

Dr Beaven Rake finds that among the numerous lepers under his care in Trinidad the most frequent internal lesions were Bright's disease and tuberculosis. The kidneys showed every form of nephritis, acute and chronic, tubular, interstitial, and mixed. Lardaceous degeneration was rarely found. Other organs, as well as the lungs, showed tuberculous lesions, so that it seems reasonable to regard them as due to the same cause. But whether this implies that the bacillus of leprosy and that of tubercle are, after all, identical, or that the bacillus lepræ is capable of producing the same effects on the lungs and other viscera as that of true tubercle remains a difficult question (cf. 'Guy's Hosp. Rep.,' vol. xlviii, 1892, p. 49).

Ætiology.—The essential cause of leprosy is entirely unknown. It has probably existed from the earliest times, and has only disappeared from civilised Europe within the last 400 years. We may hope that, notwithstanding partial extension, it is in slow but steady process of extinction in other regions.

Although the *bacillus lepræ* is constantly present, the disease is, under its usual conditions, non-contagious; it is not transmissible by living in the same house, by contact, or even by sexual intercourse. It is, however, possible that contact of actually ulcerating leprous nodules with a fissured skin or mucous membrane might produce the disease, and there is reason to believe that a contagious quality is more marked when the disease is newly introduced. Dr Rake has been unsuccessful in his attempts to propagate it in animals by inoculation. A case of supposed inoculation in a man in 1886, at Honolulu, appears to be inconclusive. Dr Gairdner has lately published a case which seems to show that leprosy may be inoculated by vaccination ('Brit. Med. Journ.,' February 5th and June 11th, 1887).

Whether or not it is under any circumstances contagious, leprosy is probably *hereditary*, and its occurrence in persons of pure European parentage is excessively rare. Patients in England are usually either half-castes or persons who were born and lived in India, and one of whose parents was perhaps of mixed blood. Moreover the Norwegian emigrants to Wisconsin and Minnesota included 160 lepers, but the disease was found to have died out among them by Dr Hansen, of

Bergen ('Arch. f. Derm. u. Syph.,' 1889). In cases of probable infection, the incubation-period is prolonged to nine years or more.

It is doubtful whether leprosy has any predilection for castes or races as such, although at the present day it is, as above stated, almost confined to certain of the dark races of mankind, and where prevalent is rare among the well-fed and well-cared-for classes.

Mr Hutchinson has suggested that leprosy depends upon eating fish, probably fish in a state of decomposition. This view certainly agrees with its presence not only on the sea-coast, but also in the neighbourhood of great rivers and inland lakes; and it also accords with the large consumption of salt fish in the Middle Ages, when it formed the principal animal food throughout the winter. The disease, however, does not appear in many parts where fish, both fresh and putrid, is eaten, and it is prevalent in certain districts where fish does not form an article of diet. See Dr Abraham's paper in the 'Practitioner' (1889).

Leprosy appears to be somewhat more common in men than in women—in Bombay, according to Dr Carter, very much so. It usually begins about the time of puberty or in young adults. No congenital case appears to have been recorded.

Treatment.—This is unfortunately almost hopeless, and we must rather look to the gradual rooting out of the disease by improved conditions of life than to therapeutics. Various drugs have been vaunted from time to time as specifics, but have all in turn been discredited. Cod-liver oil is the only internal remedy which can be said to do more than alleviate symptoms. Externally Gurjun and Chaulmoogra oils have been supposed to be valuable. The writer has tried the former in three cases with no benefit. Dr Liveing's much larger experience makes it probable that the latter is sometimes of service. Dr Rake depends more on excision and scraping of the leprous nodules than on any other external treatment.

Injections with Koch's fluid have been tried in cases of leprosy by Babes in France, and by Drs Colcott Fox and Abraham in England. The results do not appear to be so far encouraging.

Mr Hutchinson has recorded a case of gradual spontaneous recovery ('Med.-Chir. Trans.,' lxii, p. 331); and the writer has had a somewhat similar case, which is still under his care, of a man who developed leprosy after living in Brazil, and is now very much better in England. But temporary quiescence of the disease is very common.

Leprosy is the only exotic disease of the skin of practical importance to practitioners in England.

Frambœsia or Yaws, apparently a contagious malady, and by some authors believed to be nothing but Syphilodermia, was known to Bateman, and is described at length by Kaposi in Hebra's 'Handbook.' A monograph on the subject with a preface by Mr Hutchinson has lately been published by Dr Numa Rat, Medical Officer in Dominica, W.I. (1891). It is endemic on the West Coast of Africa, and appears to be identical with what is known as *Pian* in Java. Less clear is its relation to *Parangi*, a cutaneous disease endemic in Ceylon, and to *Verrugas* in Peru.

Radesyge in Norway is, according to Hebra, lupus. *Sibbens*, the old Scottish name of a disease of the skin, was syphilis.

Aleppo evil, the Oriental sore, known also as *bouton d'Alep* or *de Biskra*, and the Penjdeh or *Delhi boil*, has been ascribed to syphilis, but without proof. It is now said to be dependent on a special bacterium, and capable of inoculation in animals (Heidenreich, 'Centrblt. f. Bact. u. Parasitenkunde,' January 25th, 1889).

Pellagra, an epidemic erythema, was first observed in Lombardy, and connected with eating diseased maize; it is probably identical with *Acrodynia*, described by Alibert as epidemic in Paris during 1828 and 1829. Winternitz ("Eine klinische Studie ü. das Pellagra," 'Vierteljahresschrift f. Derm. u. Syph.,' 1876) doubts the existence of the former. Acrodynia seems to be endemic in the Levant (Behrend, 'Hautkrankheiten,' pp. 154, 156).

Ringworm appears in peculiar forms in certain foreign countries. Burmese ringworm has been already referred to (p. 217); and Dr Anderson has published an interesting account, with figures, of *Tinea imbricata* from Tokelau, in the South Seas ('Edin. Med. Journ.,' Sept., 1880).

TUMOURS OF THE SKIN

Cheloid—terminology and history—appearance, course, and symptoms—histology—relation to scars—distribution—prognosis and treatment.

Multiple fibroma — distinction from molluscum sebaceum — anatomy and distribution of the tumours—their course and treatment—Neuroma—Myoma—Colloid milium.

Angioma or vascular nævus — Elephantiasis teleangiectodes — Lymphangioma—Angioceratoma.

Mycosis fungoides—Kaposi's xerodermia maligna—Carcinoma, sarcoma, and rodent ulcer of the skin.

PASSING from the deep intractable ulcerations, combined with hypertrophic or neoplastic processes, which constitute lupus and leprosy, we now come to the new growths or tumours of the skin in a more restricted sense.

The relation between deep and chronic inflammation of the skin, hypertrophy, and new growth is so close, that lupus, tertiary syphilis, and leprosy might be classed either as deep destructive forms of dermatitis or as cutaneous granulomata; while warts and condylomata, gutta rosea, xanthelasma, and elephantiasis are as much new growths as inflammations. But we have now to treat of neoplasms which are neither hypertrophies nor inflammations.

As in other parts of the body, the tumours of the skin are clinically "innocent," "malignant," or "semi-malignant;" while anatomically they are distinguished as "homologous" or "heterologous."

CHELOID.—In the 'Arbre des Dermatoses' of Alibert appears, among many other fantastic names, a new term for what was an undescribed disease—*Kéloide*. The etymology of the word was long a puzzle. It was supposed by some to be

derived from κηλίς, a mark; by others from κήλη, a tumour. Being taken by Addison in the former sense—*quasi ustione facta macula*—as meaning a scar from a burn, it was transferred to the curious affection still known as "Addison's keloid," but better named morphœa or circumscribed scleroderma, described above (p. 254). It is now certain, from the researches of the late Dr Fagge, that Alibert meant by the word "kéloide" to denote the claw-like offshoots which characterise the disease in question, and intended to derive it from χηλή, a crab's claw. The right spelling is now generally used, and Alibert's is recognised as the only "true" cheloid.

Alibert described it as "cancroïde," and Bazin and other French dermatologists have hence called it malignant, and regarded it as closely allied to epithelioma of the skin; but it is not improbable that by "cancroïde" Alibert did not mean "cancer-like," but "crab-like;" at all events, it is not a cancroid tumour in the modern sense of the word.

Biett and Lebert afterwards published cases; Addison gave an account of Alibert's disease in the 'Med.-Chir. Trans.' for 1854 (reprinted in his 'Collected Works'), and a paper by Dieburg appeared in the 'Deutsche Klinik' for 1852, No. 33. The 'Clinical Transactions' for 1880 contain a remarkable case of multiple cheloid of the face following smallpox by Dr Goodhart, and a commentary by a committee on the subject.

The affection is a rare one. It begins as a pink, smooth, slightly raised, flat nodule, which increases in extent without becoming relatively more prominent. It is remarkably firm in feel. The centre becomes paler, and is sometimes depressed, and the raised edges are surrounded by a slight erythematous border; the epidermis is completely adherent; it is in and not under the skin. Sometimes, however, especially in the later stages, it spreads to the subcutaneous tissue, and forms adhesions to the deeper parts, but it never invades more than the integument.

The most characteristic part of the disease is the presence of radiating bands, which appear after a time, run across the original nodule, and afterwards project from its edge. These undergo contraction in the same way as the cicatrices of a wound, and the whole tumour is sometimes puckered and deformed by this process. In the earlier period the nodule

might pass for an hypertrophied scar ; in the later stages it still more closely resembles a large indurated and contracted cicatrix, as from a deep burn or a syphilitic ulcer or a carbuncle.

The tumour is usually single, but two or more may exist on the same patient, as in Dr Goodhart's case, and in a young man under the writer's care in 1888. The disease is of very slow growth. It occurs most often in young adults of either sex. From the commencement it is usually attended with pricking and itching, with a sense of constriction, and sometimes there are severe stabbing pains. It is almost always tender to the touch, but sometimes is quite free from pain.

A series of excellent models of cheloid, Nos. 454 to 466, was made by Mr Towne for the Guy's Hospital Museum.

Histology.—Microscopic sections show that the epidermis is thin, but otherwise unaffected ; the papillæ are destroyed, and the cutis vera and subcutaneous fascia occupied by bands of dense fibrous tissue, which are quite indistinguishable from those of a true scar. As in all cicatrices, the sweat-glands, hair-sacs, and sebaceous sacs are destroyed in the process. Dr Warren, of Boston, published a valuable histological account of cheloid in the 'Transactions of the k. k. Acad. d. Wissensch.,' Vienna, March, 1868. See also that by Babes in 'Ziemssen's Handbuch,' xiv, p. 434.

Diagnosis.—Neither in the histology nor in the symptoms does there seem to be any obvious distinction between a cheloid tumour and an hypertrophied and painful scar. Hebra, in fact, defines cheloid as an idiopathic or primary cicatrix. Others have maintained that all cheloid tumours are hypertrophied scars, and undoubtedly they often arise from ordinary cicatrices, or from the slight marks left after leech-bites or acne pustules. They commonly occur upon the shoulders, where acne cicatrices are usually the deepest and most extensive.*

Dr Robert Liveing, while admitting that cheloid growths often begin in scars, finds the distinction between them and hypertrophied cicatrices in two points : first, that the bands of fibrous tissue in cheloid run in definite parallel or radiating bundles, whereas those of cicatrix form an irregular network ;

* Such cheloid growths originating in acne scars must not be confounded with acne-cheloid, which is a synonym of Hebra's sycosis framboesiformis or sycosis capillitii (p. 189).

secondly, that the cheloid growth invades healthy tissues, which hypertrophied scars never do, and that this is the case even when cheloid appears in a previous scar. The new growth can be distinguished as it invades the old cicatricial tissue.

Locality.—Cheloid tumours occur most frequently in the skin over the sternum. They have also been observed on the abdomen, neck, shoulders, arms, and face. They are usually single, and very rarely more than two in number, except in the case of cicatricial, so-called false cheloid, when the new growth may appear in as many scars as were originally present.

We had once in hospital a well-marked case of cheloid affecting the pubes in a patient of Mr Bryant—a man who probably had never had ulceration, syphilitic or other, of this part.

Pathology.—Cheloid is not a mere hypertrophy nor a grauloma, but a fibro-cellular new growth, a true sarcoma, sometimes consisting chiefly of spindle-cells, sometimes more exclusively of fibres. It has two characteristic marks of sarcoma apart from its histology : it is very apt to return again and again after removal, while, on the other hand, it does not reappear in the neighbouring lymph-glands or in the viscera.

