A practical treatise on diseases of the skin / by Louis A. Duhring.

Contributors

Duhring, Louis A., 1845-1913.

Publication/Creation

Philadelphia : J.B. Lippincott, 1877.

Persistent URL

https://wellcomecollection.org/works/dd285fm6

License and attribution

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

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

wellcome collection

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

22101645396

DISEASES OF THE SKIN

A

PRACTICAL TREATISE

ON

DISEASES OF THE SKIN

BY

LOUIS A. DUHRING, M.D.,

PROFESSOR OF DISEASES OF THE SKIN IN THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA; PHYSICIAN TO THE DISPENSARY FOR SKIN DISEASES, PHILADELPHIA; AUTHOR OF "ATLAS OF SKIN DISEASES"; ETC.

PHILADELPHIA

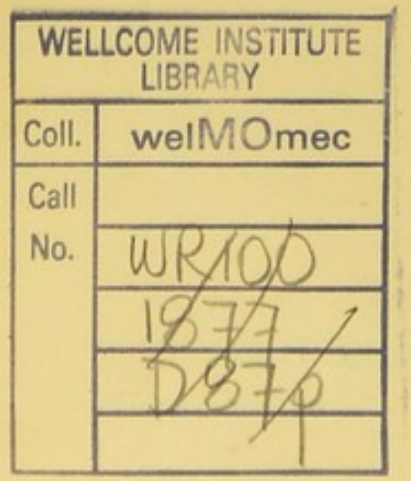
J. B. LIPPINCOTT & CO.

1877

8439779

311954

Copyright, 1877, by Louis A. Duhring, M.D.



M20012

TO

FERDINAND HEBRA,

PROFESSOR OF DERMATOLOGY IN THE UNIVERSITY OF VIENNA, AUSTRIA,

WHOSE RENOWN AS A KEEN AND ACCURATE OBSERVER, AN UNRIVALLED TEACHER, AND AN EMINENTLY SKILFUL PHYSICIAN, IS AS CORDIALLY RECOGNIZED ON THIS CONTINENT AS IN EUROPE,

This Work is Dedicated,

WITH SENTIMENTS OF PROFOUND REGARD AND ADMIRATION,

BY HIS FORMER PUPIL,

THE AUTHOR.

PREFACE.

In preparing this volume it has been my aim to write a concise, practical and useful treatise, one which, while making no pretensions to being exhaustive, should comprise sufficient to afford a clear insight into the elements of Dermatology and a knowledge of all the important facts in connection with each disease treated of. The primary object being to render the subject simple and intelligible, and to free it from unnecessary encumbrances, it has been deemed best to avoid scrupulously all questions of theory, discussion of unsettled points, and the introduction of useless or obsolete terms. Consideration of these and kindred topics, however interesting, would have carried the volume beyond the limits assigned to it. Nor, for the same reason, has any attempt been made to enter into the literature of Dermatology; for information of this character I may refer the reader to the comprehensive and sterling work of Hebra and Kaposi, the translation of which is now in course of publication by the New Sydenham Society, of London. The subject-matter, indeed, has everywhere been rigorously condensed, in many instances, I am well aware, at the sacrifice of smoothness and elegance of diction.

The nomenclature employed is essentially that now in common use by the prominent writers and teachers of our own country and of Europe.

The classification of Hebra, with certain changes and modifications, has, after long and careful study, been adopted from the conviction that when rightly comprehended it affords the most satisfactory and practically useful method of grouping cutaneous diseases with which we are familiar.

Considerable attention has been bestowed upon the definitions of the various diseases. They have for the most part been made from a clinical stand-point, with a view to their being of practical value, and consist mainly of succinct descriptions of the characteristic lesions and symptoms. In several instances, however, the subject appeared either so complex or so obscure that it was thought advisable not to attempt its definition.

I can but incidentally refer to the fact that disorders of the skin manifest more or less variation in type as they occur in one or in another part of the world. Having had some few years ago favorable opportunities for observing a large number of cutaneous affections in the various countries of Europe, and since then of studying these diseases in the United States, I can state that in many instances they differ materially in type as they are seen on the two continents. Without entering into this interesting subject, it may be remarked that the diseases met with here resemble more closely those of Great Britain than those of either France or Germany. A recognition of this fact must, I think, go far in accounting for the discrepancies which exist in the descriptions of certain diseases as given by trustworthy observers.

I desire to make special acknowledgment of the assistance derived from the writings of Hebra, Kaposi, Neumann, Wilson, Fox, and Anderson, a list of whose works, as well as the works of other writers to whom occasional reference has been made, may be found at the close of the book.

In the sections devoted to treatment I have endeavored to make mention briefly of all those methods favorably regarded by dermatologists at large, but in particular to bring forward those remedies and modes of treatment which have proved of greatest benefit in my own experience.

The illustrations of the structure of the normal skin and of the parasites are the work of my friend and co-worker Dr. Arthur Van Harlingen, to whom I cordially acknowledge my indebtedness not only for the admirable original drawings, but also for many favors tendered during the preparation of this volume. My thanks are also due to Mr. J. McCreery, proof-reader, for acceptable suggestions made during the progress of the sheets through the press.

The illustrations have been reproduced by the Photo-Engraving Company of New York.

L. A. D.

PHILADELPHIA, 1416 Spruce St.,
December, 1876.

CONTENTS.

PART I.

GENERAL CONSIDERATIONS.

PAGE

Anatomy of the Skin 17

Symptomatology 40

Etiology 55

Pathology 63

Diagnosis 72

Treatment 80

Prognosis 96

Classification 98

PART II.

SPECIAL DISEASES.

CLASS I.

ANOMALIÆ SECRETIONIS—DISORDERS OF SECRETION.

Seborrhœa 102

Comedo 116

Milium 119

Molluscum Sebaceum 121

Sebaceous Cyst 124

Hyperidrosis 125

Bromidrosis 129

PAGE
Chromidrosis 130
Anidrosis 131
Sudamina 132

CLASS II.

HYPERÆMIÆ—HYPERÆMIAS.

Erythema Simplex 135
Erythema Intertrigo 137

CLASS III.

EXSUDATIONES—EXUDATIONS.

Erythema Multiforme 141
Erythema Nodosum 144
Urticaria 146
Eczema 156
Herpes Febrilis 216
Herpes Zoster 220
Herpes Iris 227
Miliaria 230
Pemphigus 237
Lichen Planus 246
Prurigo 250
Lichen Scrofulosus 256
Acne 257
Acne Rosacea 269
Sycosis Non-Parasitica 277
Impetigo 281
Impetigo Contagiosa 285
Ecthyma 288
Psoriasis 291
Pityriasis Rubra 311
Furunculus 314
Hydroadenitis 317
Aleppo Bouton 317
Delhi Boil 317
Biskra Bouton 317

PAGE

Anthrax 318
Poisoned Wounds 321
Dissection Wounds 322
Pustula Maligna 322
Equinia 323
Dermatitis 323

CLASS IV.

HEMORRHAGIÆ—HEMORRHAGES.

Purpura 330
Hæmatidrosis 335

CLASS V.

HYPERTROPHIÆ—HYPERTROPHIES.

Lentigo 336
Chloasma 338
Nævus Pigmentosus 342
Callositas 343
Clavus 345
Cornu Cutaneum 347
Verruca 349
Papilloma Cutis 353
Ichthyosis 353
Lichen Pilaris 359
Scleroderma 361
Sclerema Neonatorum 365
Elephantiasis Arabum 367
Dermatolysis 371
Hypertrophy of the Hair 373
Hypertrophy of the Nail 376

CLASS VI.

ATROPHIÆ—ATROPHIES.

Albinism 380
Vitiligo 381

PAGE
Canities 384
Atrophia Cutis 385
Striæ et Maculæ Atrophicæ 386
Morphœa 387
Senile Atrophy 390
Alopecia 391
Alopecia Areata 395
Atrophy of the Hair 401
Atrophy of the Nail 403

CLASS VII.

NEOPLASMATA—NEW GROWTHS.

Keloid 404
Molluscum Fibrosum 407
Xanthoma 410
Rhinoscleroma 412
Lupus Erythematosus 415
Lupus Vulgaris 421
Scrofuloderma 429
Elephantiasis Græcorum 432
Frambœsia 443
Pellagra 445
Syphiloderma 446
Epithelioma 486
Sarcoma Cutis 497
Nævus Vasculosus 498
Telangiectasis 500
Lymphangioma Cutis 502
Lymphadenoma Cutis 503
Neuroma Cutis 505

CLASS VIII.

NEUROSES—NEUROSES.

Hyperæsthesia 509
Dermatalgia 510
Pruritus 513
Anæsthesia 525

CLASS IX.

PARASITÆ—PARASITES.

PAGE

Tinea Favosa 528
Tinea Circinata 537
Tinea Tonsurans 544
Tinea Sycosis 553
Tinea Versicolor 561
Scabies 570
Leptus 583
Pulex Penetrans 584
Filaria Medinensis 584
Œstrus 585
Demodex Folliculorum 585
Phtheiriasis 587
Cimex Lectularius 598
Pulex Irritans 599
Culex 600
Ixodes 600

DISEASES OF THE SKIN.

PART I.

GENERAL CONSIDERATIONS.

ANATOMY OF THE SKIN.

The skin is a covering which invests the body completely, giving it form and also protecting it. It is a flexible membrane, and possesses both elasticity and extensibility. Upon its surface are numerous lines or markings, of various size and form, which are particularly well defined about the hands and feet. Larger and coarser furrows occur about the joints, and on the face. Numerous minute depressions also exist upon the surface, the orifices of glandular ducts and of hair follicles. Hairs, either fine or coarse, are found upon almost all regions of the body; they are more highly developed in certain parts than in others.

To the touch the skin has a soft, smooth, somewhat unctuous feel. In color it varies exceedingly; it is encountered possessing all degrees of shade from whitish-pink to black, according to the race. In thickness it likewise varies, depending upon locality; it is thickest on the back, buttocks, palms and soles, and thinnest on the eyelids.

It is to be considered as an organ of touch, by means of which we obtain a knowledge of the objects with which we come in contact. It is extremely sensitive, and by it we are enabled to distinguish between heat and cold, hardness

and softness, and other opposite qualities and degrees of difference. This sensibility is found to vary in different parts of the body; it is most acute upon the ends of the fingers.

It is moreover endowed with the power of absorption. Substances in a state of solution readily enter the system through this avenue; solid substances, as, for example, mercury, are likewise taken up by the system, but with more difficulty. It has been proved by numerous experiments that the horny layer of the epidermis acts as a decided impediment to this process.*

The skin secretes both sebaceous matter and sweat, which serve to give it softness and suppleness. Certain regions give out these secretions in greater abundance than others; the scalp, for instance, is well provided with sebaceous glands, and the axillæ with sweat glands.

The function of perspiration is a most important one, and plays a conspicuous part in the economy; when it occurs in an imperceptible manner it is termed *insensible*, when in excess *sensible*. The amount of this secretion normally poured out in the course of twenty-four hours, in the case of an adult, has been estimated by Lavoisier and Seguin and others at about two pounds.

Certain gases, as carbonic acid, and other substances, are eliminated from the body through the sudoriparous glands.

The skin, viewed anatomically, is a complex organization. It consists of parts, some of which are essential and everywhere present, while others exist only in certain regions. Of the former we have the epidermis, the corium, and the subcutaneous connective tissue; of the latter, which are termed *appendages*, there are sebaceous glands, sweat glands, hairs, and nails. In addition to the parts already mentioned, the skin contains bloodvessels, lymphatics, and nerves.

In order to obtain a thorough comprehension of the sub-

* See Auspitz, Ueber die Resorption ungelöster Stoffe bei Saugethieren. Wiener Med. Jahrb., 1871. Abstract by the author, Phil. Med. Times, vol. i. No. 24. Also, Neumann, Ueber die Aufnahme des Quecksilbers durch die unverletzte Haut. Wien. Med. Wochenschrift, 1871.

ject it will be necessary to consider these various structures separately.

EPIDERMIS.

The epidermis or cuticle is a membrane composed entirely of cells, which covers the corium in all its parts, adapting itself closely to the various elevations and depressions of this structure. It is made up of two distinct strata, termed the horny and mucous layers, which appear separated by a defined line.

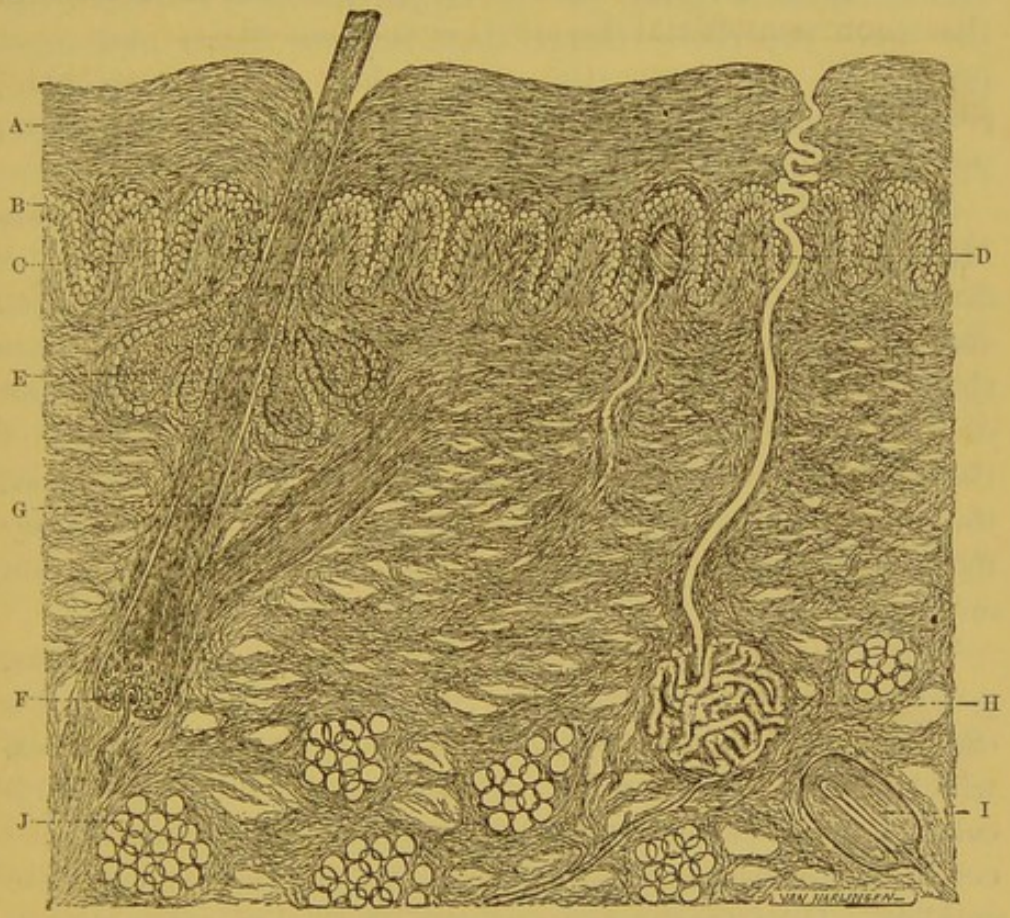


FIG. I.—SECTION OF NORMAL SKIN. A, Horny layer of the epidermis. B, Mucous layer of the epidermis. C, Corium, with papillæ. D, Tactile corpuscle. E, Sebaceous gland. F, Hair. G, Erector-of-the-hair muscle. H, Sweat gland. I, Pacinian corpuscle. J, Subcutaneous connective tissue.

Horny layer—Stratum corneum.—This is the external or superficial layer, and constitutes the greater part of the epidermis. It consists of a great number of cells, uniform in structure, and so closely packed together in the form of strata, one upon the other, as to give it the appearance of a

solid mass. Detached from the skin and viewed as a whole, it is seen to be a whitish, opaque membrane, varying in thickness and density according to the locality from which it has been removed. Its intimate structure can be determined only by isolating the constituent elements, when it will be found to consist of numerous, firmly adherent, flat, polygonal cells or plates. In the deepest layer these cells bear a close resemblance to those of the mucous layer; they are, however, flatter and less granular, and are not acted upon by carmine. They are, for the most part, without nuclei. In the more superficial layers they become flatter and more polygonal, and upon the surface they exist as wrinkled, crumpled scales or horn-like plates. They measure about $\frac{1}{84}'''$ (.0256 mm.).

Mucous layer—Stratum mucosum—Rete mucosum—Rete Malpighii.—This is situated beneath the horny layer, and in direct contact with the corium. It is a soft, gelatinous, delicate, newly formed membrane, in most localities much thinner than the horny layer, and is composed of cells with large and distinct nuclei. The form, structure, and arrangement of these cells differ in the various strata. In the deepest layer, touching the corium, they consist of a somewhat granular mass, columnar in form, without cell membrane, and contain an oval nucleus.

The cells of the next few layers are larger, homogeneous, polygonal, with one or more rounded nuclei, and have a distinct membrane giving off tooth-like processes or prickles, which fit into one another. These are termed *prickle* or *rib* cells. As the surface of the mucous layer is approached, the cells tend to assume a flatter shape and the nuclei to become smaller. Like those of the horny layer, they are very adherent. They may be separated by chemical reagents, and by like means the whole mucous layer may be isolated from the corium.

The epidermis varies greatly in thickness; it is thinnest about the lips and other parts of the face, and thickest upon the palms and soles. It measures from $\frac{1}{75}'''$ (.0284 mm.) to $1'''$ (2.136 mm.) or more.

Its surface presents a series of furrows or linear markings. Two kinds may be distinguished: a larger and deeper variety, occurring in connection with the joints and flexures of the body, and a smaller, more superficial variety, traversing the whole surface in various directions, and dependent upon the arrangement of the papillæ of the corium. The latter are to be seen upon all regions of the skin, in the form of a mosaic pattern, intersecting and forming small, polygonal spaces. Both perform a service in the movements of the body and of the skin itself. They have been made the subject of careful study by C. Langer.*

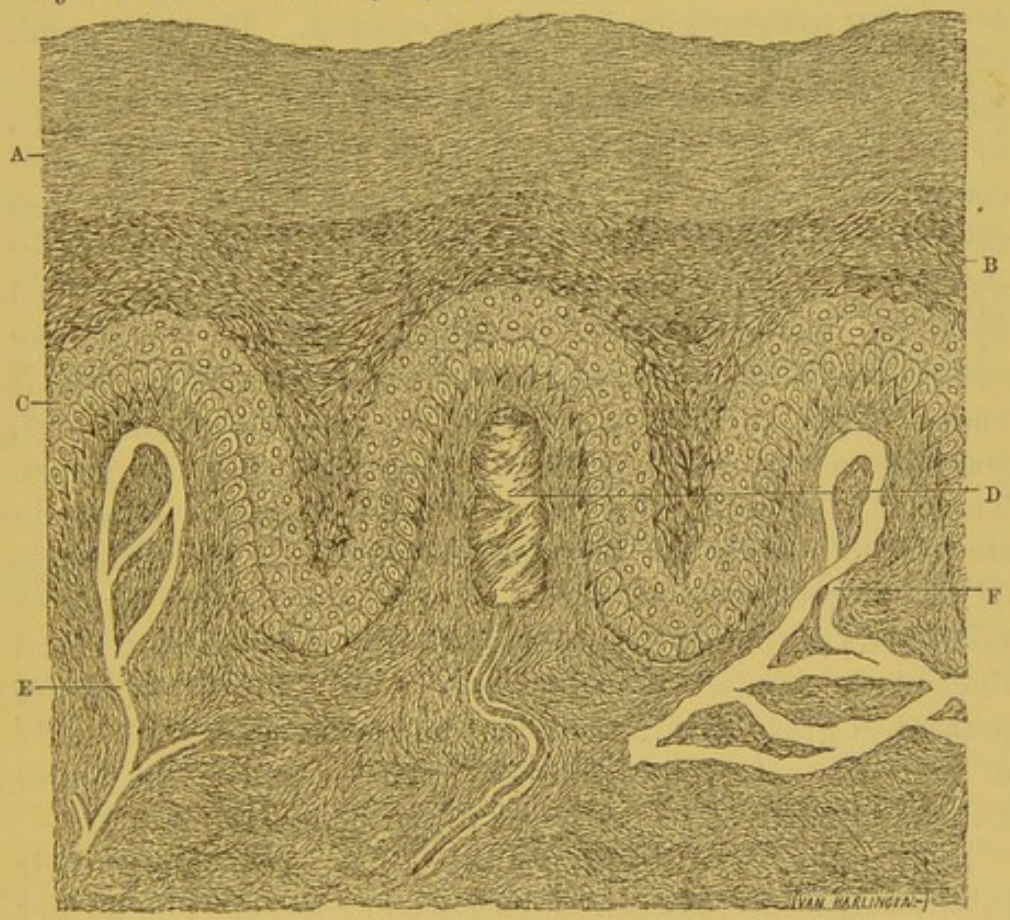


FIG. II.—EPIDERMIS AND PAPILLARY LAYER. A, Horny layer of the epidermis. B, Mucous layer of the epidermis. C, Prickle-cells of the mucous layer. D, Papilla of the corium containing a tactile corpuscle. E, Papilla containing a bloodvessel. F, Papilla with a lymphatic vessel.

CORIUM.

The corium, called also derma, cutis, and true skin, is the

* Sitzungs-Berichte der Kais. Acad. d. Wiss. Wien, 1861, Bd. xliv., xlv. See Swerchesky, Am. Jour. of Syph. and Derm., July, 1871.

most important structure of the integument. It is a firm membrane, made up for the most part of connective tissue, together with elastic fibres, and contains bloodvessels, nerves, lymphatics, smooth muscles, hairs, glands, and fat cells. It is divided into two portions, an upper and a lower, termed respectively the papillary and reticular layers.

Papillary layer—Pars papillaris.—So called from its peculiar formation. It consists of a dense tissue, with certain minute finger-like prolongations or prominences, which are designated *papillæ*. These bodies vary both in size and in shape, according to the region in which they exist. They are small, nipple-like elevations, quite solid in structure, with an irregularly conical or club-shaped form. They are either single, or are associated together by a common base; in the latter event they receive the name of *compound papillæ*. In size they vary greatly. They measure, upon an average, about $\frac{1}{3\,0}'''$ (.0712 mm.). They are found most perfectly developed upon the inner surfaces of the fingers and toes, where they assume the shape of elongated, conical bodies, with circular bases. Upon the face they are shorter, and consist of blunt, wart-like prominences. Their arrangement likewise varies. They are, however, for the most part, arranged either in straight lines or in the form of a semicircle. Upon the tips of the fingers they are seated side by side in striæ, two or more rows of them being included within one of the external lines of the epidermis visible to the naked eye. They are present in greatest number about the palm, sole, and matrix of the nail. Meissner* counted upon the end of the finger four hundred to one square line of surface (2.136 mm.).

Papillæ may be divided into two kinds, according to their internal structure, *vascular* and *nervous* or *sensory*. The former are well supplied with bloodvessels, while the latter are made up in great part of a peculiar tissue containing nerve elements, and possess but a limited amount of vascularity.

Reticular layer—Pars reticularis.—The papillary layer

* Beiträge zur Anat. und Phys. der Haut. Leipzig, 1853.

merges into the reticular layer without distinct line of demarcation, the difference between these strata consisting in the arrangement of the connective-tissue fibres.

The reticular portion is looser in texture than the papillary layer, and is made up of fasciculi of connective tissue, which decussate and give it a plexiform appearance. As these bands of tissue ascend towards the surface, they are observed to divide and to continue dividing into smaller and finer bundles until they reach the papillary structure, where only a few of the fibres are seen to interlace. It forms the bulk of the corium.

The thickness of the corium varies in different regions. Kölliker* estimates it to average from $\frac{1}{8}'''$ (.2670 mm.) to $1\frac{1}{2}'''$ (3.204 mm.); in most localities it will be found to measure about $\frac{1}{4}'''$ (.5340 mm.). It is thickest upon the soles, palms, buttocks, and back, and thinnest upon the eyelids, prepuce, and labia majora.