Traumatic, or false cheloid, is an hypertrophied scar ("die warzige Narbengeschwulst" of Dieburg). It occurs whenever a burn, ulcer, or other injury produces a scar which hypertrophies and becomes painful.

Prognosis and treatment.—Trustworthy observers have recorded the spontaneous disappearance of cheloid tumours, but this must be extremely rare. They seldom or never ulcerate. They grow slowly, and appear not to menace life, but the pain they occasion is sometimes severe.

Unfortunately, if removed by the knife, by galvano-cautery, or by caustics, the tumours almost always return. Nor have any of the milder applications which have been tried produced absorption. Mr Hutchinson, however, in an interesting paper on the subject ('Medical Times,' May 23rd, 1885), has recorded exceptional cases in which operation proved successful.

FIBROMA.*—This affection, named *molluscum* by Willan, differs altogether from molluscum contagiosum treated of above (p. 180), except in the fact that they both consist of multiple pedunculated tumours. Those of fibroma are not cystic growths, they are not glandular, and they have none of the histological characters of contagious molluscum. They are soft and painless, the skin over them is unaffected, they are more or less pedunculated, they vary in size from a pea to a marble or a fist, and when cut into they show œdematous, inelastic connective tissue. They resemble, both in appearance and structure, the firmer kinds of polypi of the nasal fossæ, the colon, rectum, uterus, and other parts of the mucous membranes. They might, in fact, be well termed "multiple cutaneous fibroma" or "multiple fibrous polypi of the skin."

The number of these tumours is sometimes almost innumerable, as is seen in the well-known case of Virchow which forms the frontispiece to his work on morbid growths ('Kr. Geschw.,' Bd. i, S. 325). Their size varies from a pin's head to a foot or more in diameter.

The celebrated case of Tilesius, of Leipzig, published in 1793, was named molluscum by Willan from the soft fleshy character of the tumours (*corpus tectum est verrucis mollibus sive molluscis*). Bateman recognised that these were not glandular, and were quite distinct from the molluscum contagiosum described by himself. The skin of Rheinhard, the Mühlberg peasant who came under the notice of Tilesius, is still preserved in the museum of Leipzig.

Dr Fagge believed that these tumours begin in the outer sheath of the hair-follicles and sebaceous glands; and in one case he found an enlarged sacculated gland occupying the interior of one of the growths ('Med.-Chir. Trans.,' 1870, vol. liii, pl. vi). This has, however, not been again observed, and the occurrence of similar tumours in the palm and sole seems to prove that the coincidence was accidental.

There appears to be little local predilection for these fibrous

* *Synonyms.*—Molluscum fibrosum, areolo-fibrosum, non-contagiosum, simplex, pendulum—Fibroma molluscum (Virchow). Esmarch's 'Elephantiasis' (1885) records and figures several remarkable cases. See also Dr Sangster's case with drawings and references in the 'Clin. Trans.' for 1880. The writer recorded seven cases in the 'Guy's Hosp. Rep.' for 1889, p. 388.

polypi. We sometimes see a single one on the face or elsewhere, or they may cover the face, the trunk, and the limbs. They also sometimes appear on the prolabium and the palate, as in Dr Fagge's case, which was also figured in pl. xviii of the Sydenham Society's 'Atlas,' and modelled for the Guy's Hospital Museum (No. 497).

Cutaneous fibromata occasion no pain, and single ones may be met with in perfectly healthy persons, to whom they cause no inconvenience. Some of these are congenital, but the typical multiple fibromata are certainly not so. They usually appear in childhood. Multiple fibromata are certainly rare, and probably few cases have failed of being recorded, but one or two polypi are not infrequently seen if looked for.

When they have attained their full growth they undergo no further change, and neither degenerate nor become absorbed. But, as Mr Hutchinson has pointed out, they sometimes lose their firm, fleshy feel, and become flaccid, so as to feel almost like empty cysts. (See the 16th of his Clinical Lectures "On Rare Diseases of the Skin.")

Virchow has recorded a case in which the father, grandfather, and brother of a patient were all affected with multiple fibromata of the skin.

According to Hebra, when they are numerous the patient is usually ill-developed in mind and body. But this is certainly not always the case.

The only treatment is removal by scissors or the knife. The polypi show no tendency no return.

Large and numerous fibromata are sometimes associated, in a condition of elephantiasis and œdema, with considerable mobility of the skin (*dermatolysis*: p. 261). Such was the case in Virchow's patient figured in the frontispiece to the first volume of the 'Kr. Geschw.' (p. 325), and in the unfortunate person shown to the Pathological Society by Mr Treves (in 1885) as "the elephant man." A typical case of multiple fibroma with dermatolysis is figured by Dr Bramwell in his 'Atlas of Clinical Medicine,' pl. xvii.

Neuromata are multiple, painful fibrous tumours of the nerve-trunks, scattered over both trunk and limbs. They have been long known, and have formed the subject of a monograph by von Recklinghausen ('Ueber die multiplen

Fibrome der Haut und ihre Beziehung zu den multiplen Neuromen,' 1882). Except in the pain which accompanies them these tumours are indistinguishable from ordinary fibromata. Dr Duhring has described some severe cases marked by paroxysms of neuralgia.

Myoma.—Tumours of unstriped muscular fibre (*liomyomata*) have been described by Virchow ('Archiv,' vols. iii and vi), Klebs, Axel-Key; Rindfleisch, and Besnier ('Annales de Dermatologie,' 1880). They probably take their origin in the muscular bands connected with the hair-sacs. They are of no clinical significance.

Lipomata, or true fatty tumours, never affect the skin itself, but are always subcutaneous.

*Colloid milium** was the name given by Ernst Wagner in 1866 to an exceedingly rare affection of the skin, which consists in the appearance of a multitude of raised, yellowish, glistening nodules like those of milium (p. 176). They occur in groups, and vary in size from a pin's head to a split pea. They do not contain sweat, but a thick gelatinous secretion.

These nodules are probably new growths, beginning in the sebaceous, not the sudoriparous glands. Their histology is described by Dr Philipson in the 'British Journ. of Derm.' (vol. iii, p. 36), who considers them as being epitheliomata with colloid degeneration. They occur about the eyes, where they look like xanthelasma, but are also seen on other parts of the face. In one case of Dr Liveing's the arm was affected, and in two reported by French writers the whole of the front of the chest was covered. The few patients yet observed have been adults.

The disfigurement has been removed by scraping out the little tumours one by one.

Adenoma sebaceum and hydradenoma. — These glandular tumours of the skin have been already mentioned at pp. 180 and 202.

VASCULAR TUMOUR.†—Excluding moles or pigment-spots,

* *Synonyms.*—Colloid degeneration of the derma (Besnier)—Hydradenoma (Darier)—Syringo-cystadenoma (Török).

† *Synonyms.*—Nævus flammeus — Nævi vasculares — Angiomata — Mother's marks.

true or vascular nævi have always essentially the same structure. But they vary in appearance, from the smooth, flat, "port-wine stains," as they are called, which sometimes cover the greater part of the face, head, or even trunk, to the circumscribed pulsating tumour-like mass which can be removed by ligature, galvano-cautery, or other mechanical means.

Of similar structure though different pathology are the *stigmata* of gutta rosea and erythematous lupus, and the permanently injected patches which sometimes accompany the cicatrisation of lupus exedens, syphilis, or any other deep form of dermatitis.

There are, however, some rare and remarkable forms of disease of the skin which, though anatomically angioma, differ from true nævi not only in being acquired instead of congenital, but also in their course and event. Sometimes they will, as described by Hebra, while spreading in some directions, return to a normal condition in others; or, again, they may acquire a tumour-like and semi-malignant character, growing rapidly and forming large masses of erectile tissue. They are most often seen upon the extremities, though even here they are happily rare. They are sometimes complicated with fibrous growths, which have not only the pain of neuroma, but also its histological characters. Bruns recorded such cases on the lower extremities as *elephantiasis neuromatosa*.

Virchow and Kaposi described, under the somewhat similar title of *elephantiasis teleangiectodes*, multiple fibro-vascular growths, which begin as separate lobulated tumours, but afterwards form diffuse, vascular thickenings of the skin.

Apparently identical with these is a case in a child under Dr West, which was examined, Dr Liveing and figured by the late Dr Tilbury Fox under the name of *fibroma fungoides* (pp. 352—354 of his work on 'Skin Diseases'). He there described other cases of fibro-vascular ulcerating growths which he considered to be of the same nature. One of these, however, may probably have been syphilitic.

LYMPHANGIOMA.—A curious affection of the skin, which has been described under this name, consists in what looks like a group of vesicles; but, on careful examination, they are found to be more deeply seated than usual, and in the event

prove not to be inflammatory at all, but new formations, lasting unchanged for an indefinite period. In one case of the writer's they strikingly resembled the vesicles of zona, appearing in several groups, and arranged in a tolerably regular line. In this instance the affection was complicated by appearing upon a large congenital port-wine stain, and the result was that many of the lymph-cysts became pink by admixture of their contents with blood, and when accidentally ruptured, thick red or black scabs were formed. This coincidence with ordinary vascular nævi (which others also have noticed), as well as histological investigation, seems to prove that the disease is rightly regarded as analogous to acquired vascular nævi. But Mr Hutchinson has described the affection under the unfortunate name of "lupus lymphaticus" ('Path. Trans.,' 1880, with fig.). Several cases have been brought before the Dermatological Society within the last few years. A careful histological description with figures by Mr Stewart will also be found in the 'Path. Trans.' for 1875, in the volume for 1879 (xxx, p. 474) by Drs T. and T. C. Fox, and in that for the following year (xxxi, p. 346) by Dr Sangster. Kaposi described a remarkable case of lymphangioma in a woman twenty-two years old, who had several hundred violet-red pimples, round or oval in shape, some of them as small as a lentil, situated in the cutis and somewhat resembling certain forms of syphilodermia. A minute portion, being excised, showed that the cutis was filled with dilated lymph-spaces lined with endothelium. He named it *lymphangioma tuberosum multiplex*. A useful collection of cases was published by Dr F. A. Noyes, of Melbourne, in the 'Brit. Journ. of Derm.,' Dec., 1890, and Dr Török added a critical and pathological account of the contion (*ibid.*, Jan., 1891).

Angiokeratoma.—Under this name Dr Pringle has described and figured a curious and rare affection of the hands and feet attended with numerous nævus-like spots and small warty growths. He adds cases seen by Dr Sangster and Dr Colcot Fox; and Dr Crocker contributes another ('Journ. Derm.,' 1891, pp. 238, 342).

Mycosis Fungoides.*—Under this name Alibert described

* *Synonyms.*—Pian fongoïde (Alibert)—Eczema tuberculatum (E. Wilson)—Lichen hypertrophicus (Hardy); who, however, now recognises

certain mulberry masses of ulceration which he supposed to be syphilitic. Bazin in 1851 met with a case which resembled Alibert's account, and invented a *diathèse fungoïde* to explain it. In 1869 Ranvier showed that these curious soft tumours, readily ulcerating into fungous papillary masses, showed histologically a series of lymphatic spaces with cytogenic tissue between (Gilot, 'Thèse de Paris,' 1862). Auspitz has since discovered a micrococcus in these tumours which he thinks may be characteristic.

Dr Payne ('Path. Trans.,' vol. xxxviii, and 'Rare Diseases of the Skin,' p. 9) has described and figured a remarkable case of granuloma fungoides; and, after discussing the lymphatic and the bacillary theories of the disease, concludes that neither of them is adequately supported by facts. In this, as in the writer's case mentioned below, cultivation failed to demonstrate the presence of a specific microbe.

It is a very rare affection. It has been observed by Landouzy in an infant, but most cases recorded have been in adults, both men and women. The position of the tumours is usually on the trunk, less often on the face or limbs. It begins like patches of chronic eczema, with considerable itching, and after a variable period there follows deep induration and thickening of the cutis, with formation of separate raised swellings. These continue long stationary, sometimes shrivel again, but more often ulcerate and form the fungating tumours which are most characteristic of the disease. They exude a great quantity of clear, watery, colourless serum. The progress is very slow, but with one or two exceptions the result is fatal. No treatment is known to be of service.

The disease resembles both syphilis and leprosy, and, in its early stages, eczema and some forms of lichen. It has a remarkable resemblance, in its developed stage, to the worst form of iodide eruption (p. 154; see Mr Hutchinson's figure in his 'Archives of Surgery,' pls. iii and iv).

We had lately a well-marked example of this disease in Philip ward, which was shown at the Dermatological Society. The patient was a man of sixty-six, who first developed what

its character as a new growth and accepts the title: Lymphadénie cutanée—Papilloma areo-elevatum (Beigel)—Granuloma fungoides—Sarcoma lymphadenoides (Auspitz)—Papillome étalé ou en plaque (Charpy).

looked like ordinary dry eczema; and then fungating masses of granulations formed on various parts of the body, the neck, shoulder, loins, and legs. Some of these sloughed, suppurated, and healed completely, but others formed, and at last one enormous mass on the back. He died from pulmonary gangrene. Sections of the tumour looked like those of a round-celled sarcoma; and there was a similar new growth in one adrenal. ('Clin. Trans.,' vol. xxv, p. 84, pl. iii.)

It is doubtful whether the disease should be classed with granuloma or lymphoma, or with malignant growths. It is clinically and anatomically distinct from multiple cutaneous sarcomata.

Xerodermia Maligna.*—Perhaps the most remarkable of all cutaneous diseases, allied to nævi in its early stages and markedly malignant in its later development, is a rare affection first described by Kaposi in 1870 under the borrowed title of *xeroderma*, a name which had been previously applied to a totally different condition by Wilson (p. 178).

It begins with spots of erythematous appearance not unlike those of measles. Then they fade and form pigment-spots like freckles, with dilated venules. The next stage may be months or years in appearing. When it arrives, the apparent ephelides become atrophic, the skin dry, thin, and wrinkled. Then it gradually contracts, so as to form a smooth, tightly-drawn surface, which may evert the eyelids or the lips, or contract one of the joints. At the same time, fresh brown pigment-spots and stigmata appear on the affected surface. The former undergo the same atrophic changes, the latter may increase until they resemble congenital vascular nævi.

It is remarkable that the lesions are mostly confined to the face, the hands, and other uncovered parts, which are the seat of ordinary sun-spots (ephelides).

The disease is not accompanied with itching or pain, yet

* *Synonyms.*—Kaposi's disease. It has also been called "xeroderma pigmentosum (Kaposi), "angioma pigmentosum et atrophicum," "liodermia cum melanosi et telangiectasia" (Neisser), "leptodermia maligna" (Cavafy), and "atrophoderma pigmentosum." For bibliography, see the paper by Dr Funk, of Warsaw ('Brit. Journ. of Derm.,' vol. i, p. 182).

after continuing in this innocent form for months or sometimes years, the last stage comes on. The vascular spots become warty and ulcerate; fungoid growths of a most malignant character appear, not only in the maculæ, but also in distant places; and death ensues by hæmorrhage or exhaustion.

Hebra and Kaposi together observed only four cases of this remarkable affection. Erasmus Wilson described another under the name "general atrophy of the skin." Kaposi, in 1885 ('Wiener med. Wochenschrift,' No. 44), tabulates only thirty-eight published cases; the youngest patient was five months, the oldest forty; eighteen were males and twenty females. Rüder saw seven brothers affected! There are excellent coloured portraits of two brothers affected with this terrible disease in Dr Bramwell's 'Atlas of Clin. Med.' (plates xviii, xix, and xx). A remarkable case was shown at the Clinical Society as one of lupus, and was recognised as identical with Kaposi's disease by Dr T. C. Fox. This same case, with the others in the same family, will be found fully described by Dr Crocker in the 67th volume of the 'Medico-Chirurgical Transactions,' p. 169, with coloured lithographs, and a table of thirty-four cases; most of these were recorded by Rüder in a monograph on the subject, the rest by R. W. Taylor, of New York, by Neisser, and by Vidal.

From this table it appears that the disease has never been yet observed to begin after the age of puberty. One case occurred in an infant four months old, most under two years, one at nine, and one as late as sixteen.

As a rule it occurs in boys and girls indifferently. More than one case is found in a family; twenty-six of the thirty-four cases in Dr Crocker's table belonged to nine families. The disease is never congenital.

The histological characters of the spots are those of vascular dilatation of pigmentation, and of atrophy. The final tumours appear to be always true epithelial carcinoma, not sarcoma.

Treatment has at present been unavailing.

The ordinary malignant growths of the skin are happily infrequent, nor have they many special points of interest; for their pathology is essentially the same as that of the cor-

responding growths upon mucous membranes ; moreover, their recognition is not difficult, and their treatment purely surgical, so that but little need be said of them in this place.

Carcinoma fibrosum, or scirrhous cancer, the most typical of all the forms of cancer, rarely affects the skin primarily, though it frequently infiltrates it as the result of primary carcinoma of deeper parts, as, for instance, of the mamma. The writer has seen three examples of the remarkable form of hard, indurating, and widely-spread cancer of the skin described by Velpeau as *squirrhe en cuirasse*. One was a patient under Velpeau himself, in whom the disease had spread from a cancerous breast ; another was a patient of Dr Humphry's, of Cambridge. The remarkable and wide-spread induration, before ulceration begins, and before implication of deeper organs occurs, renders it peculiar, and causes a superficial resemblance to sclerodermia or to certain forms of lupus. It is usually secondary to mammary cancer.

Epithelioma,* or keratoid cancer, is the most common form of malignant disease in the skin. Even this is rare compared with its frequency in the œsophagus and large intestine, and at the labial, anal, and urogenital orifices. Its formerly most frequent seat, the scrotum, is happily no longer so, and "chimney-sweep's cancer" has become a rare curiosity in this country.

Rodent ulcer.—This affection, originally described by Jacob, of Dublin, is now ascertained to be histologically carcinoma. (See Mr Hulke's paper in the 'Path. Trans.,' vol. xxii.) The presence of epithelial cells in the cutis vera, and of the nest-cells characteristic of the horny form of cancer, leaves no doubt of its real pathology. It is, however, the least malignant of cancerous growths, for it spreads slowly, there is little new growth, and it does not affect the neighbouring lymph-glands. It is usually seen near the eye, upon the side of the nose, on the cheek, or the temple. Like other kinds of carcinoma, it is a disease of mature life or old age. Its early stages are those of a small, smooth, pale growth not unlike a wart. If, as is sometimes the case, it has begun in a con-

* The term *epithelioma*, applied by Hannover, of Copenhagen, to this disease, of which he was the first to describe the histology, was discarded by Virchow for "epithelial cancer." Unfortunately "epithelioma" is now used by some German writers to designate molluscum contagiosum.

genital mole, it retains the pigment of that structure. It often has a pearly aspect, so as to look somewhat like a molluscum tumour, or even like the cysts not unfrequently found about the eyelids. When ulceration begins, it is covered by a rather thin, dark, and adherent crust. It produces little or no pain, and advances so slowly that when it first comes under the surgeon's eye it presents the appearances of a chronic, indolent, indurated ulcer, with sharp, well-defined nodular edges, and no granulations. In its later stages it resembles more nearly its pathological allies, epithelial cancer of the lip, the scrotum, the glans, and the vulva.

Other cases which are clinically rodent ulcer appear to have a different histological structure (Verneuil, 'Arch. gén. de Méd.,' 1854, ii, 458; and Thin, 'Path. Trans.,' 1878, pp. 237, 241). A review of these and other papers from Thiersch downwards, by Dr Hume, of Newcastle, with histological drawings, will be found in the 'Brit. Med. Journ.,' Jan. 5th, 1884.

The diagnosis from tertiary syphilis lies in the ulcer being single, in its not invading the bones or other tissues, and in there being no other sign of syphilitic disease. From lupus it is distinguished by the scab being thin and dark, by its beginning at a much later period of life, and, in the last resort, by microscopical examination of the material obtained by scraping or squeezing the edges of the ulcer.

Under the title of *crateriform ulcer*, Mr Hutchinson has described a sore of the face or head, which is much more malignant than the rodent ulcer just described, since it grows far more rapidly. Ulceration begins at the summit of a rounded nodule, and forms a deep crater-like hollow with indurated walls. It is most common in elderly people ('Path. Trans.,' 1889, and 'Arch. of Surgery,' vol. i, pl. xi).

Both this and the more common 'rodent' ulcer can only be treated as a cancerous growth by excision.

Sarcoma.—Beside carcinoma in the histological sense of the word, the skin is occasionally liable to multiple sarcomata. These are almost always secondary to some internal growth; by their large number, small size, and hæmorrhagic or sometimes melanotic character, they may resemble certain forms of purpura or pigmentation.

PIGMENTAL AND HÆMORRHAGIC AFFECTIONS OF THE SKIN

Albinism—Leucodermia, congenital and acquired—its relation to leprosy—Canities—Melanodermia, secondary to dermatitis, syphilis, adrenal disease, malaria, &c.—Ephelis—Lentigo—Chloasma—Relation of melanodermia to leucodermia.
Petechiæ and vibices—Purpura urticans—Peliosis rheumatica.

Anomalies of Pigmentation.—We are familiar with degrees of pigmentation of the skin, not only in different races, but also in the wide difference between individuals belonging to the same stock, and even to the same family.

Albinism, or complete absence of pigment, not only from the skin and its appendages, but from the iris and choroid, is always a *congenital* defect in the human race, as in rabbits, mice, horses, and other animals. The so-called "white" elephants are either albinos or piebald.

Albinos occur occasionally among the dark races. The "white" negroes have a dirty, pale skin, colourless hair, and pink irides with dark red pupils.

*Leucodermia.**—This may also be a congenital variety of coloration or "malformation." Piebald horses may be called "abnormal," but we should scarcely say so of cattle, dogs, swine, or guinea-pigs. This condition is, however, far more common in domesticated races than in a state of nature.

A similar congenital "piebald" state of the skin is occa-

* *Synonyms.*—Λεύκη—Vitiligo—White leprosy—Partial albinismus. The term vitiligo has been also applied to a circumscribed smooth white indurated spot level with or slightly sunk below the surface. This would make it identical with morphœa, *i. e.* with circumscribed sclerodermia (*v. supra*, p. 254). The word is of quite uncertain meaning. Bateman assumes that it was related to *vitulus*, and refers it to a resemblance of the diseased skin to parchment, vellum, calf-skin; but Celsus expressly derived ***vitiligo*** from *vitium*.

sionally seen in human beings. In negroes and in the natives of India it appears to be not uncommon. See a drawing of a remarkable case in a Hindoo given by Mr Hutchinson in his 'Archives of Surgery' (vol. i, pls. i and ii). We sometimes see it in this country as white locks of hair.

When acquired after birth, leucodermia has been and still is confounded with leprosy. In fact, "white leprosy," when it does not apply to psoriasis, seems generally to mean leucodermia occurring in patches.

Celsus (lib. iii, c. 25) distinguishes elephantiasis (*i. e.* leprosy) from *vitiligo*, which he divides into three species (lib. v, c. 16): —*V. alphos*, scattered, colourless, slightly rough patches (*psoriasis ?*); *V. melas*, pigment-spots, to be presently mentioned under *melanodermia;* and *V. leuce*, still whiter than alphos, with white hairs growing on the patches (*leucodermia*). But later writers speak of vitiligo, and more particularly of leuce, as varieties of leprosy. The same explanation appears to apply to the Arabic term "Baras," the equivalent of Leuce or Alphos in Greek, and Vitiligo in Latin, which was also intended to denote a white leprosy. The confusion is due to patches of skin occurring in true leprosy, which are either deeper or paler in tint than the surrounding surface. The ambiguity appears still to exist, not only among the natives of Southern India and Ceylon, but among some physicians, judging by their reports in the Blue-book referred to before as published in 1867. Dr Vandyke Carter states expressly that leucodermia is commonly confounded with anæsthetic leprosy.

The skin in leucodermia is perfectly normal, except for the loss of pigment. The Malpighian layer and also the hair are affected. There is no anæsthesia. The border is convex, and often a pigmented line separates it from the normal skin around (cf. p. 331); this was the case in the specimen which Gustav Simon first examined histologically. The patches are usually multiple, sometimes very numerous. They are occasionally symmetrical,* more often irregular, with no predilection for one surface of a limb or the other. They may occur any-

* See a remarkable case of perfectly symmetrical leuco- and melanodermia figured by Dr Lesser ('Ziemssen's Handbuch,' Bd. xiv, 2te Hälft., p. 186, fig. 11).

where, but are most frequent on the trnnk, especially the abdomen and genitals, where natural pigmentation is deepest.