The corium is bounded above by the mucous layer of the epidermis, and below by the subcutaneous connective tissue, into which it insensibly passes.

SUBCUTANEOUS CONNECTIVE TISSUE.

This portion of the integument is made up of bundles of ordinary connective tissue, which cross one another and form a coarse network. Compared with the corium it is a loose structure, and contains usually an abundance of fat. This is found to exist in large quantity about the mammary glands, palms, and soles. In some regions, however, the subcutaneous connective tissue is without fat, as about the ears and eyelids. Where the fat lobules are found in number, the layer receives the name of *adipose tissue* or *panniculus adiposus*. The collections or lobules of fat consist of rounded or oval fat cells closely packed together and enclosed in a network. According to Biesiadecki,† the fat cells possess a very thin membrane, containing a minute drop of oil

* Manual of Human Microscopic Anatomy. London, 1860, p. 76.

† Stricker's Human and Comparative Histology. London, 1872, vol. ii. p. 219.

which keeps the membrane so tightly stretched that it is scarcely discernible during life. The fat may, however, be extracted with ether, when the thin membrane will be seen, with a round nucleus. Each fat lobule is supplied with a fine plexus of bloodvessels, and each cell is further surrounded by a delicate capillary vessel. Quite large bloodvessels pass through the subcutaneous connective tissue, giving off branches to the corium and the structures contained within it. Pacinian corpuscles and lymphatic vessels are also found here.

Above it blends intimately with the corium, while its deeper layers are connected with the superficial fascia of muscles. The presence or absence of fat in this layer of the skin determines to some extent the external form of the body.

BLOODVESSELS.

The corium is an exceedingly vascular tissue having numerous bloodvessels throughout its structures, existing in the form of trunks and capillaries. The main vessels ascend from the subcutaneous connective tissue, and give off branches laterally in all directions, supplying the glands and hair follicles as well as the corium itself. Towards the papillary layer a delicate and highly-organized plexus of capillaries exists, affording an abundant supply to this region. The papillæ receive capillary loops, which run through their centre, or at their sides, parallel to their long axes. The papillæ containing developed nervous structure are supplied with very fine capillary loops.*

LYMPHATICS.

The skin is abundantly supplied with lymphatic vessels. Neumann† has demonstrated them in the papillæ, in the lower layers of the corium, in the subcutaneous and adipose tissues, and in connection with the hair follicles and seba-

---

* See Thin, Jour. of Anat. and Phys., vol. viii., 1874, p. 37.

† Zur Kenntniss der Lymphgefässe der Haut des Menschen und der Säugethiere. Wien, 1873. Abstract by the author, Phila. Med. Times, vol. iii. No. 43.

ceous and sweat glands. According to this observer, they present an enclosed tubular system, with independent walls, whose interior is lined with flat epithelium. These walls are nowhere interrupted by openings; no communication, therefore, existing with the so-called lymph spaces. The anatomy of these spaces, termed also juice canals, is as yet unsatisfactorily determined.*

The results of the investigations of both Biesiadecki and Neumann show that there exists some specific relation between the bloodvessels and lymphatics of the skin; they are found for the most part accompanying each other. Large lymphatics, however, are often discovered independent of bloodvessels.

The lymphatics in the corium form two close and separate networks, the deeper being much the more extensive of the two. Valves have been demonstrated in the walls of the larger lymphatic vessels of the subcutaneous connective tissue; they have not, however, been seen in the smaller vessels.

The hair follicles, sebaceous and sweat glands each possess their own system of lymphatic capillaries. Lymphatic vessels exist in greatest number about the scrotum, prepuce, and labia majora.

NERVES.

On account of the difficulty of demonstrating nerve structures, our knowledge in this direction has until quite recently been limited. Both medullated and non-medullated nerve fibres are known to exist in the skin; the former terminate, as a rule, in peculiar bodies, called the corpuscles of Pacini and Tactile corpuscles; while the latter, the non-medullated fibres, end as a delicate plexus in the upper layers of the skin and rete mucosum. Both varieties of nerves accompany the more important bloodvessels. The larger nerve trunks come up from the subcutaneous connective tissue and divide at the corium, taking various directions according to the region they are to supply.

---

* For further information, see Biesiadecki, Stricker's Human and Comparative Histology, vol. ii. p. 225.

Medullated nerves.—Under this head the Tactile and Pacinian corpuscles are to be considered.

TACTILE CORPUSCLES.

These bodies are also called touch corpuscles, corpuscles of Meissner, and corpuscles of Wagner. They are oval or roundish in form, and are found situated in the papillæ of the corium, attached to medullated nerve fibres. As a rule they occupy the greater portion of the papillæ, and are visible in prepared sections of skin as large, well-defined, firm-looking bodies, having a transversely striated or corded exterior. According to recent studies, especially those of Langerhans* and Thin,† they consist of a mass of nucleated cells, probably connective tissue, held closely together by delicate connective-tissue fibres.

A medullated nerve fibre penetrates each corpuscle at its base, and winds itself with a variable course both around and throughout the interior of the structure, terminating within the corpuscle, as stated by Langerhans, in a club-shaped extremity.

Papillæ containing tactile corpuscles are termed sensory papillæ; like the so-called vascular papillæ, they possess bloodvessels, though of smaller dimensions. They have been demonstrated by Thin. Observers differ in their opinion as to the existence of a membrane encapsulating the corpuscle. The number of tactile bodies varies in different regions of the body; they are most numerous upon the fingers, especially upon the last phalanges. They are found also upon the palms and soles, as well as upon other portions of the body. Meissner, who devoted much time to the study of these corpuscles, ascertained that, out of four hundred papillæ upon a square line of skin of the last phalanx of the finger, one hundred and eight were provided with tactile bodies. The same investigator states that they vary from $\frac{1}{20}'''$ (.1068 mm.) to $\frac{1}{10}'''$ (.2136 mm.) in length, and that they measure about $\frac{1}{40}'''$ (.0534 mm.) in width.

---

* Archiv für Mikroscopische Anat., 1873, p. 730.

† Jour. of Anat. and Phys., 1874, p. 30.

Like the Pacinian corpuscles, they are to be considered as containing the terminal ends of medullated nerve fibre.

PACINIAN CORPUSCLES.

Pacinian corpuscles (so named after Pacini, an Italian anatomist), also called corpuscles of Vater, are quite large, well-defined, oval or olive-shaped bodies, found upon the cutaneous nerves. They occur in various regions, but are most numerous about the palms and soles, and fingers and toes, especially on the last phalanges. They vary greatly in size, averaging from $\frac{1}{2}'''$ (1.068 mm.) to $2'''$ (4.272 mm.), and have their seat in the subcutaneous connective tissue.

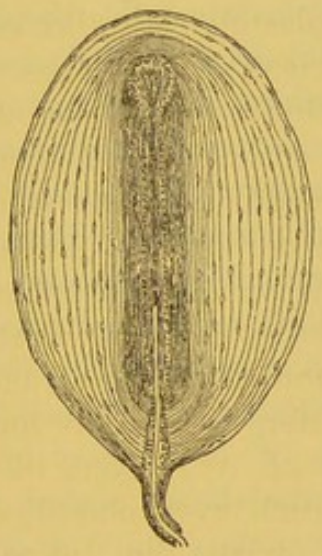


FIG. III.—PACINIAN CORPUSCLE (drawn according to the views of Schäfer), showing a medullated nerve fibre entering the corpuscle at its lower extremity; also the capsular envelope, the core, and the central fibre.

Each Pacinian body is connected with a nerve trunk by means of a medullated nerve fibre, which enters the corpuscle at its lower extremity and passes through the centre of the structure, terminating in one of several ways to be mentioned. According to Biesiadecki,* a bloodvessel of considerable size enters the corpuscle in the vicinity of the nerve fibre, and forms a plexus between the outer layers of the capsular envelope.

* Loc. cit., p. 233.

The intimate structure of the corpuscle, following Schäfer,* may be regarded as consisting of three parts,—the central fibre, the core, and the capsular enclosure. The central fibre, a continuation of the entering nerve, retains a uniform calibre throughout the body until it reaches its distal extremity, where it usually becomes enlarged, terminating either in the form of an irregularly sized and shaped enlargement, or with pointed, fork-like processes. In structure it is composed of numerous fibrils, which are observed to cross one another very obliquely.

The core, situated immediately around the central fibre, consists in its innermost portion of a homogeneous, non-nucleated substance. According to Schäfer, its outer part is composed of protoplasmic cells, like connective-tissue corpuscles, each with a clear, oval nucleus.

The capsular envelope, which surrounds the core, gives form and bulk to the corpuscle, and is made up of a number of concentrically arranged membranous layers,—the so-called coats of the Pacinian corpuscle. These laminæ have been commonly regarded as being composed of layers of flattened cells, together with both white and elastic connective-tissue fibres. According, however, to Key and Retzius† and the recent studies of Schäfer, these coats have a peculiar structure, each consisting of two layers of flattened cells, an external and an internal layer, placed, as it were, back to back, between which exists the "so-called" intercapsular space, containing an albuminous fluid together with white and elastic fibres.

The innermost layers of the corpuscle are compactly arranged one upon the other, while the more external coats are thicker and less closely held together.

Viewed as a whole, the Pacinian body is to be looked upon as one of the forms of medullated nerve-fibre termination.

Non-Medullated Nerves.—The demonstration of these fibres in the skin is extremely difficult, and their presence can be

---

* Quarterly Jour. of Micros. Science, April, 1875.

† Schultze's Archiv, ix.

shown only by the successful staining of their tissue by means of gold or osmic acid. From the researches of Biesiadecki* and Langerhans† we learn that they form a plexus in the corium, composed of a few thick and many fine smooth and varicose nerve fibres. A few filaments come off from this plexus, which tend toward the mucous layer of the epidermis, beneath which they pursue their course for some distance and then enter it. Other fibres pass into the papillæ, where they divide, and ascend between the cells of the mucous layer, terminating with fine bulbous extremities at about the third layer of cells.

MUSCLES.

We encounter both striated and smooth muscular fibres in the skin. The former are found only in certain regions of the body, as the face, arising from the deeper structures and terminating in the corium. The smooth muscular fibres exist either as anastomosing plexuses running horizontally, as in the scrotum, or as fasciculi, as in connection with the hair follicles. As *erectores pili* or erectors of the hair, they occur in the form of flat bands, which, arising in the upper part of the corium, traverse it in an oblique manner and are attached to the hair follicle below the sebaceous gland. Many hairs possess two muscles, which pass around on either side of the gland.

The muscles of the skin exist quite generally over the body, and are found to be highly developed upon the scalp, scrotum, and penis. The investigations of Kölliker show that they are arranged in circular layers about the areola of the nipple, becoming more marked from without inwards as far as the base of the nipple. In the nipple they form a close network. Contraction of these muscles causes the condition known as *cutis anserina*, or *goose-flesh*.

PIGMENT.

The general coloration of the skin depends upon a deposition of pigment or coloring matter in the cells of the mucous

---

* Stricker's Human and Comparative Histology, vol. ii. p. 235.

† Virchow's Archiv, Bd. xliv., 2 and 3 Heft.

layer of the epidermis. It consists in a slight staining of the cells themselves, with a more intense coloring of their nuclei, and also upon the presence of fine granules of pigment in the cells. One or more strata of the mucous layer may be the seat of pigment cells, appearing microscopically as a dark line just above the papillary layer of the corium. The pigment layer is always located in the deepest cells of the mucous layer. The corium is never the seat of normal pigmentation.

The color of the skin varies from white to black in different races. It also varies from a light to a dark shade in different individuals of the same race, giving rise to the color of persons designated blondes and brunettes. In certain regions of the body the skin is always relatively darker in color; as upon the scrotum, labia majora, perineum, nipples and areolæ. This difference is due simply to an increase in the amount of the ordinary pigment, which is found to be largely developed in these localities. In the white race the pigment cells are for the most part yellowish white in color, which, together with the vascularity of the corium, gives the peculiar pinkish flesh tint of the skin. In the colored races, including the negro, the pigment layer is very highly developed, the whole of the mucous layer being more or less stained. The deepest strata of cells are always the most intensely colored. In these cases the horny layer of the epidermis is also somewhat darkened in hue.

SWEAT GLANDS.

The sweat or sudoriparous glands are convoluted bodies, situated deep in the corium, or, as is more often the case, in the subcutaneous connective tissue. They are tubular glands, twisted into the form of a knot, and open on the surface of the skin by means of a canal called the excretory duct. This duct begins at the gland, and ascends in a perpendicular manner through the skin and epidermis, passing between the papillæ of the corium, and opening out upon the surface of the epidermis. As it enters the epidermis it inclines to assume a spiral course, making a number of turns, and finally terminates in a minute funnel-shaped aperture or *pore*. Upon

the palms and soles they are quite large, and can at times be seen with the naked eye. The ducts vary in length according to the locality of the gland.

The gland itself is a small, roundish body, yellow in color, varying in size as it occurs in one region or another of the body. In the axilla, where they form an almost continuous layer under the corium, they are found to be larger than anywhere else, and attain a diameter of $\frac{1}{2}'''$ (1.068 mm.) to $1\frac{1}{2}'''$ (3.204 mm.). In other portions of the body they measure about $\frac{1}{8}'''$ (.3560 mm.).

Sweat glands exist in all parts of the skin, with a few exceptions. According to Kölliker and Biesiadecki, they are absent on the glans penis and prepuce. The former observer also denies their existence on the concave side of the concha of the ear and in the external auditory passage. They are very numerous, their number being estimated by Krause as considerably over two million.* The same observer places their number at about twenty-five hundred for both the palm and sole, and from four to five hundred to each square inch upon the dorsal surface of the trunk and upon the cheek.

In structure the sweat gland consists of a single tube, having about the same width throughout its length, which is convoluted and knotted into a ball, being held together by a loose connective tissue. The tube is made up of a sheath or external covering of connective tissue, containing internally a layer of columnar cells.

The glands are extensively supplied with bloodvessels, which envelop them completely in a reticular manner.

The secretion of the glands varies in quality according to their size and situation. The smaller ones give forth a clear, transparent fluid, while the larger ones produce the same fluid together with fat cells and numerous fine granules with free nuclei.† This latter product is to be regarded as coming from the walls of the gland tubes.

SEBACEOUS GLANDS.

The sebaceous or sebiparous glands are always situated in the corium; they are never found as far down as the sub-

* Kölliker, loc. cit., p. 125. † Ib., loc. cit., p. 127.

cutaneous connective tissue. As a rule they are connected with the hair follicles, into which they empty their secretion. Occasionally the ducts of the glands open upon the surface of the epidermis.

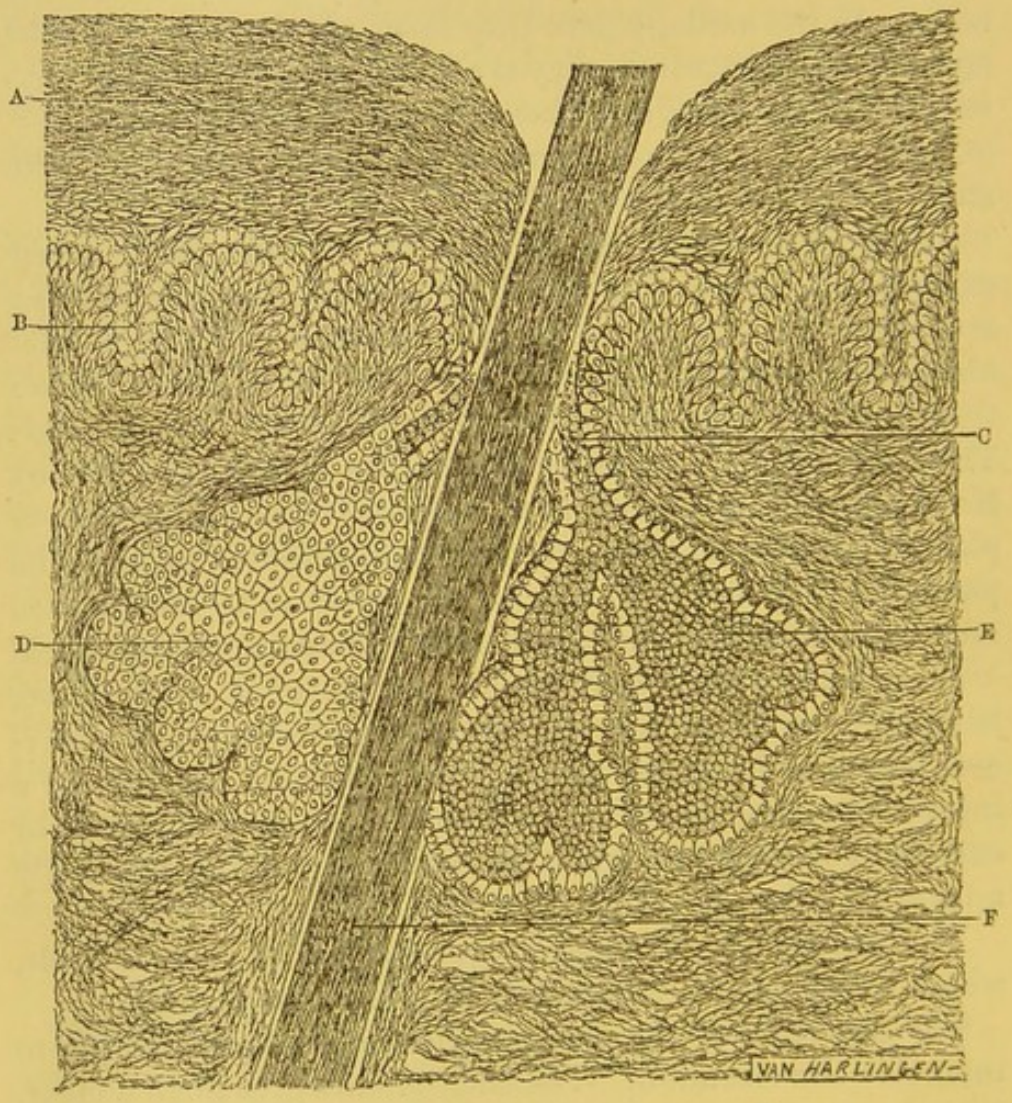


FIG. IV.—SHOWING THE STRUCTURE OF THE SEBACEOUS GLAND.
A, Horny layer of the epidermis. B, Mucous layer of the epidermis. C, Excretory duct of the sebaceous gland. D, The exterior structure of the gland. E, The interior of the gland, with sebaceous matter *in situ*. F, Shaft of a fine hair.

They consist of a gland structure with a short excretory duct. The gland itself is a racemose one, made up of lobules, and has a pear-shaped form. At times it is divided into two or more separate parts or lobes, which unite at the duct. The sebaceous glands secrete a fatty product known

as *sebum* or *sebaceous matter*, which serves to oil the surface of the skin as well as the hairs. This product consists of a semi-fluid, oily mass, amorphous in character, which hardens into a tallow-like substance upon exposure to the air. Sebum is always mixed with numerous cells derived from the walls of the glands, which are being continually cast off. These cells are very abundant, and are epithelial in nature, resembling those of the rete mucosum. They contain a distinct nucleus, and are always more or less impregnated with fat. The excretory duct, as a rule, empties directly into the hair follicle, its wall being continuous with the external root sheath of the hair.

The sebaceous glands occur in almost all parts of the body. Biesiadecki states that they are entirely absent in the palms and soles, on the dorsum of the third phalanges, and on the glans penis. On the other hand, both Kölliker and Neumann assert that they are present upon the glans penis. My own experience inclines me also to this view.

The size of the glands is very variable, averaging from $\frac{1}{10}'''$ (.2136 mm.) to $1'''$ (2.136 mm.). The largest sebaceous glands are those found in the eyelids,—the Meibomian glands. They exist in great numbers throughout the scalp, each hair being, as a rule, supplied with two glands. About the scrotum, pubes, mons veneris, labia majora, the glands are even more numerous, from four to six often being connected with one hair.

HAIRS.

Hairs are fine, long, rounded, compact bodies, having their seat in the so-called hair follicles,—depressions in the skin. Three kinds of hair are recognized: long hair, as that of the scalp; short, thick hair, as that of the eyebrows; and very fine, soft hair, called *lanugo*, found upon the face, trunk, and other regions.

In considering the hair we distinguish two portions,—the *shaft*, which is free, and protrudes beyond the surface of the skin, and the *root*, the part contained within the skin. The shaft is usually long and straight, tapering off to a point as it approaches its end, while the root is found to be thicker

and to terminate in a bulb-shaped expansion, termed the *hair bulb*.

In minute structure the hair consists of the cortical substance and the cuticle; another portion, the medullary substance, may also be mentioned here, although its presence is not constant.

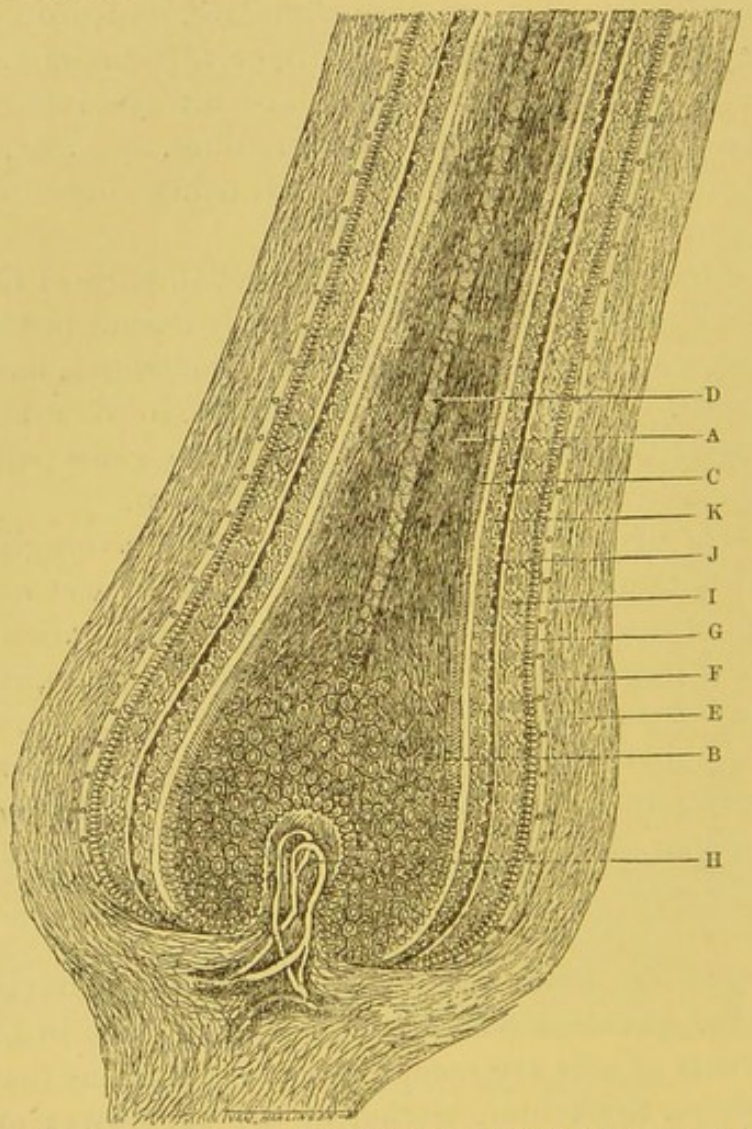


FIG. V.—THE HAIR AND THE HAIR FOLLICLE. A, Shaft of the hair. B, The root of the hair. C, Cuticle of the hair. D, Medullary substance of the hair. E, External layer of the hair follicle. F, Middle layer of the hair follicle. G, Internal layer of the hair follicle. H, Papilla of the hair. I, External root sheath. J, Outer layer of the internal root sheath. K, Internal layer of the internal root sheath.

The *cortical substance*, termed also *hair substance*, constitutes the bulk of the hair, and is composed of a number of elongated, spindle-shaped, flat filaments or bundles, longi-

tudinally striped, containing pigment granules, which give it a punctate appearance. These filaments are further made up of long, flat, nucleated fibre cells, which adhere so closely together as to be separable only by the employment of reagents. In white hair the cortical substance is without pigment, and is transparent.

The *hair bulb*, or root proper, surrounds the hair papilla at the base of the follicle. It is a loose, spongy structure, and is composed of nucleated cells similar to those found in the deep strata of the mucous layer of the epidermis. Small granules, either colorless or pigmented, according to the color of the hair, are present and give the structure a speckled appearance. At the point where the hair bulb joins the straight portion of the root, the cells composing the bulb pass imperceptibly into the fibre cells of the cortical substance.

The *cuticle* is a delicate membrane, which completely invests the cortical substance and serves to bind its bundles firmly together. It is adherent to the hair, and gives it a reticulated, crossed, scaly appearance, not unlike the scales upon a fish. When treated with alkalies it is seen to become detached from the hair substance, and to consist of numerous small, flat, transparent cells or plates, without nuclei. They are analogous to the cells of the horny layer of the epidermis, and serve a like purpose.

The *medullary substance* is wanting in some hairs. It is usually present in the short and thick hairs, as well as in the long hairs of the scalp; it is absent in lanugo. When present it is seen as a broad, colored line or cord, running longitudinally through the centre of the hair, commonly extending throughout its whole length. In structure it consists of cells, rectangular or oblong in shape, containing nuclei and fatty granules. They may be seen to advantage with the aid of an alkali. Air vesicles are frequently found in the medullary substance.

HAIR FOLLICLE.

The hair follicle is an elongated sac, from 1‴ (2.136 mm.) to 3‴ (6.408 mm.) long, dipping down into the corium and subcutaneous connective tissue, for the accommodation of the

hair. It is to be viewed as a continuation of the epidermis and corium. It is cylindrical in form, tending to enlarge at its lower extremity. In structure it consists of three layers, the external, middle, and internal.

The *external layer* (termed by Kölliker the *external fibrous coat*) determines the form of the follicle; it is the most important and thickest layer, and consists of connective-tissue fibres which run parallel with the course of the hair, blending above in the papillary layer with the fibres of the corium, and terminating below, around the hair bulb, in the form of an ovate prolongation into the subcutaneous connective tissue. It is supplied with an artery, a vein, and medullated nerve fibre.

The *middle layer* (the *internal fibrous coat* of Kölliker) is less extensive than the external layer, and is seen to be made up of transverse connective-tissue fibres with elongated nuclei. Bloodvessels have been found here, but no nerves.

The *internal layer* (called also *vitreous membrane*, and *structureless membrane*) is not acted upon by either acids or alkalies. It is a transparent tissue. Its outer surface is smooth; its inner surface is marked with delicate transverse lines. According to Biesiadecki, although perfectly homogeneous on section, it shows, when viewed on the flat surface, transverse, oblique, decussating fibres, together with ill-defined round nuclei. It is without vessels or nerves.

At the base of the follicle rises the *papilla of the hair*, a conical or ovate, smooth, well-defined body, about $\frac{1}{15}'''$ (.1424 mm.) long, which is seen to protrude itself into the hair. It springs from the connective tissue of the follicle, and consists of connective tissue together with round nuclei and nucleated cells. Biesiadecki has demonstrated that two small arteries enter the papilla, and that these usually unite to form a single trunk towards the summit and then again divide and find their way out in the form of veins. The same observer has been able to trace non-medullated nerve fibres as far up as the neck of the papilla.

There are two *root sheaths*, an external and an internal; they are made up of a number of layers.

The *external root sheath* is simply a continuation of the mucous layer of the epidermis, which extends down the hair as far as the bulb. As it approaches the bulb it becomes narrower, finally terminating in a point, consisting of a single row of cells. On the outside it adjoins the vitreous membrane of the follicle. Langerhans claims to have found nerve structure here, the same as in the mucous layer of the epidermis.

The *internal root sheath* is a transparent, elastic, firm membrane investing the root from the openings of the sebaceous glands down to the hair bulb. It is composed of two layers, an outer and an inner, the first being connected externally with the external root sheath, the latter with the cuticle of the hair.

The *outer layer* consists of elongated, highly refractive, non-nucleated cells, lying parallel to the long axis of the hair.

The *inner layer* adjoins and is attached to the cuticle of the hair. It consists of non-nucleated, broad cells, somewhat thicker than those of the cuticle of the hair.

Hairs occur upon all parts of the body, except the palms and soles, eyelids, backs of the last phalanges of the fingers and toes, lips, and inner surface of the prepuce and glans penis. They are seen to be seated in the skin in a more or less oblique direction, varying with the region of the body. They vary both in thickness and in length, according to locality; they are shortest and finest in the delicate lanugo found upon the face and trunk, and longest and coarsest upon the scalp and beard. The number of hairs upon the body likewise varies considerably in different localities; also in different individuals. As a rule, the lighter the hair in color the more numerous will they be found.

Wilson* calculates the number of hairs of the scalp to be about one thousand to the square inch, or one hundred and twenty thousand to the whole scalp; other calculators make the number less. The difference depends upon the number of follicles present; also the number of hairs arising from each follicle.

---

* Diseases of the Skin. London, 1867, p. 36.

The general color of the hair varies extremely in different races and in individuals. It depends upon the presence of pigment in the hair filaments, in the form either of granules or of a diffused coloration. It is also influenced by the presence of air vesicles, which may occur, Biesiadecki thinks, either between the cortical and medullary substances or in their interior.

Hairs are remarkably elastic, and admit of great extension; they are also very strong, and are capable of supporting considerable weight without breaking. When cut they grow again rapidly until they have assumed their determinate length. They absorb and give off water readily; they also take up fatty and oily substances.

In structure they contain no bloodvessels; they are nourished from their papillæ. In chemical composition they consist of a nitrogenous substance, containing sulphur, fat, pigment, and mineral salts. They retain their characteristics for a very long time, and are the last portion of the body to give way to decomposition.

NAILS.

The nails are hard, horny, elastic, transparent structures, which are imbedded in the skin upon the last phalanges of the fingers and toes. They are rounded or quadrilateral bodies, and are curved from side to side. They have four borders, one of which only, the anterior, is free; the posterior and lateral borders are sunk in the flesh. The posterior portion of the nail, situated in the skin, is termed the *root*, while the exposed part is called the *body*.

Around the lateral and posterior borders of the nail, at the point where the skin joins the nail, there exists a well-defined groove. The corium upon which the nail rests is called the *bed* or *matrix;* it corresponds in form to the nail, to which it is closely adherent. The matrix is a part of the corium, and presents peculiar ridges, upon which are seated the papillæ, directed somewhat forward. It is a dense tissue, containing an abundance of elastic fibres and but little fat. The bloodvessels form a plexus in the upper part of the corium, supplying the papillæ, and also a finer plexus in the

lower portion, devoted to the matrix itself. According to Biesiadecki,* numerous medullated nerve fibres lie in the subcutaneous tissue of the nail bed, which, losing their medullary sheath at about the level of the corium, run vertically to the surface.

A defined whitish substance, surrounded anteriorly by a convex line, is usually present in the matrix, just in front of the posterior groove. It is crescentic in shape, and is called the *semilunula*.

In structure the nail must be regarded as modified epidermis. Like it, it is divided into two layers, a horny and a mucous layer. The former constitutes the greater portion and substance of the nail, forming its exterior as well as its free edge.

The surface of the nail is smooth and glistening, and contains longitudinal striæ, which are parallel, running from the root to the free edge.

In order to study the intimate structure of the nail it is necessary first to employ reagents. It is then found to be made up of numerous, closely connected plates, which may be further resolved into nucleated, polygonal, flat cells. Excepting in the presence of the nuclei, they resemble the cells of the horny layer of the epidermis.

---

* Loc. cit., p. 260.

SYMPTOMATOLOGY.

Diseases of the skin exhibit themselves in the form of symptoms, which are either of an objective or of a subjective nature.

Objective symptoms are those which consist of certain appearances which manifest themselves upon the surface, and are for the most part the result of structural alteration in the tissues. They are capable of ocular demonstration.

Subjective symptoms, on the other hand, relate solely to sensation, of which the patient alone is able to take cognizance. The former are much the more numerous, and constitute by far the more important group.

OBJECTIVE SYMPTOMS.

Under this head are to be studied the various lesions which occur in the skin. These may be divided into those which show themselves as primary forms of disease, termed *primary lesions*, and those which exist either as the result of primary lesions or from other causes, designated *secondary lesions*. The importance of obtaining a just appreciation of these morbid changes cannot be over-estimated. Upon their recognition depends the ability to establish correct diagnoses.

PRIMARY LESIONS.

MACULÆ.

Syn. Macules; Spots; *Germ.*, Flecke; *Fr.*, Taches.

MACULÆ ARE VARIOUSLY SIZED, SHAPED, AND COLORED PORTIONS OF ALTERED SKIN, UNACCOMPANIED BY ELEVATION OR DEPRESSION.

They are of various sizes; they may be as small as a pin-head or as large as a hand. In outline they are usually

roundish, but they may also be irregular in shape. In color they vary exceedingly; they may, in fact, be of any color, the more common, however, being red and yellow. They are the product of diverse causes, and consequently represent a number of pathological conditions.

The simplest variety of macule is that caused by hyperæmia and called *erythema*, examples of which are of constant occurrence in connection with numerous disorders.

Maculæ may also be the result of hemorrhage into the tissues of the skin, when they appear as reddish or blackish marks, which do not disappear under pressure.

Permanent vascular growths in the skin, as nævi, are also included as maculæ.

Alterations in the pigmentary function of the skin give rise to maculæ, which may be due to either an increase or a deficiency of the normal coloring matter. The disease vitiligo offers an instance where the spots are caused by an increase as well as a deficiency of the pigment, both atrophy and hypertrophy taking place side by side. The yellowish maculæ termed chloasmata, observed for the most part about the face of women, are occasioned by the presence of an excessive amount of the normal pigment. Another form of the macule, due to the same cause, is found in lentigo or freckle.

When abnormal coloring of the skin involves the whole or a large portion of the surface in a uniform manner, the condition is designated a *discoloration*. Examples of this are observed in jaundice, and in the staining of the skin resulting from the internal use of nitrate of silver.

Maculæ are evanescent or permanent according to their cause. They disappear or remain under pressure, as they are of one kind or another.

They may or may not be accompanied by subjective symptoms.

PAPULÆ.

Syn. Papules; *Germ.*, Knötchen; *Fr.*, Papules.

PAPULÆ ARE CIRCUMSCRIBED, SOLID ELEVATIONS OF THE SKIN, VARYING IN SIZE FROM A PIN-HEAD TO A SPLIT PEA.

They are of various shapes; some are acuminated, some are

rounded, while others are flat and angular. They are encountered in numerous diseases; are due to a great number of causes; and have their seat in different structures of the skin. They may be situated in the corium; in connection with sebaceous glands; or about the hair follicles.

Papules may or may not be inflammatory, according to their origin and mode of development. Their color varies; they may be reddish, or they may be whitish.

Papules are of many varieties, the more prominent of which are the following.

The commonest papule is that which consists of a circumscribed plastic exudation in the skin. It finds its typical expression in papular eczema. Inflammatory papules may or may not undergo metamorphosis into other lesions; thus, not infrequently they pass on into vesicles and pustules, or, they may break down and become ulcers, as in syphilis.

Another variety of papules is made up of accumulations of epidermic cells, arranged concentrically around the entrances of the hair follicles; they form solid conical elevations, and are seen in lichen pilaris.

Still another kind of papule is formed about the sebaceous glands, consisting of a circumscribed collection of sebum, producing a solid, whitish, semi-globular elevation, as observed in milium. Closely allied to this formation is that which occurs in comedo, which must also be considered as a papule.

Hemorrhage into the skin at times gives rise to papules, as in purpura papulosa.

Papules may also be formed by hypertrophy of the normal structures of the skin, as the papillæ, examples of which may be observed in ichthyosis, warts, etc.

The duration of papules varies with their character; some last only a few days, while others are permanent. They may disappear by absorption, as in the case of most of the inflammatory varieties, or they may be removed by mechanical means, as in milium. Inflammatory papules are in the course of their evolution frequently surmounted by accumulations of fine scales, more particularly during the stage of decline. When scales are present in any quantity, the lesion

receives the name of a *squamous papule;* this condition is of very common occurrence in syphilis. The disappearance of inflammatory papules, especially those of long standing, is apt to be followed by pigmentary deposit.

Papules may or may not be attended by itching, this symptom, as well as others of a like kind, depending altogether upon their nature; thus, those of eczema are remarkable for the violence of the itching which they occasion, while, on the other hand, those of milium or lichen pilaris give rise to no inconvenience whatever.

VESICULÆ.

Syn. Vesicles; *Germ.*, Bläschen; *Fr.*, Vésicules.

VESICULÆ ARE CIRCUMSCRIBED, ROUNDED ELEVATIONS OF THE EPIDERMIS, VARYING IN SIZE FROM A PIN-POINT TO A SPLIT PEA, CONTAINING A CLEAR SEROUS FLUID.

They are of different colors, according as their contents are pure serum, sero-purulent matter, or serum mixed with blood. When recent and typical in character, they possess a yellowish hue. They may be either fully distended with fluid or only partially so; their walls may be either tense or flaccid. As a rule they rupture readily, and discharge their contents over the surrounding surface. Certain vesicles, however, as those of herpes zoster, are tenacious, and do not break unless exposed to violence.

In form vesicles are rounded and possess either a dome-like roof or are somewhat acuminated. They may have either an even, rounded surface, or they may have a slight depression on their summit.

Anatomically the vesicle has its seat between the mucous and horny layers of the epidermis. Vesicles do not remain as such for any length of time; rarely for more than a few days. They either rupture,—the fluid becoming a crust,—or they retain their contents, which pass into a purulent condition, and thus become pustules. The changes which they undergo vary in different diseases.

Vesicles rarely occur singly, but almost always in numbers, either in the form of aggregations, as in eczema, or in distinct groups, as in herpes zoster. They may occur upon all parts

of the body; more especially upon those portions where the epidermis is delicate and soft. They are usually accompanied by burning and itching sensations; at times, however, such symptoms are absent.

BULLÆ.

Syn. Blebs; *Germ.*, Blasen; *Fr.*, Bulles.

BULLÆ ARE IRREGULARLY-SHAPED ELEVATIONS OF THE EPIDERMIS, VARYING IN SIZE FROM A SPLIT PEA TO A GOOSE-EGG, CONTAINING A CLEAR OR OPAQUE FLUID.

They vary exceedingly in size, and have no definite form. Large and small bullæ may occur simultaneously side by side. They may appear either singly or in numbers; they are never so numerous as vesicles, nor do they ever incline to form into distinct groups.

They are usually of a bright yellow color; when their contents become turbid, they are whitish; when they contain blood, they are reddish. The fluid of bullæ is albuminous and offers an alkaline or neutral chemical reaction.

Bullæ usually possess strong walls, and do not tend to rupture spontaneously. They are commonly distended to their utmost capacity; in particular instances, however, they are only partially filled and remain flaccid. At times they break before they are perfectly formed, leaving their shattered walls attached to the skin in the form of shreds; this process takes place in pemphigus foliaceus.

The walls of bullæ rise up directly from the surface of apparently healthy skin, without, as a rule, marked signs of inflammation; occasionally areolæ are present. Like vesicles, blebs have their seat in the layers of the epidermis. Their intimate structure also corresponds to that of vesicles. They are not commonly attended by marked itching or burning sensations, except in their early stages, or in those cases where they are in large numbers.

PUSTULÆ.

Syn. Pustules; *Germ.*, Pusteln; *Fr.*, Pustules.

PUSTULÆ ARE CIRCUMSCRIBED, ROUNDED ELEVATIONS OF THE EPIDERMIS, VARYING IN SIZE FROM A PIN-POINT TO A FINGER-NAIL, CONTAINING PUS.

They either originate as pustules, or become so by transition from vesicles or papules. Inasmuch as they always contain pus, they have a yellow, opaque color; not infrequently they also contain blood, in which event they possess a dark reddish color.

There are several well-defined kinds of pustule; their chief difference resting in their mode of development and structure.

The pustule of acne has its seat in a sebaceous gland; that of ecthyma and of pustular eczema, about the papillary layer; while that of variola is situated between the layers of the epidermis, as in the case of the vesicle.

The course and duration of pustules differ according to their character; they all incline to a rapid termination. They either burst, forming a thick, yellowish or dark crust, or desiccate without rupture, leaving a dry, friable crust. Pustules may or may not be followed by cicatrices; this depends upon the anatomical nature of the pustule, and also upon the extent to which the process has involved the skin. The scars resulting from variola, as well as from acne, are well known.

Pustulæ are seldom accompanied by prominent subjective symptoms; very frequently they are altogether absent.

WHEALS.

Syn. Pomphi; Urticæ; *Germ.*, Quaddeln.

WHEALS ARE FIRM, FLAT, ELONGATED OR ROUNDED, SLIGHTLY RAISED ELEVATIONS, OF AN EVANESCENT CHARACTER.

Their size varies extremely; they may be as small as split peas or as large as the palm of the hand. They are apt to appear in great numbers, and exhibit a decided inclination to run together; by this process of coalition large surfaces become involved in continuous patches. In form, wheals ordinarily

manifest themselves as bean-shaped or oval elevations, tending to assume an elongated rather than a rounded shape; they also occur in the form of lines or stripes. Their color is usually whitish or pinkish, with more or less of an areola. In duration they are evanescent; they form very rapidly, often in a few moments, and, remaining a longer or shorter time *in statu quo*, disappear in almost as rapid a manner as they came.

They have their seat in the upper layers of the skin, and are produced by a sudden effusion of fluid into the meshes of the corium. They may contain serous fluid, as in simple urticaria, or a mixture of serum and blood, as in purpura. The typical wheal is seen in urticaria.

Wheals are always accompanied by marked tingling and itching sensations, which are often very distressing.

TUBERCULA.

Syn. Tubercles; *Germ.*, Knoten; *Fr.*, Tubercules.

TUBERCLES ARE FIRMLY-SEATED, SOLID ELEVATIONS OF THE SKIN, VARYING IN SIZE FROM A SPLIT PEA TO A CHERRY.

In shape they are rounded, but possess no definite form; they may be semi-globular, conical, flat, or of irregular outline. Their color is usually reddish; this feature, however, depending upon their nature. In those cases where they are due to inflammatory products or to new formations, they are apt to exhibit a deep red color. Tubercles are ordinarily of firm consistence, often hard to the touch, and have their seat in the corium and subcutaneous connective tissue. In minute structure they are similar to papules, frequently being in reality exaggerated papules involving deeper tissues and a more extended amount of surface. They are the result of various causes, as in the case of papules, but are produced in great part by the cellular neoplasmata. Syphilis, leprosy, and carcinoma all give rise to marked examples of tubercle. They undergo various changes in their evolution, according to their nature and circumstances; they are either absorbed, or break down and ulcerate, or they may establish themselves and remain permanent.

TUMORES.

Syn. Tumors; Phymata; *Germ.*, Knollen; *Fr.*, Tumeurs.

CUTANEOUS TUMORS ARE VARIOUSLY SIZED, SHAPED, AND CONSTITUTED FIRM PROMINENCES.

They are of all sizes, from a pea to an egg, and larger. They are usually of a semi-globular form, and are either connected to the skin with a broad base, as in sebaceous molluscum, or are pedunculated, as in many cases of fibrous molluscum. They are more or less well defined, according to their nature. Their color is very often the same as that of the adjacent skin. Tumors rise above the surrounding skin to a variable elevation, and, on the other hand, extend more or less deeply into the tissues beneath. They are occasioned by a great variety of causes: alterations in the sebaceous glands; new formations in the corium, connective tissue, bloodvessels, and lymphatics; all give rise to their development. They may or may not be painful.

SECONDARY LESIONS.

CRUSTS.

Syn. Crustæ; *Germ.*, Borken; Krusten; *Fr.*, Croûtes.

CRUSTS ARE EFFETE MASSES OF DRIED MATERIAL COMPOSED OF THE PRODUCTS OF DISEASE OF THE SKIN.

They are variable as to size and form, their features depending entirely upon the nature of the process which has occasioned them, as well as upon the length of time which they have existed; they may be large, thick, and bulky, or they may be thin and flat. They are adherent to the skin, or loose, according to their age and the nature of the disease. In color they are usually yellowish or brownish; they may also be greenish, reddish, and blackish. They are, for the most part, formed by the desiccation of exuded fluids, as serum, pus, and blood. Several distinct varieties of crust are observed. Those resulting from an open, serous-discharging surface are light yellow in color, friable in consistence, and usually without definite outline or bulk, as in eczema; those following the breaking down of pustules are darker, more

tenacious, and thicker, as in ecthyma. The crusts of syphilis are firmer and less friable in structure, often greenish in color, and, when recent, are seated upon an ulcer. Reddish or blackish crusts always contain more or less of blood. Sebaceous crusts, as those of seborrhœa, are light yellow, dirty yellow, or blackish in color; they are flat, lamellated, adherent to their bed, and have both a greasy appearance and feel.

SCALES.

Syn. Squamæ; *Germ.*, Schuppen; *Fr.*, Squames.

SCALES ARE DRY, LAMINATED MASSES OF EPIDERMIS WHICH HAVE SEPARATED FROM THE TISSUES BENEATH.

They vary greatly in size and form; they may be large and thick or small and thin; they may be abundant or scanty. In consistence they are always dry and of a horny nature; they possess a harsh feel, and are more or less brittle, with a tendency to separate and to break up into their more minute structure. Their color is usually whitish; at times it is yellowish. The quantity of scales formed and thrown off varies with the morbid process; the amount and variety of inflammatory action present also influence the degree of desquamation.

Scales are at times formed in large, bulky lamellæ or plates, as in psoriasis; in other cases, as in dry seborrhœa, they consist of fine dust- or bran-like particles. They are due to a variety of causes. The diseases producing them may have their seat solely in the epidermis, as in the vegetable parasitic diseases, or they may be located in the deeper structures, as in the exudative affections.

Scales are apt to form in all cases in which there is want of proper nutrition in the skin; they are the product of numerous pathological changes.

EXCORIATIONS.

Syn. Excoriationes; *Germ.*, Hautabschürfungen; *Fr.*, Excoriations.

EXCORIATIONS ARE LOSSES OF TISSUE OCCURRING IN THE SUPERFICIAL LAYERS OF THE SKIN.

Their seat is usually in the epidermis, extending to the mucous layer; not infrequently the papillary layer of the

corium is involved. They comprise slight wounds and abrasions of the skin, lacerations, scratch marks, etc. As a rule they heal readily and without leaving scars.

In appearance they present a variety of forms, as they happen to have been produced by one cause or another. Ordinarily they consist of torn lines with shreds of epidermis, showing reddish, moist surfaces, oozing minute quantities of serum and blood, which have a tendency to dry into crusts. They may be present in connection with an eruption of a pruriginous nature, or they may exist independent of disease, as simple wounds of the epidermis produced by mechanical causes.

Scratching, on the part of the patient, is the direct cause of the vast majority of excoriations. The symptoms which give rise to the desire for scratching are numerous, and are intimately connected with a large number of diseases. All disorders of the skin accompanied by nerve irritation, whether from an internal or an external cause, occasion more or less itching, and consequent scratching. If the itching be intense, the scratching will be violent and the marks proportionally severe and deep; if slight, as a rule, there will be but little and the lesions superficial. Excoriations occur most abundantly in eczema, and in scabies and phtheiriasis. All skins are not affected to the same extent by the act of scratching; in some the lesions are readily produced, while in others the tissues resist the injury.

If violent scratching and rubbing be continued for a long period, the skin becomes more or less inflamed, resulting in considerable infiltration and thickening. This state of the integument may be frequently observed in those who have been troubled for a long time with phtheiriasis. Excoriations play a very important rôle in many diseases of the skin, and should always receive attentive consideration.

FISSURES.

Syn. Rhagades; *Germ.*, Hautschrunden; *Fr.*, Fissures.

FISSURES ARE LINEAR WOUNDS HAVING THEIR SEAT IN THE EPIDERMIS OR CORIUM.