Leucodermia is more common in hot countries and in the south of Europe than in England, but here cases are readily overlooked, since in most cases they are inconspicuous, and give rise to no discomfort.

Removal of the white patches has been attempted by blisters and other irritants, and also by tattooing. The result is not often satisfactory.

Canities.—General blanching of the hair is a well-known senile change. But, like baldness, it often occurs in early adult life, especially when the hair is very dark. Beside losing its natural pigment, and so acquiring a dull, yellowish, "milk-white" appearance, the hair is apt to become dry and admit air-bubbles, which increase its refractive power, and produce the glistening steel-grey or "silvery" aspect.

Many instances are on record of rapid blanching of the hair of head or face in consequence of mental anxiety or grief. The cases of Sir Thomas More, of Henry the Fourth of France, and of Marie Antoinette have become historical, and it seems impossible to deny the fact that this premature senile change may come on in the course of a few hours. Bichat and Alibert record cases which they actually saw, and Brown-Séquard has seen rapid blanching in his own beard ('Arch. de Phys.,' 1869, p. 442). A grey patch sometimes follows neuralgia. The late Dr Laycock quoted an instance in which a sepoy was seen to turn grey in half an hour ('Med. Times and Gaz.,' 1862). A young man who once consulted the writer for some slight ailment had perfectly white hair. In answer to inquiry he stated that a few years before he had fallen asleep after a debauch, and on waking in a cold room in the morning found that his hair had turned white. The objection that his beard was brown was answered by the explanation that when the change of colour occurred it had not yet grown.

This sudden change is probably due to development of air-bubbles in the shaft of the hair.

Melanodermia (*melasma cutis, nigrities*).—Increased pigmentation of the skin, like its diminution, may occur either universally or in patches.

A dark skin at birth is always hereditary. In after years it may occur as the result of exposure to the heat of the sun or to other irritants, or as the result of certain internal diseases.

As the result of hyperæmia or slight superficial inflammation, one sees increased pigmentation produced not only by the sun (eczema solare), but also by the wind in cold weather, or in driving, or by the cold of snow-fields, which, as Alpine climbers know, will scorch the face without sunshine. Among Professor Hebra's patients the writer once saw a youth appear, who had wandered over a great part of Hungary in rags during the depth of winter. The exposed parts of the skin had become almost the colour of a mulatto, yet there had been little or no sunshine. Dr Bowles has made some careful experiments on this subject which confirm the result of experience ('Journal of the Alpine Club,' 1888).

Although hyperæmia produces more or less increased pigment, there is considerable difference in the effect of different inflammatory diseases. The deeper and more chronic forms of dermatitis have very little pigmentary influence, as we should anticipate from their seat lying below the Malpighian layer in the cutis vera. Long-standing eczema and chronic traumatic inflammation produce much pigmentation, as seen in the brown, almost black patches which surround indurated varicose ulcers in old people. Ordinary eczema, however, has little effect, and impetigo and scabies none at all.

Of the superficial inflammations, chronic inveterate prurigo produces the greatest pigmentation, and prurigo pedicularis almost as much, aided probably by the scratching which it occasions, and also by the age of the patient; for all pigmentation is slow in childhood and rapid in old age.

Certain forms of erythema are marked by increase of pigment, particularly roseola (pityriasis) maculata, pellagra (acrodynia), and urticaria pigmentosa.

Psoriasis very early and readily causes pigmentation, and the colour is sometimes quite indistinguishable from the coppery hue of a syphilitic eruption. Indeed, we may say that next to syphilis, psoriasis will produce pigmentation in the shortest time. Lichen planus resembles psoriasis in this as in other particulars.

Besides the well-known brownish pigment which gives its

characteristic colour to even early forms of specific eruption, a somewhat rare form of syphilide has been described by French authors as the "café au lait" form (*syphilide pigmentaire*). The writer has seen cases, both in Paris and in London, of ill-defined brownish maculæ occurring on the neck of women who were the subjects of secondary syphilis (p. 271); they are sometimes associated with patches of leucodermia.

Pigment has already been mentioned as occurring in some cases of sclerodermia and in the malignant kind of atrophic nævi of the skin called "xeroderma" by Kaposi (p. 322). The remarkable increase of pigment in the course of Addison's disease follows the normal distribution of colour in the dark races of mankind. Similar pigmentation, though far less intense, is observed as the result of malaria, and occasionally in the cachexia of cancer.

Maculæ—Ephelides—Lentigo.—It remains to mention circumscribed pigment-patches, which occur without inflammation and independently of any other morbid sign. The most familiar are the small, dark brown or yellowish spots which, when they occur on the face, are named freckles (*ephelides*). They are no doubt, as their name implies, the result of exposure to the sun. They occur most frequently on the face, but also upon the hands and arms when these are bare. They are almost confined to xanthochroic complexions, and are particularly common in persons with red hair, blue eyes, and the delicate pink and white skin which so often goes with them. These freckles, like the diffuse pigmentation of sunburn, disappear in time, though much more slowly.

It is important to remember that the pigment-spots which form the first stage of Kaposi's disease (cf. *supra*, p. 322) are quite undistinguishable from the benign freckles just described.

Precisely similar minute dark spots appear in covered parts of the skin, and in mucous membranes, sometimes along with the melasma of Addison's disease or with pigmentation from malaria, and sometimes in conditions of health. Others are congenital, and may then be described as pigmentary nævi or "mothers' marks." When combined with a congenital papillary growth, often covered with a strong growth of hair, they are called "moles."

Chloasma.—More diffused and less intense patches of pigment occur upon the forehead of pregnant women, and have long been known under the name *chloasma uterinum.* In some cases they appear during each pregnancy and disappear after delivery. The word chloasma was at one time extended to the pigmented patches on the trunk which we now know to be due to a fungus, and call tinea (or pityriasis) versicolor. But there seems no reason why at present the term should not be reapplied in its original signification.

Similar pigment-spots on the forehead and about the eyes are symptomatic of ovarian irritation, and appear in some cases of dysmenorrhœa with each menstrual period. (See eight cases reported by Dr Champneys with valuable comments in the 'St. Barth. Hosp. Rep.,' vol. xv.)

Such pigmentation may also be the result of sexual excesses in male subjects, but this cannot be distinguished from the dark circles round the eyes which often accompany severe attacks of headache, especially megrim. All these cases may be grouped together by their clearly neurotic origin. They must be carefully diagnosed from not unfrequent instances in which lamp-black or other pigment has been designedly applied to the face, forehead, and eyes by hysterical or otherwise deceitful women.

Lastly, there are certain cases in which patches of pigmentation occur in various parts of the body, unconnected with local irritation and without any internal disease.

These cases of idiopathic circumscribed melanodermia are decidedly rare, and are generally associated with leucodermia; that is to say, white patches occur in the pigmented surface. The former are sharply defined and have convex borders, the dark surface is most marked close to the white (beyond the effect of contrast) and gradually shades away into the normal skin (p. 327). Most cases may be called either melanodermia or leucodermia, or both at once; and apparently consist in an irregular distribution of pigment. The white patches come usually first.

Treatment.—Solutions of corrosive sublimate, such as "virgins' milk" and "Gowland's cosmetic," are believed to have the power of removing freckles. The mingled patches of white and dark skin just described are best left alone, but

circumscribed pigmentary nævi which cause disfigurement on the face may, if small, be removed by excision or galvano-causis.

Cutaneous hæmorrhage.—The most important conditions in which ecchymoses, whether the small ones like fleabites (hence called *petechiæ*) or the larger ones named *vibices*, are seen upon the skin are those of scurvy and of purpura. In both cases hæmorrhage occurs in other parts as well as the cutaneous surface, and in scurvy the ætiology of the disease is characteristic.

In certain other cases—besides ecchymoses from mechanical injury—hæmorrhage accompanies cutaneous diseases.

The character of hæmorrhagic smallpox, measles, and scarlatina is that of malignancy.

In eczema, scabies, psoriasis, lichen, and prurigo, ecchymoses never occur except as the result of scratching. Slight hæmorrhage often tinges the contents of the bullæ of pemphigus, especially in the gangrenous and cachectic forms of the disease ; but it seems not to occur either in Herpes gestationis or in Pemphigus foliaceus.

All forms of erythema are liable to be complicated with hæmorrhage. It is a rare complication in urticaria (when it constitutes the *Purpura urticans* of Willan), very common in erythema nodosum, when it produces the subsequent bruise-like pigmentation, and most frequent in the forms of erythema which occur in the course of rheumatic fever. This last condition seems to have been first observed by Schönlein, who named it *Peliosis rheumatica*. The erythematous patches appear acutely, with fever and synovitis. They are most often seen on the back of the hands and feet, the forearms and shins, but may also affect the thighs, hips, and trunk ; they are not often symmetrical. Either from the beginning, or soon after their appearance, the redness is found no longer to fade on pressure ; hæmorrhage has taken place. Successive crops of these papules or large patches may occur, each lasting about a week, and disappearing with only a slight macule to mark its place.

There is no need of a special name for this disorder. It is a true erythema, whether occurring in the course of rheumatic

fever or in persons who have already suffered from that disease, and we have seen that both this connection with rheumatism and the liability to hæmorrhage are characteristic of the whole group of erythemata (p. 138). On this subject see "A Case of Rheumatic Purpura," with notes, by Dr Wickham Legg ('St. Barth. Hosp. Rep.,' vol. xix).

Cutaneous ecchymosis may not infrequently be seen in the course of Bright's disease.

When it accompanies ulcerative endocarditis, it is due to the presence of minute embolisms of the cutaneous blood-vessels.

ZONA*

AND OTHER NEUROSES OF THE SKIN

Nomenclature—Anatomy and Histology—Distribution—Symptoms —Pathology—Statistics—Treatment.
Other cutaneous affections of nervous origin—trophic neuroses.

Definition.—An acute herpetic eruption following the cutaneous distribution of one or more nerves.

The names for this disease owe their origin to the fact that it passes round the trunk of the body like a girdle. The brief notice of it given by Pliny implies the knowledge of another striking feature, namely, that it is limited to one lateral half of the cutaneous surface. He says, "*enecat, si cinxerit,*"—"it kills, if it encircles;" and a popular tradition to the same effect still exists in England. Nevertheless zoster is never fatal, and does not pass over to the other side of the body from that first affected.

The most elementary acquaintance with anatomy could not fail to suggest, to anyone who had observed the distribution of the eruption in a case of shingles, that it corresponds exactly with that of the peripheral distribution of one or more of the dorsal nerves. Accordingly this has been recognised for many years; and, with it, the necessary consequence, that certain eruptions on the face and limbs, which follow the course of the nerves supplied to those parts, are identical with it. To these also the name of herpes zoster is now given, although when so applied it loses its meaning, since the affected area no longer has the form of a belt.

* *Synonyms.*—Herpes zoster—Zona ignea—Ignis sacer (Celsus)—Exedens præcordiorum herpes (Tulpius)—Erysipelas phlyctænodes (Cullen)—Shingles; a corruption of Cingulum = zona or zoster, a girdle.

Herpes might be defined as an acute eruption of vesicles in a group on an inflamed patch of skin. But herpes labialis appears as an exanthem (symptomatic herpes) without any pathological or clinical relation to the present disease (cf. p. 140). Modern dermatologists, therefore, drop the "generic" name and use the short and distinctive title, Zona, alone.

Anatomy.—The *eruption* of shingles consists of vesicles. These are of flattened form, and larger than those of eczema, being often as big as split peas; they are arranged in clusters of perhaps twenty or thirty, each cluster lying on a reddened and slightly swollen patch of skin; when the vesicles are thickly set, they often run together, and form flat bullæ of irregular shapes. Such patches, with a few separately scattered vesicles, form a series in the course of the affected nerve.