They commonly occur about the well-marked normal

furrows of the skin, as about the fingers; they are also encountered in other regions. They assume various sizes, and appear as long, narrow, more or less deep, reddish, linear openings or clefts. They are either the result of a diseased condition of the tissues, as in eczema, or they may be caused by local irritants, as cold and chemical agents, acting injuriously upon the epidermis. Any portion of the surface which is liable to extreme tension may become the seat of fissures. They are painful, and interfere with the natural movements of the part.

ULCERS.

Syn. Ulcera; *Germ.*, Geschwüre; *Fr.*, Ulcères.

ULCERS OF THE SKIN ARE IRREGULARLY SIZED AND SHAPED EXCAVATIONS OF THE CUTANEOUS TISSUES, THE RESULT OF DISEASE.

They vary extremely as to size and shape; they may be no larger than a pin-head, or as large as a hand, and even larger; in outline they are usually roundish. They may be superficial or deep; not infrequently they extend into the subcutaneous structures. They present a more or less moist and discharging surface, which may or may not be crusted. Their bases are smooth or uneven, reddish in color, and are covered with a grayish, yellowish, or reddish secretion, which may be either abundant or scanty, according to the nature of the morbid process. Their edges are usually defined; not infrequently they are abrupt; at times they are markedly everted. Ulcers are the result of previous disease, and occur in the course of a number of disorders, chief among which are syphilis, lupus, carcinoma, carbuncle, and furuncle. Their duration is variable; they are seldom stationary, but show, on the contrary, a decided disposition to undergo change. Many tend to enlarge; others manifest an inclination to heal. When repair takes place it is in the form of a cicatricial tissue, which remains permanently. Ulcers are usually painful.

SCARS.

Syn. Cicatrices; *Germ.*, Narben; *Fr.*, Cicatrices.

SCARS ARE NEW FORMATIONS OCCUPYING THE PLACE OF FORMER NORMAL TISSUE.

They have a glistening, contracted appearance, and are

surrounded by normal skin, into which they imperceptibly blend. To the feel they are usually smooth and soft; they may, however, be quite hard. They possess different forms and characters, according to the disease which has occasioned them; they may be on a level with the skin, or, as is more often the case, somewhat depressed; they may also be raised. At times they are linear or cord-like, and, in other instances, crab-shaped and puckered. Their color is usually whitish; but this varies, for if recent they may be pinkish or yellowish, while if old they may be gray or brownish. They consist of connective-tissue elements, and do not contain any of the normal structures of the skin, as hairs, glands, and papillæ.

Scars may be the result of disease or of injury. They are known to follow all of the ulcerative diseases, and also all injuries involving loss of substance, as burns, scalds, and wounds, also the application of caustics.

Although scars result from a variety of causes, many of them are found to be very similar in character; hence they cannot be said to be positively indicative of the process which has occasioned them. At the same time they not infrequently possess certain features,—as, for example, outline, number, size, texture, and location, which point to the original disease.

Scars are apt to be permanent, continuing to exist through life with but little alteration; occasionally they undergo change. They are, for the most part, painless; in rare cases, however, they are the source of pain.

GENERAL SYMPTOMS.

All of the existing lesions present in a given case of disease, viewed as a whole, constitute what is known as an *eruption.*

An aggregation of lesions, whether of the same or of different character, go to make up what is termed a *patch* of disease.

The individual lesions of a disease may all be of the same kind, as, for example, all papules, in which event they are *uniform;* or they may be different, of two or more kinds,

macules, papules, and vesicles, for example, all being present, when they are said to be *multiform*. They may, moreover, be isolated or *discrete*, or they may be so numerous as to be closely crowded or *confluent*.

The following expressions, descriptive of peculiar forms of lesion, are used in connection with certain diseases, more especially in those cases in which the lesions are both uniform and numerous: when small, millet-seed sized, *miliaris;* when pointed, *acuminatus;* when of the size and shape of a pea or bean, *lenticularis*, etc. Common examples are found in the miliary papular syphiloderm, in acuminated warts, and in the lenticular papular syphiloderm.

The terms *neonatorum*, *infantilis*, *adultorum*, *senilis*, etc., are frequently convenient to express concisely the time of life at which the disease occurs; for example, the sclerema of the new-born is called sclerema *neonatorum;* the eczema of infants, eczema *infantile*, etc.

Distribution.—Great variation exists in the distribution of the lesions; they may occupy the whole or the greater part of the surface, or they may be localized to a small, circumscribed area. They may further appear aggregated, in distinct patches—*aggregatus*, or they may be disseminated—*disseminatus*.

When an eruption involves the whole surface, it is said to be *universal;* when various parts, without regularity of distribution, it is called *diffused*.

Configuration.—The lesions of the skin form themselves into a great variety of figures or patterns. Some of these are peculiar, and are characteristic and constant symptoms of certain diseases, while others are common to many diseases. In still another class of affections they manifest themselves without attempt at configuration.

The various outlines or forms assumed by individual lesions or by patches of disease, are designated by the following suggestive terms.

When the lesions occur discretely, in the form of small, pin-head sized points, the condition is termed *punctatus;* when they are of the size of drops, *guttatus;* if as large as pieces of coin, *nummularis*.

When a patch, of whatsoever disease, presents a circular form, it is called *circinatus;* when in the form of a ring, *annulatus* or *annularis.* When the lesions appear in concentric rings, one within the other, the condition is expressed by the word *iris*, as herpes iris.

Occasionally patches are encountered whose margins upon one side appear unusually sharp and well defined against the sound skin; to these the name *marginatus* is given.

When the patches are circumscribed and are marked by an abrupt line of demarcation, the word *circumscriptus* is used.

If the patches arrange themselves in such a manner as to form winding or gyrate markings, the term *gyratus* is employed.

The designation *serpiginosus* is applied to those forms of disease, especially ulcers, which pursue their course in a creeping, serpentine manner.

The state of an eruption, as to its striking feature, is often denoted as follows: *hypertrophicus*, used in connection with hypertrophies and new growths, is employed to indicate an exuberant or hypertrophic condition; *exulcerans*, when the process of ulceration is extensive; *humidus* or *madidans*, when moisture is present, as in eczema; and *siccus*, when there is absence of moisture, as in seborrhœa.

Locality.—The regions of the body invaded vary with the disease. Certain affections are peculiar in that they attack only particular localities; some possess a decided preference for this or that region, while others exhibit no elective point of manifestation.

In some affections the extensor surfaces of the extremities are almost exclusively involved, while in others the flexor surfaces are the chief seat of disease.

The terms *capitis*, *facialis*, *brachialis*, *femoralis*, *abdominalis*, *palmaris*, *plantaris*, etc., are conveniently used to denote the exact region involved; as, for example, eczema capitis, herpes zoster facialis, etc.

Symmetry.—Diseases may or may not be symmetrical. The inflammatory diseases in particular show a marked tendency to appear symmetrically upon either side of the body. Other affections likewise very frequently manifest this

symptom. The symmetry of an eruption is seen to best advantage upon the extremities.

Color.—This varies with the nature of the pathological process. It also varies greatly according to the stage of the disorder. It is, moreover, influenced by external agencies.

When an affection is characterized by a prominent and uniform color, whether evanescent or permanent, it is at times designated by a term descriptive of this peculiarity; in this manner the adjectival words *albidus*, *ruber*, *flavescens*, *melanodes*, etc., are affixed to diseases, *e.g.*, eczema rubrum.

SUBJECTIVE SYMPTOMS.

Diseases of the skin may or may not be accompanied by subjective symptoms. More or less heat is present in all of the hyperæmic and inflammatory affections, notably in those running an acute course. Sensations described as burning, tingling, and smarting also not infrequently attend the same class of diseases. Itching, however, is the most prominent by far of the subjective symptoms. It is present in varying degrees in a large number of disorders, and is variously described and likened to familiar sensations by patients. The sensation of formication, as though insects were crawling over the surface, may be mentioned as one of the most striking varieties.

ETIOLOGY.

The causes at work in the production of the various diseases which affect the skin are manifold. In order thoroughly to comprehend them it is of the utmost importance that an expansive view of the subject be taken, for in many instances it will be found that the manifestations upon the surface are but indices of disorder in other portions of the system.

A large proportion of the cutaneous diseases are intimately associated with derangement of the internal economy, and are, therefore, strictly speaking, *symptomatic* diseases. As striking examples of such complaints, the polymorphous erythemata, purpura, and certain of the inflammatory affections, may be cited.

On the other hand, a great number of diseases have their origin in the skin itself, and are confined in their action to this organ alone; these are the so-called *idiopathic* disorders. To this class belong all of the local diseases, as, for example, certain of the hypertrophies and atrophies, as well as those numerous conditions produced by external agencies, including parasites.

It must never be lost sight of, however, that the relationship between the system at large and the skin is extremely close, so much so that very frequently it becomes a most difficult matter to determine to what extent a disease is local or constitutional. The line of demarcation cannot be a strict one.

The subject of etiology may be considered under the three following heads: conditions influencing disease, internal causes, and external causes.

CONDITIONS INFLUENCING DISEASE.

Age.—It is well known that a large number of diseases are apt to make their appearance at certain periods of life, while others may appear at any time. A limited number are noted to occur only at stated ages, thus manifesting a striking peculiarity. Ichthyosis first shows itself during early childhood, commonly at about the second year. The congenital syphilodermata appear, as a rule, between the first and third months of life; at times they are present at birth. Tinea tonsurans is a disease of childhood; it is extremely rare in the adult. Impetigo contagiosa is likewise almost exclusively confined in its origin to the early years of life. Tinea versicolor, on the other hand, is never seen in children. The parasitic diseases in general rarely occur in the old; they are met with from infancy to middle age. Phtheiriasis of the body is but seldom observed in the child.

Carcinoma never occurs in the young; it rarely manifests itself before middle age, and frequently not until old age. Pruritus is, in the majority of cases, an affection of adult life.

Sex.—It will be found that certain diseases are to a great extent peculiar to one or the other sex, while not a few are noted to be much more common in one than in the other. For example, sycosis is met with only in the male; epithelioma is of more frequent occurrence in the male; while lupus is more common in the female.

Seasons.—The seasons exert a very marked influence upon many of the inflammatory affections, as well as upon those of other classes; the majority of diseases are aggravated by cold weather, as is commonly observed in eczema, psoriasis, and ichthyosis. Pruritus hiemalis is encountered only during cold weather. Other disorders, again, occur only during the hot months, as, for instance, prickly heat; while still others are peculiar to the spring and autumn seasons, as herpes iris.

Climate.—The influence of climate in the production of cutaneous disease cannot, I think, be questioned. Observations have established the fact that certain diseases are

almost peculiar to certain countries; as examples, leprosy, elephantiasis Arabum, frambœsia, and pellagra may be mentioned. To what extent, however, climate alone is to be held accountable cannot be definitely ascertained; other agencies, as hygiene, diet, and the habits of the people, must also receive consideration as probably having a share in the causation of the malady.

INTERNAL CAUSES.

Here are to be classed all those causes originating internally, of a constitutional nature, which are known to be able in any way, however remote, to give rise to disease of the skin. They are numerous and call for the most profound investigation. At times they are very obscure and far removed in their seat from the skin; in other cases they are so commonplace as to be overlooked by the casual observer.

Hereditability.—Certain diseases are known to be hereditary, handed down from parent to child; as common examples, syphilis, leprosy, ichthyosis, psoriasis, and eczema may be cited. It must not, however, be supposed that these diseases are in every instance hereditary; for, according to my experience, the two latter affections are more frequently found to be developed in the individual *de novo* than to be transmitted from parents.

Predisposition.—By this term I mean a peculiar, inherent state of the constitution, which inclines to the ready development of one or another disease. Its existence is not uncommon. The tendency may exhibit itself in one, or, as is more apt to be the case, in all of the members of a family. It may be inherited or it may originate with the individual. Thus, it is a matter of every-day observation that certain families manifest more or less of a disposition to the development, under favorable conditions, of some of the commoner forms of disease, especially those of an inflammatory character.

Constitutional Diseases.—These in many instances exert a potent influence upon the skin. At times the constitutional malady is of such a nature that its existence merely predisposes to disorder of the skin, as is the case, for example, in

chlorosis; while in other instances, as in the acute exanthemata, and in syphilis, it is of so violent a nature that the eruption is but one of a number of prominent and constant symptoms. In this connection it may be observed that general ill health, resulting from a variety of causes, plays quite a conspicuous part in both the causation and the continuance of cutaneous affections; recognition of this fact will frequently be of assistance as a guide in the treatment. It is owing to a deterioration in the normal state of health of the individual that furunculi, ecthyma, cachectic acne, and ill-conditioned excoriations often show themselves.

Disorders of Internal Organs.—Here may be mentioned a number of functional and organic disorders capable, *under peculiar conditions*, of causing marked cutaneous manifestations.

Derangement of the alimentary canal is, in my opinion, a prolific source of a large number of diseases, among which eczema, urticaria, and acne stand forth as prominent examples.

Affections of the kidney occasionally give rise to pruritus, and, more rarely, to eczema. Disorders of the liver are known to occasion pigment discolorations, as well as indirectly other affections.

Uterine diseases are likewise recognized as frequently causing pigmentary disturbances, urticaria, eczema, and other troubles.

Derangement of the nervous system is capable of giving rise to a variety of disorders; eczema, herpes, urticaria, pruritus, and alopecia may be referred to as being not infrequently caused and influenced by both functional and organic disease of the nervous structures.

Food.—Diet is accountable for a multitude of diseases. Improper quantity of food, whether too much or too little, and unsuitable quality, are both to be regarded as conspicuous factors in the causation of diseases often of the most diverse nature. To keep the economy in a perfect state of equilibrium it is positively essential that the proper amount and kind of nutriment be taken into the system. I firmly believe that more diseases of the skin arise from improper

diet than from any other single cause; in proof of this, one has but to glance at the clinics of our great hospitals and dispensaries, and to note the general health and condition of the victims of these disorders.

Certain kinds of diet are particularly liable to occasion cutaneous disturbance; the ingestion of fish, especially shell-fish, in many individuals is sufficient to call forth urticaria. Certain fruits, strawberries, raspberries, are in like manner at times followed by urticaria. Oatmeal and buckwheat are also known to occasion pruritus.

The injurious effects of wine, beer, indigestible articles of food, as cheese, pickles, spices, pastry, and the like, are frequently seen in eczema, urticaria, acne, and other diseases. The cause here is an exciting one, and indirect as regards the skin, but is not on this account any the less distinctive in its results.

Great latitude is to be granted in the consideration of this subject; for, what proves poison to one is food for another.

Medicine.—The ingestion of certain drugs, used as medicines, is at times productive of mischief upon the skin; striking instances are observed in the urticarial eruption occasionally following the administration of copaiba or of cubebs.

The bromide and iodide of potassium are also known to produce peculiar forms of eruption.

Pregnancy.—This state is not infrequently noted to exert a decided influence upon the skin. Now and then it is observed to be the origin of attacks of eczema, herpes, and pruritus, which disappear immediately and spontaneously upon the removal of the cause. On the other hand, chronic affections, as eczema and psoriasis, are often observed to be very much better during this period.

Dentition.—This process, it seems to me, is to be regarded merely as one of the exciting causes of cutaneous disorder; its importance, viewed in the light of a cause of disease, is altogether secondary, and should not be over-estimated.

Vaccination.—In addition to the usual local disturbance which this process occasions, it is now and then followed by

peculiar erythematous and pustular affections; they occur, however, only rarely, and are benign in their nature.

EXTERNAL CAUSES.

The causes of this nature are numerous. Many of them are to be viewed simply as exciting causes, giving rise to trouble only under peculiar conditions, or in those cases where there already exists a predisposition to the disease which manifests itself. Others, however, act injuriously upon the skin, and are the direct source of disease.

Occupation.—Certain occupations are known to be productive of harm to the skin, giving rise to hyperæmia, inflammation, or hypertrophy.

Workers in chemicals and dye-stuffs, arsenic, etc., are exceedingly liable to suffer from the irritating substances with which they are obliged to come in contact. Washerwomen exposed to the long-continued influence of water and soap, and masons, may also be referred to; individuals following these occupations are not infrequently the victims of harsh skin and extensive fissures.

Machinists, carpenters, shoemakers, and others who make constant use of tools, are ordinarily the subjects of more or less epithelial hypertrophy, in the form of callosities.

The extremes of heat and cold also act as causes in the production of disease; as examples of the former, erythema and dermatitis, resulting from continued exposure to a high temperature, may be mentioned. The action of the sun in calling forth several varieties of disease is well known. Cold acts in a somewhat similar manner, as observed in frost-bite.

Clothing.—Certain articles of clothing, as well as certain modes of dress, must also be regarded as giving rise to irritation and hyperæmia of the skin. The rough flannel worn so persistently by the working classes, not infrequently acts as an exciting cause of erythema. Constant friction produced by ill-fitting articles of wear over tender portions of the body, as a stocking, or shoe, over the instep or about the heel, will often suffice to give rise to excoriations, ulcers, and other forms of disease.

Irritants.—Cutaneous irritants are the source of much mischief; the too free use of certain external remedies may prove causes of hyperæmia and inflammation. Among these, as most frequently occasioning trouble, sulphur, croton oil, the preparations of mercury, caustics in general, rubefacients, tincture of arnica, and the various parasiticides, may be mentioned.

Uncleanliness.—Uncleanliness, the presence of foreign matter upon the surface, must likewise be considered as an exciting cause of disease; tinea favosa is found to flourish only upon those who are negligent of their person. On the other hand, too much attention to cleanliness may also be followed by an abnormal condition of the skin; too frequent bathing and the constant use of strong soaps are hurtful to the epidermis.

Scratching.—This operation brings about material and often extensive lesions upon the surface, especially in affections of an inflammatory and pruriginous character. It is noted, however, to produce serious trouble only in those cases in which the skin has already become more or less altered by disease. Thus, while in scabies, phtheiriasis, eczema, and ecthyma, scratching creates a large amount of local disturbance, greatly complicating the primary disease, it cannot be regarded as fruitful of the same amount of harm upon perfectly sound skin. In the disorders referred to it is, when protracted, the cause of structural changes in the skin, as manifested by excoriations, pigment alterations, and thickening.

Contagion.—Among the external causes the most important remains to be spoken of under this head.

The varieties of contagion are not numerous; they are nevertheless exceedingly prolific sources of disease. Among the infectious diseases, those which are communicable through the medium of the atmosphere, small-pox, measles, scarlatina, and erysipelas occupy the most conspicuous place; while the contagious affections, strictly speaking, those which are transmissible only through direct contact, comprise syphilis, contagious impetigo, vaccinia, certain low forms of specific inflammation, as equinia or glanders, and the parasites. Many of the cutaneous lesions of syphilis

are contagious, and are active agents in the spread of this common malady. The disorders occasioned by the animal and vegetable parasites of the skin form a distinct group. They are all contagious, although not equally so, some being at all times readily communicable, while others manifest their contagious properties only under certain conditions. All individuals, for example, are not to the same extent susceptible to the influence of the vegetable parasites; two persons may, under like circumstances, be exposed to the same parasite, only one of whom will, in all probability, contract the affection. I am convinced that in the case of these parasites, a peculiar condition of the skin is quite as essential to the development of the disease as the presence of the fungus itself.

To the group of animal parasites belong the itch mite, head louse, body louse, and crab louse, together with several other insects of less importance, as the flea, which under favorable circumstances commit depredations upon the skin. The vegetable parasites, microscopic fungi, are termed the achorion Schönleinii, tricophyton, and microsporon furfur.

PATHOLOGY.

The pathology of the skin is to be studied in the same light as that of other parts of the economy. The skin differs from other membranes only in its anatomy, which, being complex, is subject to a variety of alterations, some of which are peculiar to this organ. It is liable to the same pathological changes, as, for example, hyperæmia, inflammation, hypertrophy, etc., as take place in other organs, and consequently is to be regarded from the standpoint of general pathology.

The morbid changes which occur in the skin are numerous, and are, moreover, liable to varied modifications. To comprehend them correctly, a thorough knowledge of the normal structures is absolutely essential. All portions of the integument, either separately or together, may be involved by disease; it is found, however, that certain parts are more frequently invaded than others.

The epidermis, partly in consequence of its serving as the external covering of the body, and therefore liable to a great variety of influences, and also because it is so intimately associated with the deeper and more important parts, is very commonly the seat of extensive alteration. From its position it necessarily assumes a more or less prominent part in the pathology of all cutaneous manifestations. Even in those instances in which the pathological process is situated exclusively in the deeper structures, it is noted to show morbid changes, as desquamation, atrophy, etc., the result of impaired nutrition in the deeper layers. It is a not uncommon seat of hypertrophy, as seen in callosity and like affections. The vegetable parasites also have their habitat here, not infrequently taking complete possession of its outer or horny

layer. The delicate rete mucosum, owing to its close proximity to the corium, and the relations which it bears to this structure, is a very frequent seat of disease; it is seriously involved in all of the exudative affections, eczema, herpes, psoriasis, etc., as well as, to a greater or less extent, in numerous other diseases.

In the corium, however, occur by far the greater number of morbid processes. The peculiar structure of this tissue, consisting of a network of connective tissue, extensive plexuses of bloodvessels, lymphatics, nerves, and a complete system of glandular apparatus, renders it particularly liable to disorder. It is, moreover, through certain organs which have their seat in this tissue, for example, the sudoriparous glands, that numerous effete products of the economy find their exit, some of which give rise to more or less cutaneous disturbance.

Hyperæmias all have their seat in the corium; likewise that great class of diseases, the exudations. Hemorrhages also occur here, as in purpura. Hypertrophies, scleroderma, for example, atrophies, new growths of various kinds, all invade the corium. Parasites, especially the itch mite, the louse, and similar insects, also prey upon this tissue.

It is in the true skin that certain structural changes of the bloodvessels, lymphatics, and nerves take place, as found in angioma, lymphangioma, and neuroma. Functional disturbances of the nervous system, the so-called neuroses, likewise here manifest themselves.

Both the sebiparous and sudoriparous glandular systems are attacked by functional disorders, as in seborrhœa and in hyperidrosis; both may also be the seat of structural change, either alone, as in molluscum sebaceum, or in connection with disease of other tissues, as in lupus erythematosus.

The hair and nail are also invaded by pathological processes, either idiopathically, as in tinea tonsurans, tinea favosa, and simple hypertrophy, or symptomatically, as in alopecia, eczema, and psoriasis.

Hyperæmia.—Cutaneous hyperæmia consists in an excess-

ive amount of blood in the capillaries of the skin. It is for the most part an ephemeral condition, lasting but a short time, after which the surplus blood returns to its accustomed channels, leaving the skin in its normal state. The seat of the disorder is in the superficial strata of the skin, either in the papillary or deeper layers of the corium. As a rule, it is not followed by desquamation or pigmentation; when these symptoms occur, it is a sign that some slight exudation has taken place. Instead of terminating in this manner, however, hyperæmia may readily pass on into inflammation. When inflammation occurs, it is always preceded by hyperæmia. Hyperæmia may exist alone, running its course and ending as such, but inflammation cannot exist without having been preceded by hyperæmia. Hyperæmia may arise from numerous causes, some of them quite different in kind, as, for example, heat, cold, and systemic disorder.

The hyperæmias possess certain characteristic features. Their existence is always marked by redness of the skin, varying in shade and tint from pink to dark red. The redness is superficial in character, disappears altogether under pressure, but is observed to return instantly. The temperature of the skin is frequently elevated; at times it is felt to be markedly so.

The presence of hyperæmia gives rise to a variety of external forms or markings upon the surface; usually they are without definite outline.

Hyperæmias are ordinarily acute; they may last minutes, hours, or even days. Slight burning sensations occasionally accompany them.

Anæmia.—Directly the reverse of hyperæmia is the condition termed anæmia, in which there is a deficiency in the amount of blood in the cutaneous capillaries.

This state may result from an absolute want of blood in the general system in consequence of hemorrhage, or it may follow disease, as in chlorosis. It is characterized by loss of the natural color of the skin, succeeded by a blanched, whitish or yellow hue, affecting, according to its cause and nature, either the whole surface or certain regions, as the extremities. It is also attended by a decrease in the temper-

ature of the surface, and at times by cold sweating. Anæmia does not give rise to substantive diseases of the skin, and therefore is of little importance to the dermatologist.

Inflammation.—By this term is understood a pathological process characterized by changes in the circulation and blood-vessels, the exudation of liquor sanguinis and both white and red corpuscles, attended by the symptoms of redness, heat, swelling, and more or less pain.

The changes which take place, with special reference to the skin, may be briefly summed up as follows. Hyperæmia invariably precedes the process. After this condition has existed for a longer or shorter period, the first observable alteration in the tissues, as seen under the microscope, consists in dilatation of the minute arterial vessels, followed by the same change in the venous circulation. It is found that during the commencement of the inflammatory process the blood flows through the vessels more rapidly than normal, while later this acceleration is followed by a marked retardation in the pace of the current, unaccompanied by contraction in the calibre of the vessels. The blood corpuscles now begin to accumulate in the vessels, which soon become filled, whereupon a condition of stasis occurs. At this stage the white corpuscles are observed to adhere to the sides of the vessels, and to show increased activity of movement, whereby those adjacent to the walls gradually imbed themselves in the coats of the artery or vein, and thus, working themselves through, find their way into the tissues without. The red corpuscles in the same way, though in less numbers, also pass through the walls of the vessels. The liquor sanguinis is in like manner freely exuded through the vessels, in varying quantity. The process may be either acute or chronic in its course, its duration depending upon the nature of the cause and the continuance of the same in relation to the affected part. It may terminate either in resorption, suppuration, or hypertrophy.

The product of inflammation, that which results from the exudation of the liquor sanguinis and the corpuscles, consists either of a fluid, semi-fluid, or of a formed cellular material;

not infrequently several of these products are at the same time present. Fluid exudation is composed of a serous, yellowish, gummy, albuminous liquid, containing usually a limited number of blood corpuscles, especially the white. The constituency of the exudation, particularly as to the amount of cellular material, corpuscles and cells, varies with the disease. Typical fluid exudation is observed in vesiculation, as, for example, in the vesicles of eczema and herpes; occurring in a less pronounced manner, it gives rise to swelling, œdema, and infiltration, which may be either circumscribed or diffused, as in stages of multiform erythema and in erysipelas.

Instead of a fluid the product of exudation may consist of formed elements, cells, unaccompanied to any extent by the escape of fluid, in which event it is firm or *plastic;* it may be circumscribed or diffused. Its presence in the skin is manifested by solid formations and infiltrations, examples of which are seen in certain inflammatory papulæ, patches of thickening, etc.

In the process of pustulation, as in the pustule of ecthyma, is seen another form of exudation, characterized by the abundant presence of cellular material, pus corpuscles, suspended in simple fluid exudation.

The lines of demarcation which separate the varieties of exudation are by no means sharp; for, as seen clinically, all degrees of difference exist between the typical fluid, suppurative, and plastic varieties. Very commonly they pass from one to the other by gradual stages, or, their course may be arrested at any stage of their existence. Thus, if certain of the exudative diseases, erythema multiforme and eczema, for example, be studied, a great variety of stages of exudation may often be observed, giving rise to the papule, papulo-vesicle, vesicle, vesico-pustule, and pustule.

Viewed in this light, a number of cutaneous lesions result as the product of exudation, which either run a definite course or are subject to modification.

The product of exudation may have its chief seat in any of the various parts which compose the integument. Fluid exudation commonly seeks its outlet about the upper strata

of the corium and between the papillary layer and the epidermis, occasioning vesicles, blebs, and pustules; or, taking place in the deeper structures, it assumes the form of a serous infiltration, marked by œdema and swelling of the whole skin. Plastic exudation is usually found to have its seat in the corium and deeper layers, as seen in papules, tubercles, and similarly formed lesions.

The product of exudation may disappear by the process of absorption, as occurs in urticaria and in many other diseases, or, it may pass on in its course and end in suppuration, as, for example, in furuncle.

Hemorrhage.—Cutaneous hemorrhage consists in the extravasation of blood from the vessels into the surrounding tissues, the result either of diapedesis—the passage of the fluid through the walls of the vessels without rupture—or of rupture of the capillaries. It takes place in the skin in the same manner as in the other tissues of the body. The lesions consist of variously sized, more or less circumscribed, aggregations of blood, having their seat in the corium and subcutaneous tissues. They possess certain features by which they may always be recognized.

They make their appearance suddenly. Having once assumed a definite size and form, they usually retain it, until, by the gradual process of absorption, they fade away and finally disappear.

They always present a reddish color, varying in shade from light to dark, according to their nature, location, extent, and the length of time they have existed. In addition to the reddish color, they commonly exhibit, particularly about the period of their decline, more or less pronounced yellowish, bluish, and greenish hues. These variations are due to the changes which the coloring matter of the blood undergoes during absorption.

The products of cutaneous hemorrhage are peculiar in that they do not disappear under pressure. They are usually upon a level with the surrounding skin; occasionally they become somewhat elevated in the form of papules and tumors; this, however, rarely takes place excepting in very extensive extravasations, or in those cases in which the hemorrhage

accompanies other lesions as a secondary symptom, as in hemorrhagic variola. They disappear slowly by absorption, leaving pigmentation of the skin.

Hypertrophy.—By hypertrophy is meant an increase in the amount of a tissue which already exists. It may take place in two ways; either by an increased growth of the already existing elements, or by the formation of new elements of the same tissue. The component parts of the integument are all subject to hypertrophy, the process either confining itself to one structure, as, for example, the epidermis, or involving several or all of the parts at the same time.

Typical hypertrophy of the epidermis occurs in callosities. In ichthyosis, corns, horns, and warts it involves both the epidermis and the papillary layer of the corium.

Simple increase of the normal coloring matter of the skin is seen in lentigo and chloasma. Hypertrophy of the connective tissue is noted in scleroderma; while in elephantiasis Arabum extensive augmentation occurs in all the cutaneous and subcutaneous structures. The hair and nail are also subject to hypertrophy.

Atrophy.—Here the process is exactly the reverse of hypertrophy. It is characterized by a decrease in either the size or the number of the histological elements which go to make up the structure. When the size alone of the elements is diminished, the condition is termed *simple atrophy;* when their number is lessened, it is called *numerical atrophy.* It may be either general, affecting the whole surface, as in senile atrophy, or partial, involving a certain region, as in alopecia. All parts of the integument are liable to undergo atrophy. In vitiligo, both marked atrophy and hypertrophy of the normal pigment of the skin go on together. Senile atrophy may be taken as the typical representation of general atrophy of the cutaneous structures. The hair, as in canities and alopecia, in which diseases both the pigment and the structure of the hair itself are involved, is one of the most frequent seats of the process. The nail, at times, also suffers.

Atrophy is usually characterized by diminution in size. It may either manifest itself as a simple reduction in size of the part affected, without structural change, or it may result

in a *degeneration*, as in morphœa, in which event the tissues undergo change, a new structure, different from the normal elements of the part, coming into existence.

Atrophy, succinctly stated, is want of balance between the nutritive supply and the part to be nourished.

New Growths.—New growths consist in the development of tissue which is new or foreign to the structure in which it occurs.

Various new growths or new formations are found in the skin, composed of tissue either similar to that of which the part is constituted, as, for example, connective tissue, or of a formation of an entirely different character, as cellular material.

The connective-tissue new growths find their expression in keloid, fibrous molluscum, xanthoma, and in scars. Cellular new formations, a most important pathological group, consist of deposits or infiltrations of cell elements foreign to the normal tissues; here are found lupus vulgaris, lupus erythematosus, rhinoscleroma, elephantiasis Græcorum, carcinoma, and syphilis.

Bloodvessels and lymphatics are also the seat of new growths, as seen in angioma and lymphangioma of the skin.

Clinically, new growths are either benign or malignant.

Parasites.—Parasites of the skin are those animal and vegetable organisms which, under favorable circumstances, prey upon the cutaneous tissues. They are divided into the vegetable or fungous, and the animal.

Vegetable parasites consist of minute, microscopic plants, which under certain conditions attach themselves to the surface of the skin and there vegetate. They inhabit chiefly the horny layer of the epidermis, although they may penetrate even deeper, as into the follicles, and thus invade more tender structures. The hair and nail are also attacked by these growths, as seen in tinea favosa.

Three varieties of fungus are known to invade the skin, each producing disease having distinctive clinical and pathological features. They are the achorion Schönleinii, the fungus of tinea favosa; the trichophyton, giving rise to three affections, namely, tinea circinata, tinea tonsurans, and tinea

sycosis; and the microsporon furfur, the parasite of tinea versicolor.

These three fungi are similar in structure, and are made up of mycelium and spores.

They all act as irritants to the skin.

The amount of disturbance which their presence exercises varies with the parasite and the region attacked. They may be productive of hyperæmia only, as in tinea versicolor, or they may prove so irritating as to occasion extensive exudation, as in tinea sycosis.

The group of animal parasites comprise a number of insects, chief among which are the acarus scabiei or itch mite, and the pediculus or louse. The acarus folliculorum, an exceedingly minute, inoffensive inhabitant of the sebaceous follicles, may also be here mentioned. Besides these there are others, as the leptus autumnalis, pulex irritans or common flea, cimex lectularius or common bed-bug, pulex penetrans or sand-flea, filaria medinensis or Guinea-worm, and certain varieties of flies. These insects, with the exception of the acarus folliculorum, all occasion various lesions upon the skin, which are either of an exudative or a hemorrhagic nature. The ravages of the itch mite give rise to inflammatory lesions, similar to those of vesicular and pustular eczema. The bites of the pediculus, flea, and bed-bug produce minute hemorrhages.

DIAGNOSIS.

If satisfactory results are to be obtained in the treatment of cutaneous diseases, it is of the utmost importance that the physician know definitely what affection he has before him. Without a full comprehension of the disorder, and the course it is likely to pursue, all treatment must be empirical and attended only with hap-hazard results. With the assistance, however, of a method for the examination of cases, and an understanding of the numerous signs and symptoms encountered, there should remain little difficulty in the recognition of the diseases. One requisite is indispensable to success in diagnosis,—the power of close observation and scrutiny, without which the student will acquire but a superficial and unsatisfactory knowledge of the subject.

Light.—To examine a case properly, the first point to be secured is proper light. Daylight is an essential, for artificial light, as from a lamp or from gas, is necessarily more or less colored, and gives to the skin an unnatural tint, by which it is easy to commit an error. A good white light is the best; under its influence we obtain a more correct idea of the color of the eruption,—always an important point, and one upon which alone may depend our decision. Various signs of value and interest frequently come to notice under a good light which might pass unperceived with an uncertain illumination; thus, a patch of tinea versicolor might readily escape detection with an imperfect light.

Temperature of the Apartment.—A moderately warm room should be provided. The patient, whether in bed or about, will of necessity be somewhat exposed to the air during the examination; sufficient warmth is important both for his

comfort and to preserve the ordinary temperature of the skin.

Inspection.—The patient will generally direct our attention to a certain part of the disease, usually that portion which causes him the most annoyance. The portion offered for inspection should be slowly and attentively examined, and, perhaps, at the same time, a few simple questions asked, with a view to gaining the confidence of our new patient. The physician should endeavor to obtain this as soon as possible in the course of the examination; in women it must not be forgotten that a feeling of more or less diffidence always exists when called upon to expose to a stranger even a portion of their person, and that to overcome this, full confidence must be enjoyed. It may now be asked what other parts of the body are involved, and to what extent; thus by carefully and judiciously placed questions it will be ascertained exactly what regions are affected. If the disease be diffused, the various parts should be inspected one by one. If the case be that of a man or child, it is desirable to examine the whole body at the same time, in order that nothing escape observation. This proceeding is the more important as the disease manifests a tendency to be scattered over the body, for, as I shall show presently, much is to be learned from the general features of the eruption.

Examination to be thorough.—The examination during the first interview should be a complete and careful one, for it may so happen that by the second visit the eruption will have undergone great change, and, indeed, have lost in a great measure its characteristic features. Cases should always be investigated at the time they first come under notice; in order to know a disease well, it is essential to be familiar with all its phases, and hence every change in appearance is to be recorded for future reference.

The general color of the skin should be noted, in order to determine its vascularity and general vitality. It should be felt, in order to ascertain its temperature, whether increased or diminished. In rosacea of the nose, for example, the skin has the appearance of being hot and inflamed, when touch often actually reveals a sense of cold. Its softness or harsh-

ness should also be ascertained. Certain diseases may be diagnosed by the sense of touch alone, as, for instance, ichthyosis, where its peculiar harshness is characteristic to an educated hand. It should be asked whether the patient is in the habit of bathing, whether in warm or cold water, and how often. Baths influence the skin, and especially an eruption, in a marked manner.

It should be noted whether the body is fat or lean; to what extent the cutaneous structures are nourished. The condition of the hair follicles and sebaceous gland ducts should be observed, whether free and open, or plugged up; the epidermis, whether dry and desquamative, or normal; the secretion of sweat, if scanty or profuse. In order to determine these points, the finger or hand may be passed over the surface, when their presence or absence will be quickly recognized.

Constitutional Disturbance.—In the majority of the diseases of the skin no perceptible constitutional disturbance exists, but there are, however, a certain number of instances where marked systemic derangement, as shown by fever, malaise, headache, constipation, coated tongue, is always present at some time or other during the course. Symptoms of this character should be looked for, and carefully noted when present, for they prove valuable in enabling us to decide between affections which resemble one another in external form. The exanthemata, for instance, are always accompanied by symptoms of general disturbance, and in their early stages, at times, it is this alone which permits us to diagnose them from other troubles which they simulate upon the skin.

Age.—The age of the patient is to be taken into consider ation; whether an infant, a child, an adult, or an old person. We know that certain diseases occur almost exclusively at certain periods of life; that certain affections are found only in adult life, and that others are common only to infants. We know, moreover, that infants and young children are exempt from certain diseases; in questions of diagnosis these can at once be excluded from the list. For example, psoriasis, one of the most frequent diseases in adult life, is not found

in young children; we need not entertain its occurrence before the sixth year, and usually it does not show itself until the tenth or fifteenth year. Epithelioma never occurs in early life; it is seen now and then at the age of twenty or thirty, but is not common before fifty.

Sex.—The sex of the patient must likewise be taken into account, for males are more liable to certain affections than females, and vice versa. It is also to be borne in mind that, owing to peculiarities in the anatomy of one sex or the other, certain diseases are found in the one which have no existence in the other, as sycosis, a disease found only in the male.

Temperament.—The temperament or natural general organization of the patient should be noticed; whether the complexion be light and florid or heavy and dark in color, etc. It is well recognized that certain forms of disease are prone to come upon those whose constitutions are of a particular type. Diseases of the sebaceous glands, as acne and seborrhœa, are much more common upon those of the florid type. Eczema likewise occurs much oftener, and is more obstinate in character, in those of light complexion; the same may be said of psoriasis.

Habits.—The usual habit of the patient must be inquired into, and his ordinary condition of health, apart from his cutaneous trouble, ascertained. The state of the alimentary canal, a region so often the seat of derangement in diseases of the skin, must be most searchingly investigated; not merely whether the patient suffers from dyspepsia or constipation, for questions of this kind are rarely sufficiently definite to elicit the true condition. Each part of the digestive tract should be gone over in turn, with leading questions, assuming, for the most part, that some functional trouble does exist. Here, in the alimentary canal, we may find the key which will disclose the cause of a great number of skin diseases. Let the examination, then, in this direction be scrutinizingly conducted. Permit no point, however slight in character, to be passed over lightly, for upon it may depend the exciting cause of the disease before us.

The tongue should always be inspected, and its condition,

if whitish, furred, thickened, moist, dry, or cracked, noted. At the same time inquiry into the usual state of the breath should be made; whether heavy, offensive, or feverish; if impure, the cause should be sought for; frequently it will be found associated with digestive difficulties.

Attention should next be directed to the stomach; and here we must question our patient closely, asking him whether he is subject to eructations, flatulence, acidity of stomach, or indigestion, or, if the case demand it, using the more popular terms of heart-burn and water-brash. Persons are not infrequently encountered who positively deny all knowledge of any dyspepsia or indigestion, but who eagerly admit suffering from heart-burn! In this connection the quality and quantity of food taken may be inquired into, ascertaining whether the indigestion, for example, is due simply to certain articles of food, or to other causes. The state of the bowels must be investigated, whether normal, temporarily or habitually constipated, or whether irregular in their action.

In many cases it is of importance to make an examination of the urine, a procedure which is always in place in the investigation of any serious disease whatsoever.

Occupation.—The occupation of the patient frequently affords a clue to the cause of the disease. It should always be ascertained. It is well known that various kinds of work play a part in the production and continuance of certain forms of disease. An affection, trivial in character, may be greatly aggravated by exposure to irritating substances. For example, a very slight eczema upon a washerwoman's hand may be much increased by continued work; ultimately a severe eczema rubrum of the whole arm may result. If she persist in her occupation, the chances are that the trouble will continue until she is compelled, through distress, to desist. Workers in the manufacture of chemicals also suffer at times from artificial diseases; those exposed in mercury and arsenic mines are subject to peculiar forms of eruption; while workers in caustics, acids, iodine, bromine, tar, and other similar substances, may likewise be attacked with peculiar disorders of the skin.

GENERAL FEATURES OF THE DISEASE.

We now come to consider the disease itself, including the lesions of the skin and their peculiarities. They must be very attentively studied, for they afford the most accurate information which it is possible to obtain concerning the nature of the case; they offer the only knowledge, indeed, which can be relied upon. One thoroughly familiar with the various cutaneous lesions is, as a rule, enabled to comprehend the whole character of a disease.

Acute or Chronic.—It is, in the first place, to be noted whether the disease is acute or chronic in its course; and, furthermore, to observe the stage in which it appears to be, whether upon the increase or upon the decline. In the majority of cases this can be learned by simple inspection, or, when this is not possible, from the statement of the patient. It is also important at the same time to inquire into the duration of the complaint, and whether it is a first attack or a relapse.

Extent of Disease.—The extent of the affection may now be ascertained; whether confined to a certain region, or occurring in various portions of the body.

The regions involved should be observed, for it is well known that some diseases have a predilection for certain parts of the body, as seen in seborrhœa, acne, etc. Other diseases are encountered only in certain localities; for example, sycosis.

Distribution.—The distribution of the eruption may often serve as an aid in diagnosis; as the configuration or shape of the patches, and the grouping and arrangement of the lesions.

Color.—The general color of the disease will always throw considerable light upon the nature of the process, as, for instance, in the syphilitic eruptions; in certain new growths, as xanthoma and keloid; in chloasma; in tinea versicolor, tinea favosa, and in numerous other affections.

Individual Lesions.—It is to be noted whether the individual lesions are of one or of several varieties; whether they are all in the same or in different stages of development. Their

anatomical situation and number are also to be carefully inquired into. Finally, it is important to observe their evolution.

Macules are of very frequent occurrence; some remain as such throughout their entire course, as in chloasma, vitiligo, etc., while others, beginning as maculæ, rapidly pass into other and more permanent lesions.

Hyperæmic affections, as the simple erythemata, discolorations of the skin from various causes, and certain parasitic diseases, all present examples of maculæ as their characteristic lesions.

Papules occur either alone or in connection with other structural changes. In eczema the eruption may be altogether papular, or it may be a mixture of papules and vesicles in various stages of development, with scales, crusts, etc. In the papular syphiloderm, pustules are at times seen intermingled with the papules. In lichen planus, prurigo, lichen scrofulosus, comedo, and milium, papules, possessing for the most part definite form, color, and structure, are observed. It will here be remembered that papules are of several varieties, some of them quite unlike in their form and anatomy.

Vesicles are common, and occur in a great number of diseases. Vesicular eczema exhibits the lesion in its most perfect state; it is also observed highly developed in herpes, miliaria, sudamina, vaccinia, and varicella. Vesico-pustules are seen in the so-called vesicular syphiloderm, in contagious impetigo, and in other affections.

Pustules are met with in variola, pustular eczema, ecthyma, acne, scabies, in the pustular syphiloderm, and in non-parasitic sycosis, herpes zoster, etc. Vesicles very frequently pass into pustules.

The tubercle is often an exaggeration of the papule. It is seen in parasitic sycosis, acne, syphilis, carcinoma, leprosy, rhinoscleroma, sarcoma, neuroma, etc.

Tumors develop themselves in sebaceous cyst, sebaceous molluscum, fibrous molluscum, erythema nodosum, keloid, angioma, lymphangioma, lymphadenoma, neuroma, lipoma, elephantiasis Arabum, syphilis, and in other diseases.

Bullæ, varying in size from a cherry to a goose-egg, are encountered chiefly in pemphigus, herpes iris, erysipelas, syphilis, and leprosy. They are also observed as the result of vesicants, scalds, and burns.

Wheals are usually significant of a peculiarly sensitive state of the skin, which inclines to their ready formation upon slight provocation. They are seen most perfectly developed in urticaria; they also occur, more or less pronounced in character, in connection with other diseases, *e.g.*, purpura.

Scales are exceedingly common, and are observed in a great variety of affections; psoriasis, seborrhœa, squamous eczema, ichthyosis, erythematous lupus, and the vegetable parasitic diseases, all exhibit these products quite typically. Scales form to a greater or less extent in all of the exudative diseases; also in other classes of diseases.

Excoriations are usually met with in those complaints which are accompanied by itching and like symptoms; they are seen chiefly in eczema, pruritus, phtheiriasis, scabies, and other parasitic affections.

Fissures take place in eczema, psoriasis, and syphilis; also in various hypertrophies.

Crusts are found as the product of many diseases. They constitute striking lesions in eczema, scabies, ecthyma, syphilis, impetigo, herpes, sycosis, leprosy, carcinoma, scrofuloderma, etc.

Ulcers take place in syphilis, lupus vulgaris, carcinoma, leprosy, scrofuloderma, herpes zoster, furuncle, carbuncle, etc. Cicatrices always follow ulceration.

TREATMENT.

It should always be the aim of the physician to cure the disease before him as rapidly and as effectually as possible; every known means calculated in any way to relieve the disorder should be brought to bear upon the case. No fears need be entertained of "curing the disease too soon," or of "driving in the eruption," as this popular idea is variously expressed; the danger is rather in temporizing with the affection and thus permitting it to obtain the upper hand. It may be very safely stated that the sooner diseases of the skin are relieved the better both for the comfort of the sufferer and for the credit of the physician. Careful inquiry and extended experience show that no injurious results ever follow the cure of these diseases, whether this take place rapidly or slowly; in very many cases the time occupied in the treatment unfortunately extends over a long period, even under the most favorable circumstances, so that speedy recovery, when it does occur, should always be regarded with favor.

He who would be successful in the treatment of cutaneous affections must first acquire a full knowledge of the principles of general medicine; without this groundwork upon which to stand, his efforts, in the majority of cases, will at best be rewarded by unsatisfactory results.

Dermatology, rightly viewed, is but a department of general medicine; its diseases, consequently, are amenable to the same principles of therapeusis which hold good for disorders of other organs. A simple acute inflammation of the skin, for example, calls for the same general plan of management as an acute inflammation having its seat in the mucous membrane, or in other tissue of the body. The

skin is but a part of the whole organization, and subject, therefore, to general rules of treatment.

Before prescribing for a case there are a number of points which should be taken into consideration; they may be referred to under the following heads:

Previous History.—Not infrequently the previous history of the patient, and more particularly of the disease itself, will prove of great assistance in determining upon the most suitable method of treatment.

In the first place, it is to be ascertained whether the present trouble is a first attack or a relapse. If the latter, the course of the former attack, as well as the nature of the treatment, should be inquired into; whether external or internal remedies were employed, and whether they proved successful or otherwise.

The preparations used should also, when practicable, be learned from the patient; for a knowledge of past treatment and its results may occasionally save both time and trouble.

Idiosyncrasies, it must be borne in mind, are not uncommon; hence, for example, when we are assured by a patient that arsenic taken internally, or tar used externally, invariably disagrees, the information enables us to be cautious as to the manner of prescribing these remedies.

Present General Condition.—The general condition of the patient should be carefully ascertained. At a glance it is noted whether the patient is or is not in apparent good health; whether, for example, there is a tendency to plethora or to anæmia; or whether chlorotic symptoms, so common in various diseases of the skin, are present.