Some years ago Dr Haight, of New York, found an opportunity in Vienna of investigating the structure of zona with the microscope. His observations showed that the roofs consist of the horny layer of the cuticle, with some of the superficial elements of the rete mucosum adherent to the under surface; their floors are formed by the bare summits of the papillæ, with the deepest elements of the rete occupying the depressions between them; their cavities are traversed by numerous bands, consisting of masses of the intermediate elements of the rete, drawn out into long spindle-cells and cells with several tapering processes. The fluid which the vessels contain is at first transparent, but after a time the presence of floating leucocytes renders it opalescent, and ultimately it may become purulent, or acquire a purple colour from the escape of blood through the softened tissues beneath. The cutis itself seems always to take some share in the inflammation, leucocytes being scattered in the spaces between its fibrous bundles, and along the vessels and nerves. When pus is formed, if the roots of the vesicles have been removed by the friction of the clothes, ash-coloured surfaces are exposed, looking like layers of false membrane. In other words, the histological changes in zoster are essentially identical with those which take place in variola.

The number of clusters is very variable, from a single one to ten or even more. They are generally developed, not all at the same time, but in quick succession; those come out

first which lie nearest the roots of the nerve whose branches they follow. After a few days fresh ones cease to make their appearance. There is a short papular stage; and some of the latest clusters not infrequently abort, without going beyond it. In certain very mild cases, when only one or two clusters are formed, none of them pass into a vesicular condition. Even if the disease should be of considerable severity, the eruption begins to dry up from the fifth to the eighth day; the centres of the vesicles become depressed, yellowish or brownish crusts form, and in the course of the third week these fall off, leaving reddish or purple stains. But when the cutis is thickly infiltrated with pus-cells, its superficial layer undergoes destruction, and an eschar has then to be thrown off: thus the process of healing is retarded, and an indelible cicatrix results. The distribution of such cicatrices in the course of a particular nerve shows at once the nature of the disease from which they arose. When zona attacks the forehead, it is particularly likely to leave permanent scars.

Bärensprung and other writers have given names to numerous varieties of zoster, according to the nerves affected; but the refinement is needless. When the disease attacks the face, the nerve which it follows is the fifth, the greater part of which answers to the sensory portion of an ordinary spinal nerve. Indeed, it is remarbable how exactly the clusters of vesicles sometimes map out the points of emergence of the several twigs of the trifacial nerve from their bony canals. When the first division of the nerve is affected, the loose tissue of the upper eyelid becomes extremely œdematous and swollen, so that the affection may be mistaken for erysipelas by a careless observer. Another peculiarity of this form (supra-orbital zona) is that it is often attended with ulceration of the cornea and iritis, by which the sight may be seriously damaged. Mr Hutchinson has remarked that the ocular affection never arises unless the eruption occupies the distribution of the nasal twig. When the two lower divisions of the trifacial nerve are involved, a few vesicles often appear on the mucous membrane of the mouth and palate. Paget has recorded an instance in which necrosis of the alveoli followed infra-maxillary zona, so that some of the teeth fell out.

Cervical zoster, and that which affects the upper limb, fol-

low exactly the distribution of the several nerves. In some instances of brachial zoster the vesicles reach down to the fingers, but this is very exceptional ; in the great majority of cases they do not extend below the elbow.

When the second and third intercostal nerves are affected, the intercosto-humeral branch produces a very characteristic eruption down the inner side of the arm as far as the elbow or rather lower.

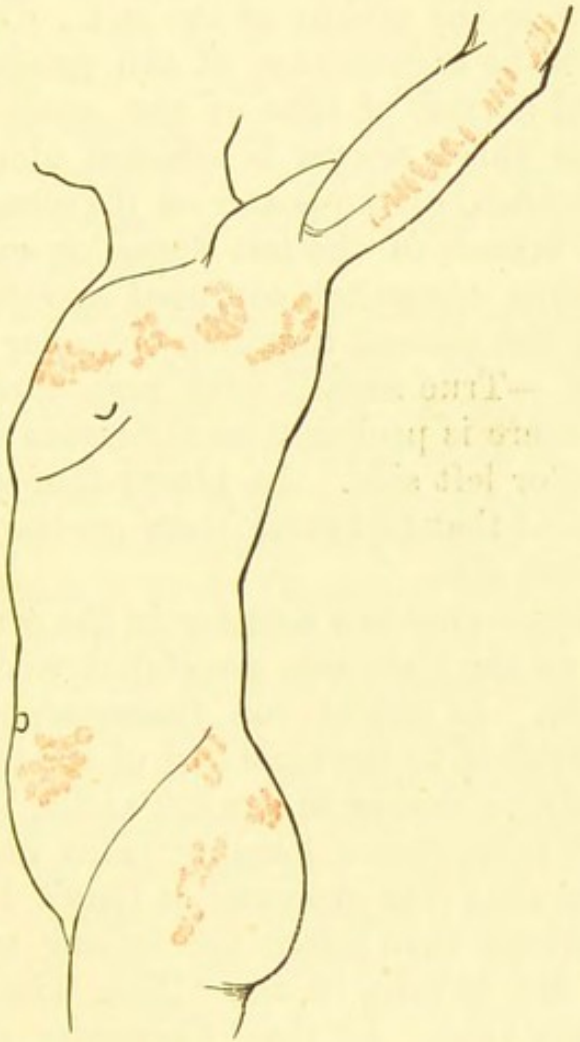


FIG. 26.—Intercostal zona affecting the arm, and zona of the last dorsal and first lumbar nerves.

On the trunk, which is by far the most frequent seat of the disease, the area occupied by the eruption of course slants more and more downwards as it approaches the pubes. It often happens that one or two vesicles lie slightly beyond the meridian plane, both at the linea alba and at the spine ; this probably depends upon the fact that the nerves of the opposite

sides overlap in their distribution, just as in the Siamese twins there was a part of the connecting band which received nervous filaments from each of them.

In the lower limb the distribution of zoster presents this peculiarity, that it is almost invariably confined to the buttock and thigh. Mr Hutchinson says that it never extends below the knee; and the only instance to the contrary is one figured by von Bärensprung, in which there were a few small papules as low as the middle of the calf. Often the eruption closely follows the distribution of the external cutaneous or anterior crural nerves, or that of the small sciatic; but frequently one of these nerves is affected along with the ilio-hypogastric branch, or the posterior divisions of the lumbar or the lateral branch of the last dorsal or some of the sacral nerves, and thus somewhat confused groups of vesicles are seen covering the gluteal, inguinal, or upper femoral regions.

Side affected.—True zona is with very rare exceptions unilateral; and there is probably no difference in the liability to it of the right or left side. In ninety-four consecutive cases the writer found that forty-one were on the right and fifty-three on the left side.

Mr Hutchinson once saw a zoster in the course of the fourth dorsal nerve on the *right* side associated with a frontal zoster on the *left* side. In one of von Bärensprung's cases an ordinary zoster, limited to the *right* half of the thorax, was accompanied by a single vesicle in the *left* axilla, the patient having been suffering from severe burning pains on both sides. A case of double zona was observed at Guy's Hospital in 1865, and the drawings then taken are in our museum. It was reported by Mr Bryant in the 'Med. Times and Gaz.' for April 1 of that year. Dr Geo. Carpenter records a similar case of double intercostal zona in a child, and refers to two or three cases seen by others ('Brit. Journ. of Derm.,' Jan., 1892).

Symptoms.—Zona runs an acute course of a week or two, and is seldom attended with fever or disorder of the general health. In children, who are liable to it at all periods after the first year, it commonly runs its course without any unpleasant sensation, or is merely accompanied by a little numbness and tingling. Von Bärensprung tested the cutaneous

sensibility with a pair of compasses, and found that in two cases it was considerably increased, while in a third it was diminished. Sir Thomas Watson relates a curious case in which zona affected the scalp, and in which the patient, who had for seven years been plagued with continual noises in the head, became free from this symptom, and remained so for eighteen months afterwards. He also mentions another case, of a man in whom the eruption came out in February, and who suddenly lost a cough which had teased him all the winter. On the other hand, von Bärensprung met with two cases of zoster affecting the distribution of the fourth cervical nerve, in each of which vomiting occurred at the commencement,—a consequence, he supposes, of "sympathetic irritation" of the vagus and phrenic nerves.

But by far the most important subjective symptom of herpes zoster is pain of a neuralgic character, and referred to the same nerves, the distribution of which is followed by the eruption. This is entirely absent in young patients, but in adults it is generally present, and in old people it is apt to be exceedingly severe. Von Bärensprung cites a case in which there was only a single patch, of the breadth of two or three fingers, but in which the tenderness was such that the patient kept the part covered with the palm of his hand all night and all day, lest his linen should come into contact with the vesicles. When the eruption gets well the pain commonly subsides; but in some instances it continues long afterwards, for months or even for years, with scarcely any abatement of its intensity. This suffering may last ten years; and Trousseau mentions an instance in which the pain lasted for fourteen years. Sir Thomas Watson alludes to a case of this kind in which the patient, a lady, could at all times bring on the pain by drinking some cold liquid. The persons in whom shingles leaves behind it this terrible neuralgia are always advanced in age.

Sometimes the pain precedes the development of the eruption by several days. This has led certain writers, among whom was Anstie, to regard herpes zoster as a mere complication of neuralgia, analogous to several other curious "trophic" changes which are met with in that disease. But in opposition to such a view it must be urged that in the majority of cases of shingles (in two out of three, according to von Bären-

sprung) pain is altogether absent, and that when it is the earliest symptom the cutaneous affection always appears within a definite period, a fortnight at latest. Some instances have, indeed, been recorded of an eruption regarded as zoster, which seemed to be caused by pressure upon the corresponding nerve-trunks, or which occurred in the course of ordinary neuralgia. Thus Charcot and Cotard have published a case in which one half of the neck and one shoulder were covered with the vesicles, the cervical nerves of that side being compressed by cancerous disease of the vertebræ. Charcot is said to have met with another case in which a patient, during a second attack of sciatica, presented herpetic vesicles on the lower part of the thigh. In these instances it seems not improbable that the eruption really was shingles, and that it was caused by an extension of the morbid process from the trunks of the nerves to the ganglia on the posterior nerve-roots. But there are other cases of which such an explanation is less easy. Thus von Bärensprung reports an observation by Esmarch of abscesses about the pelvis and under the gluteus maximus, where *post mortem* the great sciatic nerve was found to be swollen and reddened. About five weeks before the patient's death an eruption of groups of vesicles appeared on the back of his leg, and on the sole of the foot as far as its middle. In this instance the seat of the cutaneous affection was unlike that of zoster, for that scarcely ever goes below the knee. The same objection applies to Charcot's oft-quoted case of a man who suffered from pain in the leg and back of the foot after a gunshot wound of the thigh, and in whom an herpetic affection repeatedly developed itself upon those parts. Moreover, the fact that the eruption recurred is of itself sufficient to show that it was not really zoster, for shingles never relapses.

We have had more than one case of recurrent bullous or vesicular eruptions following injuries to nerves, and one of typical zona in a patient suffering from cervical pachymeningitis, but it is very rare for any such organic disease of the cord or nerves to be present when zona appears.

Pathology.—There can, however, be no doubt that zona is a true trophoneurosis. This seems proved by its exact nervous distribution ; and if further arguments are needed, one may be found in the fact that herpes zoster is associated with ana-

tomical changes in the ganglia of the posterior nerve-roots. That these ganglia are the starting-points of the disease was suggested by von Bärensprung in 1861. His opinion was verified by Charcot and Cotard, who found (in a case already referred to) that whereas the nerve-roots were healthy, the ganglia and the nerve-trunks to a little distance outside the intervertebral notches were much reddened and slightly swollen, their stroma being also unduly rich in nuclei. Precisely similar appearances were afterwards discovered by von Bärensprung himself in a child which died soon after an attack of shingles; and additional evidence to the same effect has since been obtained.

Mr Hutchinson regards zona as resembling an exanthem, particularly in its power of protecting against itself; in a series of a hundred cases collected by him there was only one in which there was any history of a previous attack. But this may depend on the fact that shingles is of infrequent occurrence; and in 100 cases under the writer's care no fewer than four of the patients gave a history of a previous attack of the same disorder, and two of them showed scars which confirmed the statement.

It is perhaps not superfluous to mention that the eruption of zona does not affect a tract of skin corresponding to a nerve-trunk below; it affects the skin supplied by the peripheral branches of a common trunk—in the common intercostal form, the posterior, lateral, and anterior branches.

With regard to the *causes* of herpes zoster almost nothing is known. It occurs equally in both sexes, and at almost every age. It has repeatedly been observed in persons who were taking arsenic. In one instance, a patient of the writer's assured him that his father and a younger brother had suffered from a similar unilateral and painful acute eruption before.

Statistics.—Among 100 consecutive cases of zona which came under the writer's care in private or hospital practice, there were 61 in male and 39 in female patients. The time of life varied from infancy to old age; 15 patients were between one and nine years old, 31 between ten and twenty, 10 between twenty and thirty, 11 between thirty and forty, 8 between forty and fifty, 6 between fifty and sixty, 9 between sixty and sixty-five, one was seventy-seven, and one eighty-five years old.

The distribution was as follows. There were nine cases of supra-orbital and one of infra-orbital zona. In sixty-six cases the intercostal nerves were affected, in eight the great auricular, lesser occipital, or descending branches of the cervical plexus, in two the external cutaneous branch of the brachial plexus, in eight the lumbar or sacral nerves, in nine the small sciatic, the external cutaneus of the thigh, or branches of the anterior crural nerve.

Treatment.—There is but little to be done. The vesicles must be protected by a soft linen rag, with a pad of cotton wool or a flannel bandage. Some writers recommend that flexible collodion should be painted over them to facilitate their drying up ; or a little starch powder may be dusted over the affected part as soon as any discharge appears. Children require no medicine whatever.

The treatment of the neuralgia which sometimes follows shingles is unsatisfactory. Bazin is said to have used arsenic with success, but as a rule it utterly fails. Dr Fagge used to prescribe vinum colchici, and in several instances the pain has quickly subsided while the patient has been taking this medicine. Subcutaneous injection of morphia gives at least temporary relief, and in old patients some form of opiate is almost always needful. Locally anodynes are generally applied, but without much benefit. Cocain is perhaps the most efficient. Von Bärensprung found blisters useful, and they have been applied with good success over the roots of the affected nerves.

Certain *bullous* eruptions appear to be connected with neuroses. There are many instances of painful, usually vesicular or bullous, forms of dermatitis following injury to a nerve (p. 340). Some remarkable cases have been recorded by Dr Schwimmer, of Buda-Pesth, Dr Leloir, in France, and Dr Wier Mitchell in his admirable monograph.* On the injuries of nerves see also Mr Bowlby's more recent work on the same subject.

It has been held that symmetry points to the nervous origin

* See on this subject the monograph by Leloir, 'Recherches sur les Affections cutanées d'origine nerveuse,' 1882, and a valuable paper by Dr Crocker, with numerous references ('Brain,' October, 1884, p. 343).

of a cutaneous disease; but some authors hold symmetry to be the mark of "blood diseases," and asymmetry that of neuroses. Neither belief seems to be well supported. Symmetry points neither to a constitutional nor to a blood disease. All general diseases are symmetrical because the human body is so; a one-armed man would be unsymmetrically affected by scarlatina or psoriasis. Again, psoriasis and eczema are symmetrical because they affect the skin of a certain structure and surroundings which is found on the corresponding parts of the limbs, ears, and other parts. The only disease of the skin which we know to be of nervous origin—zona—is, like neuralgia, markedly unsymmetrical.

Pruritus leads to scratching, and how important an agent this is has been shown in our accounts of eczema, prurigo, scabies, and urticaria. These pruriginous diseases are in striking contrast to syphilodermia and lupus.

But it has been supposed that disorders, not of sensory but of trophic nerves, produce cutaneous diseases other than zona. The existence of trophic nerves is a physiological fact, but their presence gives so easy an explanation that we must beware of admitting it without adequate proof.

Area has been referred to a neurotic cause, but there is no proof of it. Little if any anæsthesia is to be detected, and the patches do not follow the course of cutaneous nerves.

Leucodermia has been referred to the same cause. But here again there does not seen to be any reason for ascribing the disease to nerves, except the difficulty of finding a better explanation. All that can be said in favour of the neurotic origin of *morphœa* will be found in Mr Hutchinson's Clinical Lectures,' vol. i, p. 313.

The formation of the wheals of *urticaria* may be ascribed to vaso-motor nerves, and it sometimes follows mental emotion with great rapidity.

REMARKS ON THE PRACTICAL CLASSIFICATION AND DIAGNOSIS OF CUTANEOUS DISEASES.

In the preceding chapters the diagnosis between two diseases which may be mistaken one for the other has only occasionally been stated in a formal manner. If the characteristic symptoms and circumstances of a malady are ascertained, they form the only and sufficient bases for its diagnosis; and although it is a useful exercise for a student to make lists of the distinctive characters of two or more diseases, the attempt to fix them in a tabular form is of little service to others, and perhaps tends to artificial memory of words rather than to familiarity with things. Symptoms differ endlessly at the bedside, and none of them are really what is called "pathognomonic." Moreover, the diagnosis of cutaneous diseases in particular often turns upon very slight differences in the form of lesion or in the distribution, which it is impossible to put into words; while much of what is called diagnosis is not distinction between one pathological condition and another, but only between certain more or less arbitrary forms which have been fitted with still more arbitrary names.

In the present chapter it is proposed to treat briefly of this question of diagnosis, on which, in its true meaning, all successful treatment must rest; and after all, our patients, great or small, desire to be cured.

There are not a few diseases which are so rare that they rank as little more than as curiosities. Such, for instance, are Pemphigus foliaceus, Urticaria pigmentosa, Favus, and Xerodermia maligna.

Many important diseases of the skin again are exotic, as Leprosy and Lichen agrius, and only of practical importance

for those who may practise their profession in India or the colonies.

Neglecting these, there are certain common affections which, differing by more or less important characters in appearance and in histology, nevertheless agree very closely in their general pathology, in their causes so far as they are known, and, what is most important, in the kind of treatment which is generally suitable. These form natural groups.

From a practical point of view, then, looking chiefly to questions of prognosis and treatment, we may arrange diseases of the skin as follows:

I. *Factitious eruptions.*—We must never forget the possibility of the affection before us being artificial. All kinds of dermatitis, eczema, erysipelas, pemphigus, impetigo, may be simulated by the application of various irritants. Pigmentation also has been often imitated with success. Such artificial diseases will generally be found upon the arms, rarely on the face, and scarcely ever beyond reach of the patient's hands. The persons who are guilty of such attempts at imposition are usually either deliberate malingerers, like prisoners in gaol, or else they are hysterical young women and neurotic girls or boys. When one's suspicions are once awakened, it is seldom difficult to detect the imposture. Mustard, cantharides, and some other irritants can be distinguished by help of the microscope.

II. *Traumatic eruptions.*—In all cases of dermatitis we should seek for the irritant, and sometimes it is so directly the cause of the disease that the eczema or impetigo in question may be considered purely traumatic, and efficient treatment immediatiately follows accurate diagnosis: *sublata causa tollitur effectus.*

Pediculi in the hair should be carefully looked for in all cases of impetigo in children, pediculi vestimentorum in prurigo of old people. Scabies itself is but an extremely definite and well-characterised dermatitis resulting from the presence of a living source of irritation. But beside these well-known cases of parasitic dermatitis it will be found that some supposed cases of purpura in children are nothing but

fleabites, resemblance to which originated the name petechia. Moreover, many cases of infantile prurigo, urticaria, and ecthyma are due to the presence of bugs or gnats. In adults pediculi pubis may sometimes be found in the axillæ as well as in their proper region, and when they have been destroyed by mercurial ointment the patient is at once relieved from pruritus.

In many trades an irritant must be sought in the objects which the patient habitually handles. The coarser kinds of brown sugar are a frequent cause of eczema of the hands (grocers' itch). So with many of the "chemicals" used in a variety of modern handicrafts. Constant wetness of the hands in washerwomen, in scrubbers, in potmen, and many others, produces eczema rimosum. The heat of the sun is the cause of eczema solare and ephelides, the heat of the fire of the pigment spots on the shins of elderly people. Sweat, again, is a very common irritant, producing the erythema which usually accompanies sudamina and also intertrigo of opposed surfaces. Scratching as a cause of traumatic dermatitis has been repeatedly referred to.

III. *Febrile rashes.*—We must take care never to forget the possibility of a cutaneous eruption being part of an acute exanthem. The use of a clinical thermometer is a great help in this respect, but the writer has seen a man with typhus (and the rash fully out) appear as an out-patient for a skin disease, and modified variola and varicella are not unfrequently mistaken for acne or impetigo.

IV. Other rashes are due to certain kinds of food or to drugs. They have been described above (pp. 150, 152). Many such cases closely resemble scarlatina, measles, or a syphilitic exanthem. Others again resemble impetigo, erysipelas, lupus, tertiary syphilis, or granulomata such as mycosis fungoides.

V. *Syphilodermia.*—When we have satisfied ourselves that the eruption before us is not factitious, nor directly traumatic, nor a symptomatic eruption, we may next consider whether or not it is due to syphilis. In this inquiry it is undesirable to ask questions, the answers to which are as apt to mislead as to guide aright.

(1) We should first consider the *colour* of the affected skin, remembering, however, that the pigmentation which gives the so-called coppery or raw ham tint to a syphilitic eruption is the same which is sooner or later produced by all forms of dermatitis. Psoriasis, chronic eczema, lichen planus, and prurigo may all produce shades which bear the closest resemblance to syphilodermia.

(2) The lesions of syphilis are *multiform* or polymorphic. It is rare in any but syphilitic affections to find mere hyperæmia in one part, and associated pustules, papules, scales, or ulcers in others ; and it is not often that a syphilitic eruption exhibits only a single elementary lesion.

A pustular eruption in an adult should always suggest the question of syphilis when that of scabies has been answered in the negative.

(3) Syphilitic eruptions for some unknown reason *do not itch*, and the exceptions to this rule are remarkably few ; they usually occur during the stage of scabbing of pustular rashes or during the healing of tertiary ulcers. An ordinary secondary syphilide may, however, as a rare exception, be so irritable that wheals and scratch-marks are produced. On the other hand, psoriasis is often free from irritation, while the degree of itching of eczema, and even of scabies and prurigo, varies greatly.

(4) The local *distribution* of syphilitic diseases is a great aid in diagnosis. Specific eruptions are certainly not, as a rule, symmetrical ; the early roseolous rash is only so because it is general, and therefore, upon a surface like the human body, more or less symmetrical. Moreover, as it chiefly affects the face, chest, and trunk generally, it is near the middle line. But we do not see symmetrical patches of syphilide in corresponding parts of both sides of the face, both sides of the trunk, or the right and left limbs. In all but the earliest syphilides the affected patches are very decidedly and constantly *unsymmetrical*, irregularly scattered over head, trunk, and limbs, and chiefly remarkable for having no well-marked seats of predilection.

The forehead, especially about the roots of the hair, is, however, very frequently the seat both of the early and middle erythematous, scaly, and pustular syphilides, and the palms

of the hands and soles of the feet are frequently symmetrically affected with the later scaly eruption.

Practically, when we find a disease of the skin occupying some unusual position we should at least consider the question of syphilitic origin.

(5) These signs alone or in combination serve to distinguish early specific roseola from erythema, eczema, scarlatina, and measles, and the later eruptions from eczema, lichen, scabies, impetigo, and psoriasis.

The eruptions of *congenital syphilis* which are most liable to be mistaken are—the so-called pemphigus of infants, which is known by its affecting the palms and soles; rupia, which, by the form of the crusts and the ulcerated surface beneath, may always be distinguished from impetigo; an erythematous rash of the nates and genitals of infants, which is distinguished from eczema of the same parts, also common at that age, by its coppery colour, its blotchy distribution, and more defined margin.

The *tertiary ulcers* of syphilis are distinguished by their appearing on unusual places, by their punched-out edges, circular or so-called horseshoe shape, and by their usually producing little pain or discomfort. Tertiary ulcers have no predilection for the outer side of the leg, but inasmuch as the part above the inner ankle is for anatomical causes the chosen seat of varicose ulcers, most ulcers in the first position will be syphilitic, and in the latter not. For the same reason most ulcers on the arms are found to be tertiary.

VI. *Tineæ.*—The next great group of skin diseases includes those which are due to vegetable parasites—tinea versicolor of the trunk, eczema marginatum of the perinæum and thighs, tinea circinata of the neck and other parts, tinea sycosis of the chin, and tinea tonsurans of the scalp. Here the general characters detailed in the chapter on the tineæ are generally sufficient to show the nature of the affection to a practised eye, but in all doubtful cases the microscope should be employed.

Tinea of the scalp is rare in adults, and tinea circinata still more so; tinea marginata occurs only in adult males.