In this connection it is important to determine the presence or absence of constitutional symptoms; whether the disease is strictly local or not. The appetite should be inquired after; likewise the state of the alimentary canal. The tongue should be examined, if normal or otherwise, and the existence or not of dyspeptic symptoms questioned.

The state of the bowels requires special attention; if natural, irregular, or constipated in their function. The

character of the biliary and renal secretions also calls for investigation.

The condition of the nervous system should be determined; the amount and kind of sleep enjoyed, the state of the mind, whether healthful or morbid, depression of spirits, or other like symptoms, should all be noted.

Nature of the Disease.—Directing attention now to the skin itself, it is all-important to form a definite idea as to the nature of the process present; whether, for example, it is a simple hyperæmia, an inflammation, or a hypertrophy. Recognizing the pathological process, but little difficulty is offered for the diagnosis.

The duration of the disease is now ascertained; its natural course studied; whether localized to a small area or diffused; its tendency to confine itself or to spread. It is important, also, to determine before prescribing whether it is acute or chronic, and, still further, to recognize the precise stage of the process.

The subjective symptoms, moreover, should be learned from the patient; whether pain, burning, or itching is experienced, or whether there is complete absence of such symptoms.

Cause of the Disease.—The exceeding importance of forming a correct opinion as to the cause which has given rise to the affection is so apparent as scarcely to call for more than mention; upon a proper interpretation of this point will depend the success or the failure of treatment. It is only by treating the cause that permanent relief may be looked for. Too much study and investigation can scarcely be devoted to a comprehension of the case as a whole; let it be remembered that each case demands special study and a plan of treatment adapted to its needs. The lesions themselves, as a rule, except in the case of local diseases, call for but secondary treatment; they are of little consequence when compared to the cause which is continually producing new lesions. When, however, as but too frequently occurs, no cause for the disease is to be detected, the lesions themselves should be vigorously attacked by every means at hand, with a view of removing them as soon as possible. In those in-

stances in which the affection is known to be altogether local in its origin, nothing further than the treatment of the lesions themselves is called for.

Method of Treatment.—For the relief of diseases of the skin, speaking in general terms, both constitutional and local remedies are demanded. They may be prescribed conjointly or alone, according to the nature of the disorder. Experience proves conclusively that in many cases constitutional or internal treatment is by far the most effective, while in other instances local measures offer not only the best, but at times the only, means of relief; such being the case, I think, therefore, it is plain that neither method employed to the exclusion of the other is capable of yielding the best results which it is possible to obtain. Where, however, external means are sufficient to relieve the trouble both promptly and permanently, internal treatment is not only superfluous, but may even be productive of harm.

Viewing the subject as a whole, I am strongly of the opinion that the most satisfactory results are to be obtained from the conjoint employment of both plans of treatment. The affections, and more particularly the individual cases in which either local or constitutional remedies are to be prescribed, can be determined only by taking into account both the nature and cause of the complaint under consideration.

No positive rules can be given for the use of either one or the other class of remedies, for it will be found that the skin, when in a state of disorder, is a sensitive organ, subject to no fixed laws of behavior. The remedy suitable for one stage is frequently not only powerless, but often absolutely injurious, in another stage of the same disease; this observation may be verified not infrequently in clinical experience.

CONSTITUTIONAL TREATMENT.

Under this heading may be considered the following:

Hygiene.—In this connection may be mentioned the benefits to be derived from attention to the ordinary rules of hygiene. In not a few disorders, especially those of a chronic nature, much is to be gained from regulated and judicious exercise, more particularly out-door exercise taken

in sunshine. The advantages resulting from this adjuvant in therapeusis are most strikingly seen in cases in which there are marked elements of chlorosis present.

The effect of change of climate upon certain serious diseases is at times followed by the most salutary results. In certain rebellious cases of urticaria, psoriasis, furunculus, and eczema, the change may be followed by decided, and at times prompt, relief.

Food.—Quite as important for the permanent relief of certain disorders as medicine itself, is the use of a well-regulated and suitable diet. The kind and quality of the food consumed are considerations of consequence in the treatment of a number of diseases. The diet should always be directed, and should consist of those articles which are suggested as being proper for the case under care. Beneficial results may also sometimes be obtained from a complete change of diet.

Cod-liver Oil.—This remedy is an exceedingly valuable one. It is especially useful in all those cases in which the general health has become impaired through improper and insufficient food, bad hygienic surroundings, and like causes. It is prescribed to greatest advantage in scrofuloderma, affections of the sebaceous glands, lupus, and eczema. It may be administered to infants and children as well as to adults. The dose should always be liberal, varying from a teaspoonful to a half-ounce or more, according to the age of the patient and the tolerance of the stomach.

Iron.—The preparations of iron occupy a conspicuous position among the remedies used in the treatment of skin diseases. Their administration is indicated in a very large number of affections. They are given with particular benefit in diseases dependent upon chlorosis, and in exudative diseases accompanied by general impoverishment, as in certain forms of eczema, psoriasis, and the like. Many other disorders, too numerous to mention, may also be benefited by its judicious use. It may be prescribed in the form of the protocarbonate, citrate, pyrophosphate, or tincture of the chloride; the wine of iron may here be referred to as a very desirable preparation, suitable for many conditions, where a

mild tonic is required; it constitutes an excellent vehicle for the administration of both arsenic and iodide of potassium.

Quinine.—This may often be given with advantage where iron is indicated. It is found, however, to be of particular value in the neuroses, and in other diseases complicated by a well-defined nervous element.

Arsenic.—As is well known, arsenic has long been held in high esteem as a remedy in cutaneous medicine. At the present day there exists a great diversity of opinion concerning its actual worth as a therapeutic agent against this class of diseases; certain dermatologists claiming to derive marked good from its employment in quite a number of affections, while others of equal experience are inclined to place but little reliance upon its curative powers. Without hesitation I would express myself of the opinion that it is a remedy of great value; that it is, in fact, the most valuable of all internal remedies in the treatment of a number of skin diseases; but the cases in which it is prescribed must be selected if gratifying results are to be looked for. To say that arsenic is of use in "diseases of the skin," viewed collectively, is an assertion so vague and meaningless as to be of no practical value whatever. It is indeed a grand error to think that it may be prescribed in all cases. Not only is it necessary to specify the disease, but also the very stage of the affection, if we would employ it successfully.

Arsenic exerts its influence chiefly upon the mucous layer of the epidermis. Hence it is found that diseases involving the more superficial parts of the skin are most benefited by its administration. It possesses little or no power over the affections which have their seat in the deeper structures; it has but slight effect upon deep infiltrations of the corium.

Its action upon the skin is slow, weeks and months being requisite to produce the desired result; improvement once obtained, it is expedient to allow the patient to continue its use for some weeks after all symptoms of disease have disappeared.

Arsenic should never be given in the acute, inflammatory stage of any disease of the skin; it should never be prescribed when there is great heat, burning, intense itching,

or rapid cell change. It is not only of no good at this time, but is positively injurious, tending to augment the activity of the morbid process. It stimulates the rete into action, when rest is demanded. Its administration, then, in whatsoever disease, should be withheld until the acute symptoms have completely subsided.

Arsenic is unquestionably of great value in psoriasis; but it is not of benefit in every case, nor should it be directed in all stages of this disease. Where the process is very active, and attended with intense hyperæmia, it only increases the already inflammatory condition. The more active the cell proliferation, the less probability is there of its being beneficial. On the other hand, the more indolent and sluggish the process, the greater the chance for improvement. It may be stated, as a rule, that arsenic should always be withheld until the disease has fairly settled in its career.

It is of decided service in certain varieties of eczema, especially in the papular and squamous forms; also, I think, in those cases where the true primary lesions are but ill defined and where there is but slight infiltration of the skin. Certain persistent, localized papular and abortive vesicular eczemas, as frequently seen, for example, about the fingers, also often yield readily to it. Viewing, however, the subject of the value of arsenic in eczema in a broad light, I may state that its employment is not very satisfactory; over the great mass of cases it possesses but little controlling power.

Pemphigus is frequently materially influenced, and at times permanently relieved, by its judicious use; here, as in other conditions, the older the process the more likely are we to obtain favorable results. In the later stage of lichen planus it is prescribed with decided advantage. In certain forms of acne, especially in those cases where the lesions are numerous and of a fine papular character, its administration is frequently followed by good results.

The preparations of arsenic which it is advisable to employ are arsenious acid, liquor arsenici chloridi, and liquor potassii arsenitis (Fowler's solution). The latter will be found the most desirable form for ordinary use.

Arsenious acid is given in pill form, usually combined with

black pepper and powdered liquorice, constituting the compound known as the Asiatic pill, which may be prescribed in varying strength, suitable to the case. The following is the formula somewhat modified: Arsenious acid, two grains; black pepper and liquorice powder, of each thirty-two grains, with a sufficient quantity of mucilage; mix, and divide into thirty-two pills. S.—One to be taken three times a day, directly after meals. The strength of the pill may be altered to suit the case.

The liquor potassii arsenitis is best given combined with a bitter tincture, or with the wine of iron. Prescribed in this way there is less likelihood of gastric and intestinal derangement. The mode of ordering the solution pure, and directing so many drops to be taken at each dose, is, I think, objectionable for many reasons, to which it is unnecessary to refer. The average dose which will be found to be suitable to the majority of individuals is three minims. Four, five, and six minims, and even larger doses, will often be tolerated; out of a number of patients, however, comparatively few will be able to take more than three or four minims for any length of time without derangement of the system. The solution of the chloride of arsenic is prescribed in about the same dose and for the same objects as Fowler's solution. At times large doses will be tolerated. Arsenic should always be given either with the food or directly afterwards. Its toxic effects should always be watched for and guarded against.

Phosphorus.—The diseases in which this substance may be prescribed are those in which iron and arsenic would seem indicated. It is not well tolerated by the stomach, and it is partly on this account, probably, that the views of observers as to its efficacy are conflicting. It has been used with success in psoriasis. It is best administered in the form of a phosphorated oil, enclosed in capsules, the dose being about one-fiftieth of a grain of the phosphorus.

Tar, Carbolic Acid.—Both of these substances are at times employed internally in psoriasis with good result. Tar should always be ordered in capsules.

Mercury.—The preparations of this metal are rarely directed for disorders of the skin other than those of a syphilitic

nature. In this class of diseases, however, they are invaluable. The corrosive chloride, protiodide, biniodide, and gray powder, are the forms in which it is commonly prescribed. The effect of the mercurials upon the system should always be noted with the greatest care, and in no case should they be pushed until ptyalism has been produced. Mercury is also combined very advantageously with iodide of potassium. Here may be mentioned Donovan's solution (liquor arsenici et hydrargyri iodidi), a remedy of some repute in the treatment of syphilitic manifestations.

Iodide of Potassium.—This substance finds its chief use in scrofuloderma, lupus erythematosus, lupus vulgaris, and in the late syphilodermata. In the last named class of affections it may be administered either alone or in combination with mercury. It is prescribed in doses varying from five to twenty grains, largely diluted with water.

Aperients.—This class of remedies is of great service in many of the inflammatory diseases. Saline laxatives, as the sulphate of magnesium, Rochelle salt, are especially to be recommended, and may be given with marked benefit in the early stages of the majority of the exudative diseases in which pyrexic symptoms are present. They should, however, be used with discretion, and never to the extent of violent purgation. They are found to be most useful when prescribed with other substances, as, for example, iron, acids, and barks, in the form of a draught.

Mineral Spring Waters.—These, especially those possessing cathartic and alterative properties, are at times taken with decided benefit.

Diuretics.—Remedies exerting an eliminating influence upon the kidneys are administered with marked advantage in highly inflammatory diseases complicated with defective excretion, as, for example, in cases of eczema and psoriasis. Saline, non-stimulating preparations are preferable, the citrate, acetate, and bicarbonate of potassium, in twenty or thirty grain doses, being those from which the most relief is usually to be derived.

The alkalies are found to be of particular value in cases dependent upon or complicated with gout or rheumatism.

The condition of the urine should receive careful attention in all diseases of the skin, but especially in the acute exudative disorders, where it is apt to be deranged.

LOCAL TREATMENT.

External remedies are used with the view either of temporarily relieving, or of curing the condition. They are very numerous, and include a great variety of substances, which are employed alone or in combination. They may be conveniently considered under the following heads.

Baths.—Water, used for the purpose of cleansing the skin and removing from the surface effete matter, as scales and crusts, or in the form of baths, simple or medicated, is an essential therapeutic agent. Its employment should, however, always be directed with judgment, inasmuch as in certain morbid conditions it is liable to produce more mischief than good. Where plain water is required, care should be taken to procure soft or rain water. Many waters are hard and irritating to sensitive skins.

The simple warm bath is especially serviceable in certain exudative diseases, as psoriasis, and in hypertrophies of the epidermis and corium, for example, ichthyosis.

Medicated baths are prepared with various substances. Starch, bran, gelatine, and the like, are added to the plain bath for the purpose of obtaining a bland, unirritating water, which finds its chief use in highly inflammatory conditions.

Alkaline baths, made with the carbonates of sodium and potassium, are of decided value in the neuroses and in parasitic diseases; also in the desquamative stage of some of the exudative affections. Tar and sulphur, as well as other remedies, are also occasionally prescribed in the form of baths. Cold, douche, vapor, and hot-air baths are likewise often useful.

The continuous bath, so constructed that a patient is enabled to remain continuously in the water for days and weeks at a time, is valuable in the treatment of extensive chronic inflammations, as psoriasis and pemphigus, and in burns.

Soaps.—Two varieties of soap are made use of, the soda or

hard, and the potash or soft. Both are exceedingly important therapeutic agents, and are brought into frequent requisition for various purposes. Castile soap, the representative of the hard soaps, finds its office mainly for cleansing the skin of extraneous matter, as dirt. It is a neutral soap, is quite bland in its effects, and may be advantageously employed in many diseases preparatory to the application of other remedies.

Soft soap, termed also "sapo mollis" and "sapo viridis," is a soft, brownish or greenish soap, containing an excess, in varying amounts, of caustic potash. The fatty substance from which it is made may be either animal fat or vegetable oil; it may further be either pure or impure in quality, points of difference in the manufacture which account for its variable characters as to consistence, color, odor, etc.

Sapo viridis is an indispensable remedy in the hands of the dermatologist; it may be used alone, with water, with alcohol in the form of a tincture, or in combination with oils and other substances. It is an invaluable detersive agent, and is usually sufficiently strong to free the skin of scales, crusts, and other foreign matter. Its effect upon the skin is mildly caustic. When applied for any length of time, or repeatedly, its caustic property should be counteracted by the subsequent application of some oily or fatty material, to prevent roughness, chapping, and contraction of the epidermis.

Medicated soaps, as, for example, those containing tar and sulphur, are at times serviceable in the milder forms of disease; as a rule, however, better results are to be obtained from the same substances in other form.

Poultices.—Preparations of this kind have but a limited use in dermatology. They are occasionally useful for removing large, adherent masses of crust, as in severe and long-standing eczema of a part. They are also employed with great benefit to relieve pain and to hasten suppuration in furuncle, carbuncle, and like inflammations. They may be prepared with flaxseed meal, potato starch, or bread and milk, and should always be applied as hot as the part will bear, and should be repeatedly renewed.

Dusting Powders.—These play quite an important part in

the management of certain of the hyperæmic and inflammatory disorders, as in erythema, intertrigo, and eczema. They are composed either of one or of several substances, mixed in varying proportions. Wheat starch, corn starch, oxide of zinc, lycopodium, asbestos, French chalk, orris root, and arrow root, reduced to fine, impalpable powders, are all used for this purpose. They should be prepared with care, and should be perfectly smooth and free of all grit. When applied, they serve to protect the surface from the influence of the air, from irritation and rubbing, and absorb exuded fluids.

Lotions.—Lotions constitute a very desirable and cleanly means of applying a number of remedies. In many instances they are better adapted for the relief of disease than ointments; this is particularly the case when the affection occupies a large amount of surface, as in pruritus. They may very properly be divided into those which are soothing, stimulating, and astringent.

Soothing lotions are usually aqueous preparations containing certain substances which allay nerve irritation and produce ease; those in common use are black wash, lead water, glycerine and water in various proportions, weak solutions of carbolic acid, hydrocyanic acid, and the weaker alkalies. These find their use chiefly in the inflammatory affections, and most frequently in eczema.

Stimulating lotions commonly contain alcohol, certain oils, aqua ammoniæ, cantharides, carbolic acid, corrosive sublimate, tar, alkalies, camphor, sulphur, etc.; often several of these substances are contained in the preparation. They prove of great value in affections of the scalp, where oils and ointments are contra-indicated on account of the hair. They are also of service in diseases of the glands, and in chronic inflammations, as in acne and eczema.

Astringent lotions are made with alcohol, tannic acid, alum, iron, vinegar, and like substances; their principal employment is in hemorrhages, and in excessive sweating.

Oils.—Natural oils may be either bland or more or less stimulating. To the former class belong olive oil, oil of sweet almonds, linseed oil, castor oil, cod-liver oil, and petro-

leum and its products vaseline and cosmoline. Here may also be mentioned glycerine, one of the most precious of external remedies. Bland oils are serviceable in softening scales and crusts, and for anointing the surface in a variety of conditions. They also enter largely into the composition of ointments and lotions.

Examples of stimulating oils are found in the derivative oils from tar, as oil of cade, and oil of birch, and in oils derived from certain nuts, as the oil of cashew-nut, etc.

Ointments.—Ointments constitute the usual and by far the most valuable means of applying remedies to the skin. They are made with various fats, commonly, however, with lard, and contain one or more substances upon which their chief virtue depends. Like the lotions and the oils, they may be divided into those which have a soothing effect, and those which stimulate.

Sedative Ointments.—In this class may be placed simple ointments and cerates, glycerine ointments, ointment of cacao butter, cucumber ointment, diachylon and oxide of zinc ointments, and other preparations possessing similar properties. They are bland in their nature, and are employed chiefly in highly inflammatory conditions, with the view of protecting the surface and of thus allaying irritation.

Diachylon ointment, prepared either from diachylon plaster or from litharge, with olive oil, is an indispensable remedy in the treatment of a number of conditions. Oxide of zinc ointment is likewise an invaluable preparation, finding one of its principal uses in eczema. Both of these ointments are very frequently made to serve as vehicles for the application of other remedies.

Stimulating Ointments.—These are the most efficacious of remedies. They are made with a great variety of substances, which are employed either alone or in combination. Tar and its derivatives may first be mentioned; they are invaluable in eczema and psoriasis. Pix liquida, oil of cade, and oil of birch, are the products which are ordinarily employed. Carbolic acid occupies a position no less important than tar; in suitable strength it is the most valuable of antipruritic remedies.

The preparations of mercury, including the red oxide, nitrate, red iodide, mild chloride, corrosive chloride, ammoniated mercury, and mercury itself, are all employed, and are very highly prized for their virtues in numerous and quite different diseases. Sulphur may also be referred to as one of the more important remedies of this class. Camphor and the subnitrate of bismuth, both mild stimulants to the skin, are occasionally used in the form of ointment with good result.

Stimulating ointments are made in various strengths, from a few grains to several drachms of the active ingredient to the ounce of simple ointment, according to the nature of the case and the effect desired.

Caustics.—Under this head may be classed those substances and preparations which are discutient in their effect, as well as those which are truly caustic. To the former belong iodine, sapo viridis, mercurials, acetic acid, cantharides, and the like. Among the stronger remedies, nitrate of silver occupies a conspicuous place; it is employed both in stick form and in solution. It is of service in those cases where a mild caustic or stimulating effect is desired, as in lupus, and in ulcers; also in various superficial formations.

Caustic potash, either in stick form or in solution, is a very valuable, potent, and thoroughly efficient escharotic. It is a powerful remedy, exceedingly rapid in its destructive effects, and should always be used with caution. It is applied with good result in new growths and hypertrophies, such as epithelioma, lupus erythematosus, lupus vulgaris, and in other affections. It may be employed either in its pure state, or weakened by admixture with other substances, as lime, in the preparation known as potassa cum calce. The chloride of zinc is likewise a strong caustic, producing its effect slowly, but occasioning great pain both at the time of the application and for some time after the operation. It is of service in similar cases in which potash would be called for. Chromic acid is a mild caustic, useful in epithelial hypertrophies, as warts and like affections. Arsenic is chiefly employed with other substances in the form of ointments and powders; it is prescribed in certain cases of lupus, and as a stimulating

dressing in indolent ulcers. As a caustic it is slow but destructive in its action; it possesses the peculiarity of attacking diseased tissue in preference to healthy structures.

Nitric acid and the acid nitrate of mercury are well adapted for the treatment of venereal productions, as chancres, warts, etc. They should be applied with care. Acetate of zinc, carbolic acid, corrosive chloride of mercury, and other similar agents, are occasionally used for purposes of superficial cauterization.

Parasiticides.—These are remedies which act destructively upon both the vegetable and the animal parasites of the skin.

Sulphur and its compounds, including sulphite of sodium, hyposulphite of sodium, and sulphuret of potassium, are deserving of the first mention; they are effectual in both groups of diseases. Styrax and Peruvian balsam are especially valuable in destroying the itch mite; while staphisagria, cocculus Indicus, white precipitate, mercurial ointment, corrosive sublimate, and petroleum are the best remedies against the pediculus.

The vegetable parasites are acted upon by a number of articles, among which the mercurials, more particularly corrosive sublimate, the red and white precipitates, the yellow sulphate, and the red sulphuret, are to be considered as holding a high position.

Other remedies also serve the same end, as, for example, tar, creasote, carbolic acid, veratria, carbonate of potassium, borax, alcohol, iodine, cantharides, etc.

Electricity.—This therapeutic agent may be applied with excellent result in certain affections, especially in those in which there is marked involvement of the nervous system, as in herpes zoster, and in the neuroses. The galvanic current—from five to fifteen cells, according to the susceptibility of the patient and the condition—is that from which the best effects are obtained; the faradic current is also serviceable.

The application may be either central, through the system, or directly to the disease of the skin, by far the more useful

method. Electrolyzation, or the decomposition of tissues by means of the galvanic current, is of value in the treatment of certain tumors, tubercles, connective-tissue growths, etc. It is accomplished by means of needles, in the place of ordinary electrodes, inserted into the tissues through which the current is discharged.

PROGNOSIS.

Concerning prognosis little is to be said in a general way. The question here is with individual cases of disease rather than with classes.

Diseases of the skin are either acute or chronic; some are invariably acute in their duration, as in the case of the herpes group; others are almost always chronic, as, for example, psoriasis. The vast majority of disorders, however, taking a general view of the whole field, incline to chronicity as regards duration; many of them are exceedingly obstinate, lasting years; others, as those of a congenital nature, commonly continue throughout life.

Anomalies of secretion are very often rebellious to treatment, as seen in seborrhœa and in hyperidrosis.

The active hyperæmias, as long as they remain such, are ephemeral derangements, and need occasion no anxiety. But it must be remembered that if the action of the cause is prolonged or carried beyond a certain point, the process becomes inflammatory, and the prognosis consequently more serious.

Of exudative diseases as a class it is not possible to speak in general terms; for while some always terminate favorably and within a definite period, others may end very disastrously, as, for example, pemphigus; this latter result is, however, rare. A number of the inflammatory affections tend to become chronic, lasting not infrequently months or years; as instances, eczema, psoriasis, and non-parasitic sycosis may be cited.

Hemorrhages are to be looked upon either in a favorable or in an unfavorable light, according to their severity and extent.

Hypertrophies, as a rule, have a benign character; they are slow in their course, and often continue a lifetime. Some of them are incurable.

The same may be said of atrophies.

Neoplasmata or new growths are either benign or malignant. The prognosis with diseases of this class will depend altogether upon the nature of the case under consideration. Lupus, syphilis, leprosy, carcinoma, and sarcoma must all receive grave prognoses; they are serious maladies, several of which frequently terminate fatally; on the other hand, certain affections of this class, as fibrous molluscum, give rise to no trouble beyond disfigurement.