VII. *Primary superficial inflammations.*—To distinguish the superficial from the deeper kinds of dermatitis we should notice whether the cutis alone is infiltrated and thickened, or whether it is bound down by adhesions to the subcutaneous tissues. The presence of scars, however slight, is a proof that the process has gone deeper than the papillæ, and has more or less extensively destroyed the papillary layer. Superficial inflammations, excluding those due to the acarus, to pediculi, and to other direct irritants, and excluding those which are the result of vegetable parasites and of syphilis, fall with respect to their treatment into three large groups :

(1) The first, represented by impetigo and most forms of Eczema, are subacute, and accompanied with burning itching and pain, sometimes with a slight degree of fever. They are to be treated by local remedies designed to reduce the hyperæmia, diminish the exudation, and calm the irritation, aided by light diet, free diluents, laxatives, and diuretics. In short, they are to be treated according to the modern antiphlogistic method.

(2) The second group of superficial inflammations of the skin is typically represented by Psoriasis, but includes lichen planus, the more chronic, dry and obstinate forms of eczema, and true prurigo. They are chronic, with little irritation, exudation, pain, or active signs. They are best treated locally by tar or allied preparations, internally by arsenic.

(3) The third group is that of Erythemata. Here the indication is to correct some internal disorder of which the eruption is the symptom.

VIII. *The acne group.*—Acne, both in its pathology and ætiology, differs from other forms of dermatitis. The age of the patient and its distribution are sufficient for diagnosis. It is at once a superficial and a deep dermatitis, and is often followed by scars. Its treatment consists entirely or almost entirely in local applications directed to the correction of the sebaceous affection. With acne may be classed Sycosis and Furunculus.

IX. *Deep affections.*—When we have ascertained that the affection of the skin is deep, that is to say, that it goes below the papillary layer, the field for diagnosis is limited.

Excluding erysipelas, which is distinguished by its acute character and febrile symptoms, excluding the pustular affections which affect the skin deeply and produce scars only at isolated points, such as acne, variola, and zona; and excluding, thirdly, leprosy and other exotic diseases—we have to distinguish in the great majority of cases which come before us in this country: first, traumatic and varicose ulcers; secondly, gummata and syphilitic ulcers; thirdly, lupus; fourthly, rodent ulcer and carcinoma of the skin.

With regard to the first of these, we must not assume, because a sore upon the skin is said to be the result of a blow or a kick, that it is purely traumatic, for syphilitic ulcers often arise in this way. Malignant ulcers are rare, and usually obvious from the age of the patient, the pain they occasion, their tumid margins, and their blood-stained secretions. Moreover, they are, with few exceptions, confined to the neighbourhood of the orifices of the body, especially the lower lip, the urethra, the vulva, and the anus. Rodent ulcer, however, is very difficult to be sure of. Its locality, its slow and painless progress, and its belonging to the latter half of life, usually serve to distinguish it from lupus; and its being single, excessively chronic, and unaccompanied by nodes or other syphilitic lesions, are the best characters for diagnosis from a tertiary ulcer.

Between lupus and syphilis the difficulty of diagnosis is occasionally extreme. Lupus, however, is rarely more than single, syphilis is usually multiple; both are commonly free from pain and itching, but in syphilis the colour tends from red to rusty brown, in lupus from red to violet-blue; the scars of syphilis are depressed and pigmented, those of lupus hypertrophic and white; the edges of a lupous ulcer are beset with nodules, those of syphilis are either thin and smooth or indurated by chronic inflammation; lupus is in the majority of cases a disease of the face, syphilitic ulcers are quite as frequently on the limbs or trunk; lupus is a disease of the skin alone, syphilis affects the subjacent tissues also.

APPENDIX OF FORMULÆ

Protective Neutral Ointments.

Vaseline, or soft paraffin.
Benzoated lard (1 in 50).
Lanoline (oil from wool), Adeps Lanæ Hydrosus.
Spermaceti ointment.
Ung. Simplex, cold cream.
Ung. Elemi.—British Pharmacopœia.
Linseed oil.
Olive oil.
Ung. Adipis Lanæ (Ol. Oliv. ʒj, Adipis Lanæ Hydr. ʒ¼).—Guy's Hospital Pharmacopœia.

Sedative or mildly Stimulant and Astringent Ointments.

Ung. Zinci.—B. P.
Ung. Zinci Oleati.—B. P.
Ung. Plumbi Carb.—B. P.
Ung. Plumb. Acet.—B. P.
Ung. Glyc. Plumbi Subacet.—B. P.
Ung. Plumbi et Zinci (Ung. Zinci, Ung. Plumb. Acet., āā part. æq.).—G.P.
Ung. Zinci cum Bismutho (Bism. Oxidi ℈ij, Zinci Ox. ℈j, Hard Paraffin ʒiiss, Soft Paraffin ʒv).—G. P.
Ung. Calaminæ.—B. P.
Ung. Ac. Borici.—B. P.
Ung. Ac. Bor. co. (Ung. Ac. Bor., Ung. Plumb. Acet., Ung. Zinci, āā part. æq.).—G. P.
Ung. Boracis co. (Ac. Carbol. gr. x, Glyc. Boracis ʒss, Ung. Zinci ad ʒj).
Ung. Naphthol co. (Naphthol gr. x, Saponis viridis ʒij, Cretæ præp. gr. xx, Adipis Benz. ʒiij).—After Kaposi.

Astringent and Sedative Lotions.

Lotio Plumbi or Goulard's Wash = Liquor Plumb. Subacet. dil.—B. P.
The same may be made up with rose water or with elder-flower water, Aq. Sambuci).
Lotio Plumbi fortior (Liq. Plumb. Subacet. dil. ʒiv, Aq. Rosæ ad Oj).

Lotio Alkalina comp. (Sodii Bicarb. gr. vij, Boracis gr. vij, Sodii Chlor. gr. vij, Sacchari albi gr. xiv, Aquæ cal. ʒij).—G. P.

Lotio Frigida (Liq. Ammon. Acet., Sp. Vini rect., āā ʒiv, Aquæ ad ʒxx, solve).

Lotio Aluminis (Aluminis gr. x, Aquæ ʒj).—G. P.

Chloroformi ʒij, Glycerini ʒij, Aq. Rosæ ʒiij.

Tannic Lotion (Ac. Tannici gr. x, Aq. ʒj).—G. P.

Alkaline Lotion (Sodii Bicarb. gr. v, Aq. Sambuci ad ʒj).

Zinc Saline Lotion (Zinci Sulph. ℈j, Aluminis ℈ij, Glyc. ʒj, Aq. Rosæ ʒviij).—Liveing.

Protective Powders.

Zinci Oxidum.

Bismuthi Subnitras.

Creta Præparata.

Calcis Carbonas Præcipitata.

Pulvis Bismuthi et Zinci (Bism. Carb., Zinci Oxid., āā ʒj, Pulv. Amyli ʒij—Misce ft. pulvis).

Finely powdered Starch.

Fuller's-earth.

Lotio Zinci (Zinci Ox., Calamin., āā ʒij, Glyc. ʒss, Liq. Calcis ʒij, Aq. Rosæ ʒ$\frac{1}{6}$).—Liveing.

Lotio Zinci (Zinci Ox., Cal. Præp., āā ʒj, Pulv. Trag. co. ʒj, Aq. Rosæ ʒx).

Lotio Bismuthi (Bism. Subnitr. ʒj, Pulv. Trag. co. ʒj, Aq. Rosæ ad ʒx).

Lotio Boracis (Boracis ʒj—ij, Glyc. ʒj, Aq. Sambuci vel Aq. Camph. ʒviij).—Liveing.

Local Anodynes.

Lotio Opii (Extr. Opii gr. v, Aq. ʒj).—G. P.

Lotio Plumbi cum Opio (Liq. Plumbi Subacet. dil., Lotionis Opii, āā part. æq.).

Lotio Plumbi cum Morphina (Plumb. Acet., Morph. Acet., āā gr. j, Aq. dest. ʒj).

Lotio Acidi Hydrocyanici (Ac. Hydroc. dil. ♏x, Aq. ʒj).—G. P.

Lotio Spiritûs (evaporating lotion) (Methylated Spirit ʒij, Aq. ad ʒj).

Glyc. Belladonnæ (Extr. Bell. ʒj, Aq. ferv. ʒij, Glyc. ad ʒiij).

Menthol rubbed on to the skin in stick, or dissolved in four parts of olive oil and painted on with a brush.—G. P.

Chloroform and Camphor.

Lotio Boracis Spirituosa (Boracis ʒj, Etheris ʒij, Sp. vini rect. ad ʒij).

Local Antipruritic Applications.

Lead Lotion (Ac. Carbol. ʒss, Glyc. ʒij, Liq. Plumb. Subacet. dil. ad ʒvj).—Payne.

Carbolic Lotion (Ac. Carbol. gr. xx, Aq. ʒj).—G. P.

Lotio Arg. Ætherea (Arg. Nitr. gr. xv, Sp. Æth. Nitr. ʒj, solve). To be painted on in cases of very prurigious eczema or prurigo.—Liveing.

Unguentum Ol. Cadini (Ol. Cadini, Ceræ Flavæ, āā part. æq., misc.).
Ung. Hydr. Ammon. dil. (Ung. Hydr. Am., B.P., ʒij, Adipis Benz. ad ℥j).
Ung. Creasoti.—B. P.
Ung. Camph. co. (Camph. gr. x, Picis Liq. ʒj, Adipis ℥j).
Ung. Bismuthi Sedativum (Bism. Subnitr. ʒij, Morph. Hydrochl. gr. ij, Adipis Benzoati ℥j).
Ung. Chloroformi (Chlorof. ʒss, Adipis Benz. ℥j).
Ung. Bism. Sed. (Bism. Subnit. ʒij, Hydr. Subchlor. ʒj, Morph. Hydrochlor. gr. ij, Ung. Simpl., Vaselini, āā ℥ss).—Liveing.
Lotio Sedativa (Ac. Carbol. gr. xx, Ac. Hydrocyan. dil. ʒij, Tinct. Opii ʒiv, Glyc. ʒiv, Aq. ad ℥iv). To be applied in the form of a suppository on a piece of lint in cases of pruritus ani.—Atthill.
Tinct. Benz. co. To be painted on the affected part.
Ac. Hydrocyan. dil. ʒiv, Aq. Camph. Oj.
Boracis ʒj, Ac. Hydrocyan. dil. ʒij, Aq. Ros. ad ℥viij.—Neligan.
Pot. Cyan. gr. xv, Aq. ℥viij.—Hardy.
Chloral Hydrate and Camphor rubbed together in equal parts.—Bulkley.

Stimulant and Alterative ("healing") Applications.

Ung. Metallorum (Ung. Hydr. Nitr. dil., Ung. Plumb. Acet., Ung. Zinci, āā part. æq.).—G. P.
Ung. Acidi Borici.—B. P.
Ung. Hydr. Ox. Flavi (Hydr. Ox. Fl. gr. xv, Vaseline, Lanolin, or Soft Paraffin, ℥j).
Ung. Hydr. Ammoniati.
Ung. Hydr. Ox. Rubri.
Ung. Hydr. Nitr. Mitius (Ung. Hydr. Nitr. ʒj, Adipis Benz. ʒvij).
Ung. Iodoformi (Iodoformi ʒss—j, Ung. Simpl. ℥j).
Ung. Sulphuris cum Hydrargyro Ammoniato (Ung. Sulph., Ung. Hydr. Am., Paraffini Mollis, āā part. æq.).—T. P.
Ung. Sulph. Iod. (℈j ad ℥j).
Ung. Zinci cum Hydr. Ammon. (Ung. Zinci, Ung. Hydr. Ammon., āā part. æq.).—T. P.
Lotio Potassæ Sulphuratæ (Pot. Sulphurat. gr. xv, Liq. Calcis ℥j).
Lotio Sulphuris (Sulph. Præc. ʒij, S. V. r. ʒij, Glyc. ʒj, Liq. Calcis ℥ij, Aq. Ros. ℥viij).—L.
Lac Virginum (Hydr. Perchlor. gr. $\frac{1}{12}$, Tr. Benz. co. ʒss, Mist. Amygd. ℥j; or Hydr. Perchlor. gr. ij, Tinct. Benzoini co. ʒij, Aq. ℥viij; or Hydr. Perchlor. gr. iv, Ac. Hydrocyan. dil. ʒj, Mist. Amygd. ℥viij).
Another form of this cosmetic (Liquor Rowlandi).—Hyd. Perchlor., Ammon. Chlorid. āā gr. j, Mist. Amygd. ℥j.—Neumann.