The neuroses are exceedingly variable in their duration; at times they yield readily to treatment, in other cases they are most obstinate. They are always very distressing to the patient.

The parasitic affections are all curable.

CLASSIFICATION.

The use of a classification in the consideration of diseases of the skin is to group together, for purposes of study and reference, affections which are similar in their intimate nature. Various ways of accomplishing the same object have been proposed. The method which appears to me to be the most practically useful, and at the same time capable of the most extended and scientific elaboration, is based upon anatomy and pathology.

The arrangement which I present is that of Hebra, modified. It rests entirely upon anatomical and pathological grounds, with the exception of the last class, which is etiological. In the great majority of instances the nature of the pathological process, together with the structure involved, serves as the basis for the grouping of the diseases.

CLASS I. ANOMALIÆ SECRETIONIS—DISORDERS OF SECRETION.

Seborrhœa. Comedo. Milium. Molluscum Sebaceum. Sebaceous Cyst.	Sebaceous Glands.
Hyperidrosis. Bromidrosis. Chromidrosis. Anidrosis. Sudamina.	Sweat Glands.

CLASS II. HYPERÆMIÆ—HYPERÆMIAS.

Erythema Simplex. Erythema Intertrigo.	Erythematous.

CLASS III. EXSUDATIONES—EXUDATIONS.

Erythema Multiforme. Erythema Nodosum. Urticaria.	Erythematous.
Eczema.	Erythematous, Vesicular, Pustular, Papular, Squamous.
Herpes Febrilis. Herpes Zoster. Herpes Iris. Miliaria.	Vesicular.
Pemphigus.	Bullous.
Lichen Planus. Prurigo. Lichen Scrofulosus.	Papular.
Acne. Acne Rosacea. Sycosis Non-Parasitica. Impetigo. Impetigo Contagiosa. Ecthyma.	Pustular.
Psoriasis. Pityriasis Rubra.	Squamous.
Furunculus. Anthrax.	Phlegmonous.
Dermatitis.	Erythematous, Vesicular, Bullous, etc.

CLASS IV. HÆMORRHAGIÆ—HEMORRHAGES.

Purpura.	Corium, etc.

CLASS V. HYPERTROPHIÆ—HYPERTROPHIES.

Lentigo. Chloasma. Nævus Pigmentosus.	Pigment.
Callositas. Clavus. Cornu Cutaneum. Verruca. Ichthyosis. Lichen Pilaris.	Epidermis, Papillæ.
Scleroderma. Sclerema Neonatorum. Elephantiasis Arabum. Dermatolysis.	Corium.
Hypertrophy of the Hair.	Hair.
Hypertrophy of the Nail.	Nail.

CLASS VI. ATROPHIÆ—ATROPHIES.

Albinism. Vitiligo. Canities.	Pigment.
Atrophia Cutis. Striæ et Maculæ Atrophicæ. Morphœa. Senile Atrophy.	Corium.
Alopecia. Alopecia Areata. Atrophy of the Hair.	Hair.
Atrophy of the Nail.	Nail.

CLASS VII. NEOPLASMATA—NEW GROWTHS.

Keloid.		Connective Tissue.
Molluscum Fibrosum.		
Xanthoma.		
Rhinoscleroma.		Cellular.
Lupus Erythematosus.		
Lupus Vulgaris.		
Scrofuloderma.		
Elephantiasis Græcorum.		
Syphiloderma.		
Carcinoma Cutis.		
Sarcoma Cutis.		
Nævus Vasculosus.		Bloodvessels.
Telangiectasis.		
Lymphangioma Cutis.		Lymphatics.
Lymphadenoma Cutis.		
Neuroma Cutis.		Nerves.

CLASS VIII. NEUROSES—NEUROSES.

Hyperæsthesia.		Hyperæsthesia.
Dermatalgia.		
Pruritus.		
Anæsthesia.		Anæsthesia.

CLASS IX. PARASITÆ—PARASITES.

Tinea Favosa.		Vegetable.
Tinea Tricophytina.	T. Circinata.	
	T. Tonsurans.	
	T. Sycosis.	
Tinea Versicolor.		
Scabies.		Animal.
Phtheiriasis Capitis.		
Phtheiriasis Corporis.		
Phtheiriasis Pubis.		

PART II.

SPECIAL DISEASES.

CLASS I.

ANOMALIÆ SECRETIONIS—DISORDERS OF SECRETION.

This class comprises an important group of diseases. It is composed of the various functional disorders of the sebaceous and sweat glands. The affections here considered are strictly those of abnormal secretion. Diseases of the glands accompanied by inflammation, as, for example, acne, find their place under the Exudations.

SEBORRHŒA.

Syn. Pityriasis; Stearrhœa; Steatorrhœa; Fluxus Sebaceus; Cutis Unctuosa; Acne Sebacea; Seborrhagia; Tinea Furfuracea; Tinea Amiantacea; Tinea Asbestina; Ichthyosis Sebacea; Dandruff; Dandriff; *Germ.*, Schmeerfluss; Gneis; *Fr.*, Acné Sébacée.

Seborrhœa is a disease of the sebaceous glands, characterized by an excessive and abnormal secretion of sebaceous matter, forming upon the skin either an oily coating or an accumulation of whitish or yellowish scales.

Symptoms.—Seborrhœa may appear upon any portion of the body, though, like the majority of cutaneous affections, it has favorite localities for its development. By far the most common seat is the scalp; next in frequency it occurs about the face. Upon the body it is seen most often about the back,

between the scapulæ, and upon the chest over the region of the sternum. It occurs at all periods of life, from birth to mature age. In newly born infants it constitutes the *vernix caseosa* or *smegma*, and may be present in a slight degree or as a thick coating involving the whole body, and is to be viewed as a physiological rather than a pathological process. It is apt to remain about the scalp in infants throughout the first few months of life, in the form of a compact, yellow, crust-like accumulation. The sebaceous glands by this time have begun to perform their function properly, and seborrhœa is not encountered again, as a rule, until puberty or adult age, when the glands are once more in danger of becoming deranged.

The course of seborrhœa is variable. At times it is a very slight affection, disappearing either spontaneously or with simple treatment. In other instances it is severe, and continues for years, unless properly managed. The general condition of health influences its course in a very marked manner; as the tone of health improves, the glands tend to assume normal action.

The state of the skin itself, beneath the scales, varies according to the amount of disturbance as well as according to the character of the secretion. In the majority of instances the disease is in no way inflammatory, there being neither redness of the surface nor heat. In some cases, on the other hand, intense hyperæmic signs are present, the skin being reddish in color, and the disease attended by burning and itching. These latter symptoms require further mention. The disease may or may not be accompanied by itching. It is frequently present, and at times is the source of distress to the patient. Often it is a prominent symptom, causing the individual to rub and scratch the skin. In the more hyperæmic forms, as seen now and then about the cheeks, decided burning sensations are complained of.

The general health of patients suffering from seborrhœa, especially in marked examples, is always below standard. They suffer from anæmic or chlorotic symptoms; pallor of the face, cold hands and feet, and other signs, to be spoken of in considering the subject of etiology, will usually be

found. Seborrhœa is generally better in summer than in winter, and may even disappear in part or wholly during the hot weather. Until entirely relieved it is liable to relapse.

There are two distinct varieties of seborrhœa, which are designated respectively seborrhœa oleosa and seborrhœa sicca, according to the character of the secretion poured forth.

Inasmuch as the clinical appearances are quite different, I shall consider them separately.

Seborrhœa Oleosa.—It appears in the form of an oily, greasy coating upon the skin, which gives it both an unctuous look and feel. The secretion is decidedly oily in character, and may be in such quantity as to collect in drops upon the surface, when it will be seen to be a clear fluid, yellowish in color, and fatty in its composition. It shows itself upon both the hairy and the non-hairy portions of the body. Its most common seat is the region of the face, and more particularly the nose and forehead. Here it is generally observed as a greasy layer, containing more or less dust and fine particles of dirt derived from the air, looking as though the skin had been smeared with a dirty ointment. This product is given forth in varying quantities; at times it is formed very slowly and occasions but trifling inconvenience to the patient, who manages to remove it by repeated washings. In other cases, however, it is poured out in excess, and constitutes one of the most annoying of disorders. It is not often seen upon the hairy parts of the body. Upon the scalp it occurs more especially in those who are bald, giving the skin of the head the appearance as though it had just been oiled. Very marked examples of seborrhœa oleosa are not common.

Seborrhœa Sicca.—This is the variety usually encountered. It manifests itself upon both hairy and non-hairy regions. It consists in the formation of dry masses of scales, of a dirty white or yellowish color, which have a tendency to adhere to the skin.

Seborrhœa must be considered first as it occurs upon the hairy parts, more particularly the scalp.

SEBORRHŒA CAPITIS.—This is not only the commonest local form of the disease, but also one of more than ordinary importance, on account of the disfiguring results which are apt to follow it. It is one of the most frequent sources of premature baldness.

The affection is marked by the free formation of fine, whitish scales, which are ordinarily seen quite uniformly distributed over the scalp. They may be either small, dry, and pulverulent, situated loosely upon the surface and detached from the hairs, or they may be in crust-like masses, adhering closely to the skin in the form of a coating. In these latter cases the hairs are, as it were, pasted down to the scalp. In either instance the scales fall off, and collect about the shoulders of the patient. If the scalp be not cleansed and the accumulations removed from time to time, large, thick masses or cakes are formed, which completely envelop the region, and prevent the hair from growing. The hair itself becomes affected; it is lustreless, dry, and apparently dead, and soon commences to fall out. This is but the beginning, the process eventually terminating in permanent and almost complete loss of hair. The follicles have been so long diseased by the morbid secretion of their glands that they have become structurally altered, and in many instances altogether obliterated. From these few remarks it will be noted that seborrhœa, although often an affection of apparently no great consequence, may, if permitted to run on, become quite serious in its character.

If the scales be detached, the scalp is usually seen to be of a dull white or bluish-gray color, a peculiarly dead, anæmic hue, which is characteristic. This appearance is always present in sluggish cases, where the general health is obviously impaired. Seborrhœa may attack the whole of the scalp, uniformly, or only in places; the former course is commonly observed. The crown of the head is its favorite locality; the sides are the next points of preference.

SEBORRHŒA FACIEI.—Upon this region it is mostly observed in young people. It occurs about the forehead, on the cheeks, and over the nose, involving any one of these parts alone, or attacking all of them at the same time. It

tends to assume the oily variety, although the dry form is also seen quite frequently. The skin may or may not be hyperæmic. At times it is quite red, hot, and irritable, especially in the dry or squamous variety; in the oily form this is rarely observed.

Seborrhœa oleosa may exist here in all degrees, from a very slight to a very marked disorder. It is seen as a shining, greasy film over the skin, generally showing itself about the cheeks and nose. The oily matter may be colorless, or it may be yellow or even of a darker tint.

Seborrhœa sicca appears as a compact, thick, greasy secretion, often in the form of a mask to the part. It adheres firmly to the skin, and is bound down to it by the prolongations of sebaceous matter which come directly from the follicles. These sebaceous crusts are seen about the cheeks, nose, and forehead, and are extremely disfiguring. In color they are usually bright yellow, but they may be grayish, greenish, or even blackish. Particles of extraneous matter at times collect upon the surface, and are even incorporated into the crust, giving it a still stranger appearance. The process is an active one, the crusts being readily replaced, in spite of frequent washings and other means employed for their removal. Itching and burning sensations often attend the disease in this locality, causing occasionally much distress; these symptoms, however, are not constant, but are subject to exacerbations, keeping pace with the activity of the process. In other cases, of a less hyperæmic type, no symptoms of this kind are experienced.

Seborrhœa Nasi.—This calls for special mention. The nose is ordinarily red, shining, and oily. The redness is usually marked, and is apt to give rise to more anxiety on the part of the patient than the secretion. The nose is not increased in size, nor is it swollen or hot, but, on the contrary, is usually cold. The openings of the follicles are noted to be enlarged and patulous, a condition showing the absence of proper tone and vitality in the part.

Seborrhœa of the face, and, in particular, of the nose, is one of the sequelæ of variola, and often continues for a considerable time after the original disease.

SEBORRHŒA GENITALIUM.—On account of the great number and size of the glands about these regions, they are a frequent seat of seborrhœa. The condition is equally common in both sexes. In the male the glans penis and sulcus are the localities where it is ordinarily met with, forming a soft, whitish, cheesy mass, which collects about the parts. The same product is found in the female about the labia and clitoris. It may exist to a slight degree, scarcely constituting disease, or it may become copious and occasion inflammatory symptoms, which in the male, in cases of prolonged prepuce, may result in balanitis. Decomposition of this sebaceous matter takes place very rapidly, and is greatly favored by moisture and heat.

SEBORRHŒA CORPORIS.—It is very necessary to speak of the affection as it is encountered here, because it assumes features which are quite different from those which are seen elsewhere. The back, between the scapulæ, and in front, the clavicular and sternal regions, are the two localities where, in the vast majority of cases, the disease appears. Both of these localities are very often attacked at the same time, but, owing to the difference in the anatomical structure of the skin, the lesions are somewhat unlike.

Upon the back, patches are formed of varying size and shape; they may be the size of a finger-nail, or as large as the palm of the hand. They may exist separately, but they more often coalesce, forming one continuous patch. They are reddish in color, but, being partially covered with yellowish or grayish scales, often have a dirty look. The scales are rarely in any quantity; they are usually loose, and are in many cases altogether wanting, having been detached and rubbed away by the friction of the clothing. The mouths of the follicles are observed to be wide open, sluggishly discharging their secretion.

These patches have no very defined outline; they frequently involve the shoulders and upper part of the back as one large, imperfectly-developed patch. Acne papules and pustules are often seen here and there about these patches, establishing the anatomical seat of the disorder. The whole appearance at times resembles tinea versicolor of this region.

Upon the chest the symptoms are somewhat different. Here the patches tend to assume a distinct circular shape; rings more or less complete occurring, which are made up of a reddish base, surmounted with pellicle-like scales. They are of a dirty white color, are greasy, have a withered, dry appearance, and are quite large in size. The patches have a well-defined outline; they may be either separate, as is usually the case, or they may have run together in the form of one large patch. There may be one, or two, or a dozen of them present. Seborrhœa of this region closely resembles tinea circinata. Both upon the back and chest it itches at times so much as to cause annoyance. It is very slow in its course, but subject to changes, being from time to time better and worse. It usually disappears during hot weather.

Etiology.—The causes which give rise to seborrhœa are numerous, but depend for the most part upon an impairment of the general health. Before referring to these, attention must be again directed to the fact that a certain amount of sebaceous matter upon the skin is normal, and highly conducive to the preservation of this membrane. In the newly-born infant, for example, the smegma serves a valuable physiological function. It is only when the secretion is produced in excessive quantity or in abnormal form, that the condition is to be regarded as disease.

The causes giving rise to the two varieties of the affection are the same, peculiarities of the individual determining whether the process will take on the form oleosa or sicca. Persons with light hair and complexion are, I think, more prone to the dry variety, while those with dark hair and skins commonly exhibit the oily form.

It was Hebra who first pointed out with clearness the fact that seborrhœa is in the majority of instances dependent upon a chlorotic or anæmic state. This will in both sexes be found to be the usual cause. Seborrhœic patients are, as a rule, thin and pale; have doughy complexions; are poorly nourished; and are imperfectly developed throughout their entire structure. The various functions of the body are apt to be deranged; especially is this the case in females.

Hence it is that seborrhœa is so frequent at the period of puberty, when all the forces of the body are brought into action, and the functions common to adult life are regulating themselves.

The disease occurs in both sexes, but is more often encountered in females. It may show itself at any time of life, although it is ordinarily met with during early adult age.

It may also exist upon persons who appear to be in otherwise excellent health, no appreciable cause for the disorder being recognizable. Such cases, however, are rarely obstinate, and generally give way to local treatment.

As I have already pointed out, all those conditions characterized by general debility, faulty nutrition, and serious blood changes, may serve as causes of seborrhœa. The disorder is observed to occur with or to follow the exanthemata, severe fevers, carcinoma, syphilis, tuberculosis, and allied diseases.

Pathology.—Seborrhœa is a functional disorder of the sebaceous glands, consisting in an increased and usually altered flow of the secretion. The sebum given out may be either oily or firm in its consistence, this difference giving rise to the several forms of the affection. In health it is known that the sebaceous glands discharge a variable amount of sebum in different localities; some parts of the skin, as the scalp, needing an abundant supply, other portions requiring but a small amount.

Seborrhœa is most common where the glands are normally most active. It is altogether a functional derangement of the glands, no alteration taking place in their structure. At the same time, if the process be allowed to run on indefinitely, certain organic changes occur, as atrophy of the glands, follicles, and adjacent structures; this is frequently observed upon the scalp.

The product of seborrhœa, examined with the microscope, is found to consist of an amorphous, fatty, slightly granular mass, together with numberless epithelial cells, coming from the lining walls of the glands and their ducts. The sebum and the scales vary as to proportion. The quality of the

secretion also varies, its nature depending to some extent upon peculiarities of constitution.

Diagnosis.—Seborrhœa is a disease whose features vary greatly with the intensity of the process. It also presents very different appearances upon the various regions of the body. There are several affections which at times resemble it so closely as to make the diagnosis a matter of difficulty.

Upon the scalp it may readily be mistaken for dry eczema. Seborrhœa, when present, usually occupies the greater portion of the scalp more or less uniformly; eczema is apt to be localized, appearing in distinct patches. The scales are abundant in seborrhœa; in eczema they are ordinarily scanty. The skin of a patch of seborrhœa is usually pale in color; that of eczema is always reddish, and is more or less infiltrated and thickened. Seborrhœa is always a dry disease; in eczema a history of moisture at some period in the course of the affection is very frequently obtainable. The itching of seborrhœa is never so intense as that of eczema. About the face it may also resemble eczema. The thick sebaceous crusts which occasionally occur upon the cheeks at times look not unlike those of eczema.

Seborrhœa bears even a closer resemblance to psoriasis, whether occurring on the scalp or on the body. In seborrhœa the disease is usually uniformly diffused over the scalp; in psoriasis the patches are, as a rule, irregularly dispersed, with healthy skin between them; their outlines, moreover, are always sharply defined. In seborrhœa the scales are minute, yellowish in color, and have a greasy feel; in psoriasis they are more abundant, much larger, thicker, and whiter. In seborrhœa the scalp is only exceptionally hyperæmic; more frequently it is pale, anæmic, and leaden in color. In psoriasis the scalp beneath the scales is always reddish and inflamed. This latter point, it appears to me, is one of great value as an aid to diagnosis. The histories, moreover, of the two diseases are very different.

Seborrhœa of the scalp can scarcely be confounded with tinea tonsurans, but upon the chest it looks at times ex-

tremely like tinea circinata. Its history, the slowness of its course, and the greasy appearance of the scales, together with their microscopic examination, will always serve to distinguish it from tinea circinata.

The striking similarity between seborrhœa and lupus erythematosus renders the diagnosis now and then difficult. It must here be remembered that lupus erythematosus not infrequently makes its first appearance as a seborrhœa. When fully developed, however, the distinctive features of lupus are sufficiently marked not to permit of error. Seborrhœa never possesses the sharp line of demarcation seen in lupus erythematosus; nor is it ever attended with such hyperæmic signs. Seborrhœa, moreover, is never accompanied by infiltration and thickening, both constant symptoms of lupus. The patches of seborrhœa are either pale or reddish; in lupus they are apt to be dark red, at times the color of raw beef, and are covered with flat, tenacious scales. Pathologically, seborrhœa is a functional disorder; lupus is a new growth, composed of cells. Seborrhœa, finally, differs from lupus in that it is not followed by cicatricial tissue.

Treatment.—Local and constitutional treatment are both to be considered. They may be employed separately or together. Internal remedies are to be directed in those cases where there is obvious functional disturbance of some of the organs of the body, or where there is need for general constitutional treatment. The indications will be those symptoms already referred to in speaking of the etiology of the disease.

It is of importance that the patient be surrounded by proper hygienic influences. Abundance of fresh air and exercise are two valuable aids in the treatment of a certain class of seborrhœas. Young girls, especially, should be made to take suitable daily exercise. The food should be of the best quality, and as nourishing as possible. Cod-liver oil, in full doses, should be prescribed, and taken for a considerable time; it will be found of great service in the majority of cases. The preparations of iron are, I consider, exceedingly valuable, and should be given in appropriate quantity, suitable to the case, for a period of some months.

The tincture of the chloride of iron is the most efficacious form; it should be directed three times a day, in ten minim doses, well diluted with water. The following formula will be found serviceable:

℞ Tinct. Ferri Chloridi, f℥i;
Acidi Phosphorici dil., f℥i;
Syrupi Limonis, f℥ii.
M.—Sig. Half a teaspoonful three times daily with a wine-glassful of water. To be taken through a glass tube.

Other ferruginous preparations, such as the carbonate of iron and the wine of iron, may be ordered as age and other conditions may require. In some cases arsenic in small doses acts beneficially, especially after a course of iron has been taken. It may be advantageously prescribed with wine of iron:

℞ Liq. Potassii Arsenitis, f℥i;
Vini Ferri, q. s. ad f℥iv.
M.—Sig. One teaspoonful three times daily directly after meals.

In addition to the means indicated, all measures calculated to improve the health should be instituted, for in many cases it is only by attention to the general condition of the patient that permanent relief is to be secured.

The local treatment is also of vast importance. It must vary somewhat as one region or another is the seat of disease.

Seborrhœa capitis calls for special directions. If there be an accumulation of sebum and scales upon the scalp, they should be removed at once and the surface thoroughly cleansed, that a view of the skin itself may be obtained. This is very necessary in order that the state of the tissues, follicles, glands, and hairs may be noted. At times the mass of sebaceous material is so thick and inspissated that ordinary washing with soap and water is not sufficient to cleanse the head. When this is the case, one of the bland oils should be first rubbed in and allowed to remain for a while, which proceeding will soften and break up the crust.

Either olive oil or almond oil is to be preferred for this purpose. The patient is directed to pour a quantity of the oil upon the head, and to have it well rubbed in and the scales saturated with it. The quantity to be used will vary from one to several ounces, the amount necessary depending upon the thickness of the hair, the number of scales, and the dryness of the scalp. Enough must be applied to soften and loosen the mass. The operation should be performed at night-time, just before the patient retires. A close-fitting cap, made of flannel, should be put over the head, and a bandage worn, in order to keep the oil from soaking through. In the morning the cap is to be removed and the scalp thoroughly washed with warm water and soap. Ordinary hard soap is usually not strong enough to free the head of oil and sebaceous matter; for this purpose the following formula will be found exceedingly valuable:*

℞ Saponis Viridis, ℥viii;
Alcoholis, f℥iv.
Solve et filtra.
Sig. To be used as a soap-wash or shampoo.

A tablespoonful may be poured upon the head, together with a small quantity of water, which will at once produce a copious lather. This is to be rubbed into the scalp vigorously, and afterwards washed out with abundance of warm water. Sapo viridis may also be used alone with like result, but the alcohol acts serviceably upon the oils. The hair should now be carefully dried by means of soft towels; if very long and thick, it may be dried with the heat of a fire. Concerning the cutting of the hair to facilitate the treatment, I would remark that this process is never necessary. The applications may be made with as much hope of success when the hair is long as when it has been cut.

The washing and drying operation performed, it is now necessary to apply some oily or fatty substance. If this be

* This preparation, and the mode of its employment, were introduced to the profession by Hebra. It may be made in various proportions, and perfumed to please the individual. Cologne water may be used in the place of alcohol.

not done, both the hair and the scalp will become very dry and harsh. The application of some oil or other is, indeed, a part of this mode of treatment. The kind of oil or pomade to be used will depend in a great measure upon the condition of the scalp. If considerably irritated and exposed, one of the simple oils, as almond oil, or vaseline, should be applied. Equal parts of glycerine and water also constitute an excellent mild oily preparation, which may frequently be used with advantage. In the majority of instances, however, stimulating preparations will be found of greatest benefit. Carbolic acid acts very favorably in combination with an oil and alcohol:

℞ Ol. Ricini, f℥iv;
Acidi Carbolici, ♏xx;
Alcoholis, f℥iss;
Ol. Amygdal. Amar., ♏iv.
M.—Sig. To be applied after washing.