More strongly Stimulant.

Ung. Iodoformi (ʒss—j ad ℥j).
Lactic acid and water equal parts.
Liquor Potassæ.
Ung. Hydr. Nitrat.—B. P.
Sol. Arg. Nitr. (gr. xv—ʒss ad ℥j).

Caustic Applications.

Lunar Caustic (solid melted nitrate of silver).
Acid Nitrate of Mercury.
Nitric Acid.
Pierre Divine (Cupri Sulph., Pot. Nitr. Aluminis, āā ʒiij, Camph. ʒj.
Chloride of Zinc.
Potassa Fusa. A saturated solution of caustic potash is better limited.
Vienna Paste: consists of powdered Calx and Potassæ Hydras in equal parts, made into a paste with alcohol.
Ferrum Candens.
Galvanic Cautery.

Stimulant Applications to the Hair.

Lin. Myristicæ (Ol. Myrist. Expr. ʒij, Ol. Olivæ ʒj).—Gull.
Ac. Canth. ʒj, S. V. R. ʒj, Glyc. ʒj, Aq. R. ad ʒx.
Chloral hydr. gr. xlv, Aq. Dest. ʒj.
Lotio Stimulans (Liq. Ammoniæ, Ol. Amygd., āā ʒj, Sp. Rosm. ʒij, Aq. ad ʒviij).—E. Wilson.
Another Stimulant Lotion.—Acet. Canth. ʒss, Glyc. ʒss, Sp. Rosm. ʒij, Aq. ad ʒviij.
Tinct. Capsici ʒvj, Tinct. Canth. ʒiv, Ol. Ricini ʒij, Ol. Bergam. gutt. xx, S. V. R. ad ʒiv.—Bulkley.

Keratolytic and Alterative Applications.

Ung. Liquoris Carbonis Detergentis (Liq. Carbonis Deterg. ʒij, Adipis ʒj).
Ung. Creasoti.—B. P.
Ung. Picis Liquidæ.—B. P.
Ung. Thymol (gr. x—xv ad ʒj vaseline).—Liveing.
Ung. Acidi Pyrogallici (gr. x—xv—xx—xxx ad ʒj).
Ung. Chrysarobini (Ac. Chrysoph. gr. xv—xx, Lanolini ʒj).
Ung. Chrys. co. (Ac. Chrysoph., Hydr. Ammon., āā gr. x, Liq. Carb. Deterg. ♏x, Adipis Benz. ʒj).—Hutchinson.
Emulsio Picis.—Liq. Picis (1—5 S. V. r.) ʒv, Tinct. Quillaiæ (sive Senegæ) ʒv, Aq. ad Oj.

Stronger Keratolytic Applications.

Chrysarobin 1 part, solution of gutta percha 9 parts.—Perry.
Liquor Potassæ.
Acetic Acid.
Salicylic Acid gr. v, Vaseline or Lanolin ʒj.
Plaster of Salicylic Acid (Ac. Salic. ʒj, Ext. Cannabis Ind. gr. x, flexible Collodion ʒj).

Antiseptic Application.

Carbolic Lotion (Ac. Carb. gr. xxiv, Aq. ʒj, solve. 1 in 20).

Parasiticides (Vegetable).

Ung. Cupri Acetatis (℈ij ad ℥j vel ʒj).
Ung. Hydr. Ammon. (gr. x ad ℥j).
Ung. Bals. Peruv. (ʒj—ij ad ℥j).
Ung. Ac. Carbolici co. (Ac. Carbol., Ung. Hydr. Nitrat., āā ℥ss).
Ung. Ac. Carbolici dil. (Ac. Carbol., Ung. Hydr. Nitrat., āā ʒij, Ung. Sulph. ʒij vel ʒiv).
Hydrargyri Oleatum (5% up to 10 or 20%).—Shoemaker.
Ung. Hydr. Nitratis comp. (Ung. Hydr. Nitr., Ung. Sulph., Ac. Carbol., āā part. æq.).
Tinctura Iodi—Coster's Paste (Iodi ʒij, Ol. Picis Rect. ℥j).*
Lotio Sodii Hyposulph. (ʒij ad ℥j).
Lotio Ætherea (Ac. Bor. gr. xx, Etheris ʒj, S. V. r. ʒj).—Cavafy.
Acid. Sulphurosum.—B. P.
Sp. Terebinth.
Liq. Epispast.

Parasiticides (Animal).

Ung. Sulph.
Ung. Sulph. et Hydr. Ammon. āā partes æquales.
Lotio Sulphuris Alkalina (Sulph. Præc. ʒij—iv, Glyc. ℥i—ij, S. V. r. ℥j—iss, Liq. Calcis ad ℥x).
Ung. Hydr. Amm. dil. (for pediculi).
Ung. Peruv. (Bals. Peruv. ʒij, Adipis Benz. ℥j).
Ung. Styracis.—G. P.
Wilkinson's Ointment (Sulph. ʒiss, Pot. Carb. ʒss, Adipis ℥iv).
The same modified (Sulph. Olei Fagi āā ʒj, Creta Præp. gr. xl, Saponis Viridis, Adipis, āā part. æq., Aq. ad ℥j).—Hebra.
Ac. Carbolici ʒij, Potassæ Hydr. ʒj, Aq. ℥iv. The potash should be dissolved in the water, and then gradually added to the phenol with friction in a mortar. For pediculi corporis.—Bulkley.
Ung. Potassæ Sulphuratæ.—B. P.
Ung. Staphisagriæ.—B. P.

Soaps.

Ordinary boiled soap is an oleate of sodium, and beside its cleansing properties, due chiefly to its converting oily matter into a soluble compound, it has a slight keratolytic action on the horny cuticle.

Superfatted soaps, as they are called, are deficient in alkali, and hence have some of the soothing quality of oily applications with less of the cleansing property of soaps.

Soft soap (*Sapo Viridis*) is made with potash instead of soda, and has more efficient keratolytic action. When so used in substance with flannel and hot water, or dissolved in water or spirit, some essential oil should be added to cover its unpleasant odour. The Spiritus Saponis Alkalinus

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* Instead of this "colourless oil of tar" Mr. Morrant Baker uses creasote, and Mr. Alder Smith Ol. Cadini, as a vehicle for the iodine.

of Hebra contains two ounces of soft soap dissolved in one fluid ounce of spirits of wine, and filtered, with two fluid drachms of spirits of lavender.

Medicated soaps, in which sulphur, tar, carbolic acid, mercury, &c., are incorporated, are of little or no service, for the quantity taken up is very small, and the contact during washing far too short to be of service. They are, therefore, harmful when substituted for efficient local medication.

Baths.

Cold	40°— 60° Fahr.
,, "with the chill off"	70°— 80°
Tepid	85°— 90°
Indifferent	91°— 99°
Warm	100°—102°
Hot	104°—110°

Soothing baths, in irritable conditions of the skin, may be made by adding to 25 or 30 gallons of warm or tepid water a pound of starch, linseed meal, or oatmeal, or two or three pounds of bran or size.

An *alkaline bath* for continuing a long time, in cases of irritable and weeping eczema, should be of about 100° temperature, and should contain, beside oatmeal, about two ounces of bicarbonate of soda. For softening the epidermis in cases of psoriasis, ichthyosis, &c., the temperature should be about 103°, and three or four ounces of bicarbonate of potash (or soda) should be added to the 30 gallons of water.

Nitro-muriatic acid baths (a fluid ounce of nitric and two of hydrochloric acid mixed with the water) are sometimes used in cases of jaundice, but are not of service in any form of dermatitis.

A *bath of potassium sulphide* (four ounces to the 30 gallons) was once n vogue in cases of scabies and pruritus.

Natural mineral baths are of value only by their accidental temperature or by the local action of warm water on the epidermis, which will be increased by the presence of alkaline salts. Neither sulphur, iron, salines, nor iodine, nor even water, is absorbed through the skin.

Mineral Waters.

Internally their value depends chiefly on the large quantity of water habitually taken and passed through the body. This acts as a solvent and diluent, and also as a stimulant to the kidneys, the skin, and the bowels. Secondly, these naturally medicated waters will act in proportion to the doses of salts or other mineral constituents held in solution. The effect, however, of taking small doses of such drugs as sulphate of soda, largely diluted and at frequent intervals, is somewhat different—sometimes better and sometimes worse—than that of taking the same daily amount in one or two doses dissolved in two tablespoonfuls of water.

1. *Neutral and indifferent saline springs*—some warmer than the air, and some with more or less excess of carbonic acid. They contain the same salts as are found in ordinary spring water, in rather larger amount, namely, carbonates of lime and magnesia, with traces of carbonates of soda

and lithia, sulphates of soda, lime, and magnesia, and chloride of sodium. The latter is sometimes abundant enough to give a strong briny taste and act as a laxative. Such are, in this country—Bath, Buxton (Derbyshire), and Bristol. In France—Plombières (Vosges), Bourbonne-les-Bains (Haut Marne), Aix-les-Bains (Savoie), St.-Galmier (Loire). In Switzerland—Leukerbad, in the Canton de Vallais; Pfeffers and Ragatz, in the Grisons. In Germany—Wiesbaden, in Nassau; Homburg, near Frankfort; Gastein, in the Salzkammergut; Kissingen, in Bavaria, near Würzburg; Teplitz, in Bohemia; Wildbad (Würtemberg), Baden-Baden (Grand Duchy of Baden), both in the Black Forest; Selters (Seltz—Seltzer water), in Nassau, near Wiesbaden; Caustadt, near Stuttgart; Schlangerbad and Schwalbach, in Nassau, near Wiesbaden. The baths of Lucca, and many others in Italy, Hungary, and every country of Europe, besides numberless springs in the United States.

Some neutral saline waters are too strong to be drunk, and are only used for bathing. These brine baths have probably the same local and general effect as sea-bathing. Such are Droitwich, in Worcestershire; Rehme, in Westphalia, and Nauheim, in Hessen; Ischl, in the Salzkammergut, and Arnstadt, near Erfurt, in the Thüringer Wald.

2. *Alkaline springs*, containing an excess of carbonate of soda.—Vals (Ardèche) in the Cevennes; Royat (Auvergne); Vichy (Auvergne), warm and aërated; Marienbad, in Bohemia, with sulphate of soda, warm and highly aërated; Karlsbad, also in Bohemia, hot; Ems, in Nassau, warm, with much NaCl; Fachingen (Nassau); Bilin (Bohemia).

3. *Laxative saline ("bitter") waters*, containing sulphate of soda and sulphate of magnesia in notable amounts.—Epsom, magnesia; Purton Spa (Wiltshire); Leamington, soda; Cheltenham, soda; Kingswood (Gloucester); Karlsbad (Bohemia), sulphates of soda and potash, carbonate and chloride of sodium; Hunyadi Janos, Æsculap, and Franz-Joseph-quelle (Hungary); Püllna (Bohemia), soda and magnesia, without chloride of sodium; Seidlitz (Bohemia); Marienbad (Bohemia), soda; Friedrichshall (Saxe Meiningen), NaCl; Kissingen (Bavaria); Rubinat waters, in the Spanish Pyrenees, contain very little magnesium and a great deal of sodium sulphate.

4. *Sulphurous waters.*—Harrogate, sulphurous and chalybeate; Strathpeffer, in Ross-shire; Moffat, in Dumfriesshire; Barrèges (Pyrenees), with Eaux chaudes and Cauterets; Aix-la-Chapelle (Rhine province); Baden (Austria).

5. *Chalybeate waters*, containing minute amounts of bicarbonate of iron held in solution by carbonic acid gas.—Tunbridge Wells, in England; Spa, near Liège, in Belgium; St. Moritz (Engardine), a little iron and a great deal of carbonic acid; Royat (Auvergne) contains a little iron; Schwalbach, in Nassau; Pyrmont, in Waldeck; Luchon (Pyrenees); Contrexville (Vosges).

6. *Arsenical waters.*—The springs of La Bourboule, near Royat, in Auvergne, contain an appreciable amount of arsenic and bromide of sodium and magnesium, as also do those of Livico, in the Italian Tyrol.

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