This is a useful formula, and may be ordered in a large number of cases.

Tincture of cantharides, corrosive chloride of mercury, and other similar substances, may in like manner be employed where direct stimulation is indicated.

Ointments are also used with good effect, but their consistence renders their application unpleasant on account of the hair, which is apt to become matted and unmanageable. The red oxide of mercury and ammoniated mercury are in these cases especially useful, prepared in the strength of from five to ten grains to the ounce. I have of late prescribed the following with good result:

℞ Hydrargyri Oxidi Rubri, gr. v;
Vaselin. ℥i.
M. Ft. ungt.
Sig. A small quantity to be applied once a day.

Having enumerated some of the preparations to be employed after washing the scalp, further directions as to the frequency of these applications remain to be given. According to the activity of the process, the quantity of the

scales, itching, and the general condition of the head, the cleansing is to be repeated every day, every other day, or as occasion may seem to require. The oil or ointment is always to be used after each washing. At times, where the scales are not plentiful, it is expedient to apply the oil or ointment occasionally without previous cleansing. The treatment should be persisted in for weeks or months, until, in fact, improvement takes place.

The local treatment of the face, body, and non-hairy regions is somewhat similar to that just described for the scalp. The masses of scales or of sebaceous crust are to be removed by frequent washings or warm baths, together with soaps of suitable alkalinity. After being well cleansed, sulphur ointments and lotions, alcoholic lotions, glycerine preparations, bland oils, or ointments are to be used as may appear indicated. The kind of application to be preferred must depend upon the condition of the part, upon the variety of the disease, upon the hyperæmia present, and finally, after trial, upon those remedies which appear to act most beneficially. Sulphur, I think, stands forth as the most valuable remedy.

Prognosis.—This must be materially influenced by the general condition of the patient and the likelihood of our being able or not to remove the cause. The variety of the seborrhœa, as well as the region affected, is also to be considered. As a rule, the affection is obstinate, yielding only after treatment has been vigorously continued for some time; months are frequently found to be necessary to alter the abnormal secretion. The most serious form is usually observed on the scalp, where, perhaps, it has lasted for some time and the hair has already begun to fall out; in these cases the prognosis is not favorable for a speedy termination, nor for the restoration of the hair. When baldness has already occurred, a future growth of hair is not to be looked for, although much may be accomplished towards restoring to a state of health those follicles which have not been seriously involved.

In infants the affection gives rise to no trouble, and is usually amenable to simple remedies.

COMEDO.

COMEDO IS A DISORDER OF THE SEBACEOUS GLANDS CHARACTERIZED BY YELLOWISH OR WHITISH PIN-POINT AND PIN-HEAD SIZED SOLID ELEVATIONS, CONTAINING IN THEIR CENTRE AN EXPOSED BLACKISH POINT.

Symptoms.—It is observed for the most part about the face, neck, chest, and back. Each single elevation or papule is designated a comedo, and they are spoken of in the plural as comedones or comedos. They may be very numerous or few; usually, where there is a tendency to their formation, they exist in numbers, giving a blackish, speckled or punctate appearance to the part. Their common situation is about the forehead, cheeks, and chin; they are also seen on the back. In size they are small, varying from a pin-point to a pin-head. At times they form in great numbers upon every part of the face, and are then exceedingly disfiguring. In these cases they are apt to be quite black, and give the individual the appearance of having had minute grains of powder implanted in the skin. The skin has, moreover, a dirty, greasy, unwashed look. The condition is not attended with any sign of inflammation, and gives rise to no subjective symptoms. The disfigurement ordinarily occasions the patient much mortification. Comedo occurs principally in young people, but is also seen in older persons, especially in men who are negligent of their person. The affection is very frequently associated with acne, to which disease it is, of course, intimately allied. Comedones come and go from time to time, although their course is naturally very sluggish and chronic. Their continuance, however, depends upon the nature of the cause and other circumstances. Without interference they may last for years. Occasionally, notwithstanding the most energetic treatment, they prove exceedingly rebellious.

Etiology.—The derangement is at times observed to occur in those whose skins are improperly cared for. Dust, fine particles of various substances, etc., which are continually floating in the air, all go to make up the comedo point.

The true cause of the comedo is, I think, to be found, in the majority of instances, in disorders of the important functions of the body, as we so often observe in the case of acne. Those persons subject to or suffering from comedones are generally noticed to have a thick, muddy-looking skin, plainly showing a want of activity not only in the glandular structures but also throughout the whole integument. More or less constipation or irregularity of the bowels is almost invariably present in these cases; dyspepsia, with one or more of its numerous symptoms, is also apt to be at hand; while patients will frequently be observed to exhibit a state of hebetude, denoting a general condition of sluggishness with reference to the various functions of the body. In young women chlorosis and menstrual difficulties should be inquired after; they are likely to be present.

Pathology.—The affection has its seat in the sebaceous glands and ducts. It consists of an accumulation of sebum and epithelial cells in the glands and follicles, dilating the glands to such an extent as to produce the elevation upon the surface. The process is an inactive one; is unattended by signs of irritation, and occasions no disturbance in the surrounding tissues. The obstruction may relieve itself or it may continue, distending the gland until a papule is formed. The comedo is readily removed by pressure exerted upon its walls. The mass is seen to consist of sebaceous matter with epithelial cells, dirt, and other foreign particles. The cells are filled with oil globules, and exhibit signs of fatty degeneration.

Small hairs are frequently found in these masses, and also at times the microscopic acarus folliculorum. This little mite, however, is not to be viewed as in any way the cause of the disorder. It is altogether inoffensive in character, and is found to exist in healthy follicles quite as often as in comedones.

Diagnosis.—No difficulty can arise upon this point. The affection is so commonly observed upon the face, that its features are well known to all. As stated, it is frequently encountered in connection with acne; the two processes, however, are distinguished by the absence of all inflamma-

tory symptoms in comedo. Milium is a disorder closely allied, both in its nature and in its appearance, to comedo. They differ in that milium contains no open duct, and is consequently without the characteristic black point of comedo. Milium is seated just beneath the epidermis, as a whitish little body, and cannot be forced out of the skin without rupturing or first incising its covering or roof.

Treatment.—Local treatment suffices in many cases to relieve the condition. Frequent hot baths, with soft soap, followed by friction, often serve to stimulate the glands to normal activity. In addition to this, each comedo is to be treated separately, by expressing the contents of the follicle, which may be accomplished by means of a watch-key of suitable bore, placed directly over the black point and pressed upon, when the contents will be forced out. The same result may be obtained, though less successfully, by squeezing the comedo between the thumb nails. A certain number of the lesions should be treated in this manner each day, until all the follicles have been emptied; when they again become plugged, as often as this may happen, the same process is to be repeated until healthy action is assumed. Stimulating lotions and ointments are of service, and should be applied and allowed to remain on through the night. The following I have used with good result:

℞ Sulphuris Sublimati, ʒii;
Glycerinæ, fʒi;
Ungt. Adipis, q. s. ad ℥i.
M. Ft. ungt.
Sig. To be well rubbed in at night.

Alcoholic lotions, with or without sulphur, may also be employed with benefit. Together with the local measures, treatment for the improvement of the general health should at the same time be instituted, as the case may demand. Derangement of any of the functions of the body should always be corrected; proper diet and hygiene should be directed, and strict attention given to the ordinary rules for promoting health. The preparations of iron are of decided benefit in many cases, especially in chlorotic young women.

Cod-liver oil I have also found to be of great service in many instances.

Prognosis.—As a rule, no difficulty whatever is encountered in the removal of comedones, a few months, or less time, usually sufficing for their complete disappearance. Now and then, however, they are remarkably obstinate, new ones returning from time to time in the same glands. The patient should in these cases always be encouraged, for, with a well-directed treatment, a favorable result must sooner or later occur.

MILIUM.

Syn. Grutum; Tubercula Miliaria; Follicular Elevations; Tubercula Sebacea; Acne Albida; Pearly Tubercles; Strophulus Albidus.

MILIUM CONSISTS IN THE FORMATION OF SMALL, ROUNDISH, WHITISH, SEBACEOUS, NON-INFLAMMATORY ELEVATIONS, SITUATED IN THE SKIN JUST BENEATH THE EPIDERMIS.

Symptoms.—Milia have their seat for the most part upon the face, especially on the forehead and about the eyelids; they may, however, occur on other parts of the body. They vary as to size from a pin-point to a small pea; their ordinary size is that of a millet seed,—hence the name. They may occur singly or in great numbers. In color they are white, pearl-colored or yellowish, and often have a translucent look, as though they might contain fluid. In form they are rounded or acuminated, and may be felt as more or less hard bodies imbedded superficially in the skin. They form very gradually and slowly, and when fully developed are not apt to undergo any change, but may remain in the same state for years. No inconvenience, beyond disfigurement, is occasioned by their presence. As a rule, they occur independent of the other disorders—as acne—of the glands. They are met with more commonly upon women than upon men, and usually first show themselves at middle age.

In connection with milium, the so-called stones of the skin, or CUTANEOUS CALCULI, may be referred to. They are usually milia, or sebaceous concretions, which have undergone metamorphosis into hard, calcareous, or stone-like masses; they are met with only rarely.

Etiology.—The causes of milium must be viewed as being similar to those which give rise to comedones and cysts of the sebaceous glands. In some cases, however, no cause can be assigned for its appearance.

Pathology.—The affection has its seat in the sebaceous glands. It consists in an accumulation of sebum within the gland, which, owing to obliteration of the duct, from some cause or other, is unable to escape. No sign of aperture is to be found; the contents cannot be squeezed out. Milia are completely enclosed. If carefully examined, it will be seen that they are located just beneath the epidermis, which constitutes their external covering. Neumann and others have found upon section that the covering proper is either the wall of the hair follicle or that of the gland itself, and that the larger milia contain connective-tissue septa running through them. The mass is made up of sebaceous matter, closely packed together and tending to become inspissated.

Diagnosis.—Although milium and comedo are similar in appearance, they differ in one important anatomical particular. In milium there exists a distended but enclosed or encysted gland, without opening; in comedo the duct of the gland is always patulous upon the surface. Milium usually exists alone, the rest of the skin being in good order; comedo is commonly associated with general derangement of the skin. The black point of comedo is another conspicuous distinguishing feature.

Milium may, at times, bear some resemblance to sudamina, especially about the face. Incision, however, will disclose sebaceous matter in the one and sweat in the other. The affection is not to be confounded with xanthoma, a disease which usually has its seat about the eyelids, but is of a very different nature.

Treatment.—The treatment consists in opening the little tumors by means of a knife and removing the contents. Each individual milium must be handled separately. The skin should be washed daily with hot water and soap, and stimulated with friction; it must be aroused to healthy activity and the glands induced to discharge their contents

normally. If they tend to return after removal, the same plan must be again employed and persevered in.

MOLLUSCUM SEBACEUM.

Syn. Molluscum Contagiosum; Tumores Sebipari; Molluscum Sessile; Condyloma Subcutaneum; *Fr.* Acné Varioliformis; Tumeurs Folliculeuses.

MOLLUSCUM SEBACEUM IS A DISEASE OF THE SEBACEOUS GLANDS CHARACTERIZED BY ROUNDED, SEMIGLOBULAR OR WART-LIKE TUMORS, OF A WHITISH OR PINKISH WAXY COLOR, VARYING IN SIZE FROM A PIN-HEAD TO A CHERRY.

Symptoms.—Usually they are observed of the size and shape of a small split pea. They occur singly or in numbers, and may ordinarily be seen in various stages of development upon the same patient. Their color is that of normal skin or pinkish; they have a decided waxy look. At times they resemble a drop of white wax upon the skin. Upon their summit they are often flattened; at times there exists a depression. In the centre a dark point, representing the aperture of the follicle, is commonly present; in other cases it is absent. They frequently have a glistening look, due to the skin over them being in a stretched condition. To the touch they are quite firm, their consistence depending, however, upon the condition of the contents, which is liable to alteration. Their common seat is upon the face, neck, breast, and genitalia. They may also occur upon the head, and upon the extremities. They have a broad base, and are seated close to the surface. They increase in size with variable rapidity, sometimes rapidly, at other times slowly; are unaccompanied by inflammatory signs, and eventually terminate by disintegration and sloughing of the mass. The affection is attended at times by slight itching; in other cases it gives rise to but little inconvenience.

Etiology.—The disease is not common. It is observed to occur chiefly in children, and for the most part among those of the poorer class, who are neglected and ill fed. It may also occur in adults. Its cause is as yet unsatisfactorily explained. In regard to its supposed contagious nature, the opinions of careful observers differ to such an extent that no definite conclusion can be reached. Inoculation with

the matter, taken directly from the tumor, as performed by Hebra and others, failed to develop the affection. It should be stated, however, that it is not infrequently noted to attack several members of a family, from which occurrence it is supposed by some to possess contagious properties. On the other hand, its presence limited to single cases in overcrowded children's asylums, is of equal weight against its contagious character.

The ground for the proof of its contagiousness is therefore, I think, at present insufficient. I cannot recall a case in which the evidence of its contagious nature appeared to me to be conclusive.

Pathology.—The disease has its seat about the sebaceous glands or hair follicles. If one of the tumors be incised with a knife, the contents may be expressed in the form either of a consistent, rounded body, yellowish in color, or of a milky, cheesy fluid. Microscopically, it is seen to consist of a mass, containing fat and large epithelial cells, with nuclei in abundance, and peculiar bodies, round or oval in shape, sharply defined, and fatty in appearance. If a section be made, hypertrophied connective-tissue septa may be observed, dividing the structure into lobules. Virchow does not believe that the affection is due to disease of the sebaceous glands. He regards the process as a simple hyperplastic formation of the cells of the lining wall of the hair follicle. Boeck considers the affection to be one of the rete mucosum.*

Diagnosis.—Molluscum sebaceum should not be confounded with molluscum fibrosum, a very different disease, for which, however, it is at times mistaken. These two kinds of tumor may be readily distinguished by their anatomical characters. In molluscum sebaceum the disease is glandular in nature, consisting of an enormously distended sac, filled with seba-

---

* For further information, consult

Virchow, Archiv für Path. Anat. und Phys., Bd. xxxiii. p. 144, 1865.

Hilton Fagge, Guy's Hospital Reports, 1870.

Dyce Duckworth, St. Bartholomew's Hospital Reports, vol. viii.

Cäsar Boeck, Vierteljahresschrift für Dermatologie und Syphilis, II. Jahrgang, 1875, erstes Heft.

ceous matter and cells, which, as a rule, may be squeezed out of the duct. The opening of the duct is usually to be seen as a darkish point in the centre of a slight depression on the apex of the tumor. The growths of molluscum fibrosum are made up of a connective-tissue new formation, firmly seated in and beneath the skin, and possess a solid, fibrous feel. The little tumors of molluscum sebaceum usually occur about the face, and in limited numbers; those of molluscum fibrosum commonly appear about the body, and often in great numbers. The tumors of molluscum sebaceum are prominently raised from the skin, and are superficial in their seat; those of molluscum fibrosum are located in the skin itself, and even in the subcutaneous tissues.

The tumors of molluscum sebaceum are small, and have a glistening, translucent, waxy appearance; those of molluscum fibrosum are much larger, and have a thick, solid, nodular, subcutaneous look. Molluscum sebaceum is, as a rule, a disease of infancy and childhood; molluscum fibrosum is an affection of adult life.

The disease is also to be distinguished from papillary warts. The resemblance between these two affections is often very marked, particularly in those cases of molluscum which are imperfectly developed, the growth assuming more of an acuminated than of a rounded form. With attention to the characteristic anatomical lesions referred to, error can scarcely occur.

Treatment.—Local remedies alone are required to relieve the disorder. The tumors are to be treated separately, and may be removed by the knife; they may also be destroyed by means of caustic applications. When the opening of the follicle is widely distended, the contents may sometimes be squeezed out by firm pressure with the fingers against the sides of the tumor. Free but careful incision upon the top of the tumor is the best treatment, after which, in the majority of cases, the mass may be easily forced out of its seat. If adherent, it should be extracted, together with its sac, by means of forceps. Nitrate of silver in stick form should be applied to the cavity and base after enucleation, in order to insure against return.

They may also be treated with a ligature, when their bases are, in like manner, to be touched with the stick of nitrate of silver. Whatever the method of treatment adopted, it should never be heroic, for it must not be forgotten that the affection tends to spontaneous recovery.

Prognosis.—The disease is very amenable to treatment, which, if properly carried out, is rarely followed by a return of the affection. If, on the other hand, the tumors are only partially destroyed or removed, the growth is apt to form again.

SEBACEOUS CYST.

Syn. Encysted Tumor; Follicular Tumor; Sebaceous Tumor; Atheroma; Steatoma; Wen.

SEBACEOUS CYST APPEARS AS A VARIOUSLY-SIZED, ROUNDISH, MORE OR LESS PROMINENT TUMOR HAVING ITS SEAT IN THE SKIN.

Symptoms.—The skin covering sebaceous cysts is normal in color, or whitish, owing to extreme distention. The tumors may occur singly or in great numbers. In size they vary from a pea to a walnut and larger; in shape they are rounded, and either flattened or semiglobular. In consistence they are either hard, or, as is more commonly the case, soft and doughy. They are freely movable, and are unattended by pain.

The scalp, face, back, and scrotum are the favorite localities for the development of these formations. Their course is slow; not infrequently they exist for years without giving rise to inconvenience. At times, when excessively distended, they break down and ulcerate.

Two kinds of tumors may be distinguished: one in which the duct is open, the other in which it is closed. Where the duct remains open, the tumor is usually flat in form, tending to extend itself laterally rather than above the level of the skin; this variety is most frequently encountered on the neck and back. Where, on the other hand, the duct has become obliterated, constituting the true encysted tumor, the formation assumes a semiglobular or even a globular form, projecting itself prominently beyond the level of the skin; it is common upon the scalp, and occurring here is usually devoid of hair.

Pathology.—The contents of sebaceous tumors are found to vary. The mass is ordinarily firmly encysted, and may be either soft and cheesy or hard and friable in consistence. It may be yellowish or whitish in color; often it is very fetid. Occasionally the contents are fluid in character. The mass is composed of sebum, epidermic cells, crystals of cholesterine, and at times hairs. In structure these tumors are to be regarded as enormously distended sebaceous glands and ducts, whose walls have become so greatly thickened and hypertrophied by the continual pressure exerted upon them, as to form a thick, tough sac or cyst.

Diagnosis.—No difficulty exists in the diagnosis; they may, however, be confounded with fatty tumors, and with the tumors of sebaceous molluscum.

Treatment.—The treatment is excision. The cyst should always be carefully and thoroughly dissected out, without which precaution the disease is likely to be reproduced.

HYPERIDROSIS.

Syn. Idrosis; Sudatoria; Ephidrosis; Excessive Sweating.

HYPERIDROSIS IS A FUNCTIONAL DISORDER OF THE SWEAT GLANDS CONSISTING IN AN INCREASED FLOW OF SWEAT.

Symptoms.—It may vary greatly as to quantity; from slightly in excess of health to the pouring forth of very large amounts. The condition may exist as an acute or a chronic one. It may be either universal, involving the whole body, or local, attacking certain regions, as, for example, the palms and soles.

Universal or general sweating is observed in the course of a number of diseases, as, for instance, in pneumonia, tuberculosis, rheumatism, and various febrile maladies. It also occurs in those who are otherwise in perfect health, especially when exposed to the influence of a high temperature. In the majority of these cases it is scarcely to be considered in the light of a disease, although at times it may be so excessive as to call for treatment.

Local hyperidrosis is always a disagreeable and troublesome disorder. It may occur upon any portion of the body,

but is more commonly encountered about the palms, soles, axillæ, and genitalia. It may or may not be symmetrical. Numerous cases are recorded of its occupying only one side of the body, the forehead, cheek, arm, leg, and other single regions.

The palms, soles, and genitalia are the parts usually attacked, and require special remark. These cases are of quite frequent occurrence. The sweat may be moderately copious or very excessive; at times the quantity poured out is so great as to keep the parts in a state of maceration. Upon the palms and soles the secretion is continually oozing out in drops, frequently in such quantity as to be dripping wet. It is ordinarily seen to come from the whole surface. The flow is usually a steady one, although influenced by the general condition, the state of the nervous system, and the surrounding temperature. The skin cannot be kept dry, becoming wet again in a few minutes after having been dried; it is observed to be of a whitish or yellowish color, and to have a soggy appearance.

Upon the soles the affection is even more distressing than on the palms, for the socks and shoes become so saturated with moisture as to be constantly wet. The maceration of the epidermis, together with the secretion about the toes, gives rise to a disagreeable odor, which, in spite of frequent washing, is difficult to remove. The epidermis becomes soaked and macerated, peels off, and leaves the tender skin exposed. The pain attending walking when in this condition is often severe, and patients at times are obliged to remain off their feet.

There are all grades of sweating of the palms and soles, as upon other regions, but in almost all cases it is sufficient to give rise to serious inconvenience.

The genital organs are also sometimes the seat of hyperidrosis, particularly in men. The scrotum and perineum are commonly attacked, and occasion symptoms similar to those just mentioned in connection with the palms and soles.

The disorder may continue for a short time only or it may last for years; very often it is extremely obstinate. Erythema and intertrigo are apt to accompany it, especially when it

occurs about surfaces that naturally come in contact, as about the genital organs, nates, fingers, and toes.

Etiology.—The causes are in the majority of instances not to be determined. It affects the cleanly as well as the uncleanly; females as well as males; the young as well as the old; and is observed in the healthy as well as in the feeble.

There can be no doubt, however, that faulty innervation plays an important part in its causation, this origin being one frequently recognized in clinical experience. The complaint is always aggravated by a high temperature, and is consequently worse in summer than in winter.

Pathology.—The affection is a purely functional one, consisting in an abnormal secretion of the sudoriparous glands. Owing to the increased activity of the glands, and to other causes, hyperæmia may take place. It will here be remembered that an extensive plexus of vessels surrounds each sweat gland, which, under certain circumstances, may become the seat of congestion.

The secretion in hyperidrosis differs chemically in no way from normal sweat.

Diagnosis.—This is never attended with any difficulty; at the same time it is of importance to distinguish hyperidrosis from other disorders of the sudoriparous glands which are accompanied by increased secretion and inflammation, as, for instance, prickly heat. Oily seborrhœa can scarcely be mistaken for hyperidrosis.

Treatment.—If there be debility or faulty innervation, a general tonic treatment is to be ordered. Iron, strychnine, quinine, the mineral acids, and similar remedies are to be employed, together with every measure which will tend to promote the health of the patient. Ergot has been used with good result. The condition of the nervous system is to be carefully investigated, and, if in any way impaired, should receive special attention. Faradization has been used with success in some cases. Exciting causes, as high temperature, are always to be avoided.

Local treatment is of great benefit in all forms of hyperidrosis. Water is to be employed as seldom as possible.

Ordinary baths are not to be allowed. The parts should be cleansed with a wet cloth and immediately dried with lint or a towel. Various dusting powders, as starch and powdered French chalk, may now be used, and removed as fast as they become wet and caked. The parts are to be protected from irritating influences, and especially from friction. Lotions containing alcohol and astringents are to be recommended. Alcohol alone may often be used with marked benefit. The following prescription will be found of value:

℞ Acidi Tannici, ʒi;
Alcoholis, fʒviii.
M.—Sig. Use as a lotion.

Various other astringents may also be employed, such as sulphate of zinc and alum; also salt baths. Frequent washing of the parts with dilute ammonia water has been well spoken of; acetic acid, diluted, will also be found serviceable in checking mild forms of the disorder.

In hyperidrosis of the palms and soles the following ointment, esteemed by Wilson, may be prescribed, the parts being first well washed with carbolic acid or juniper-tar soap.

℞ Ungt. Picis liquidæ,
Ungt. Sulphuris, āā ʒi.
M. Ft. ungt.
Sig. To be spread upon cloths and applied with a bandage.

For obstinate cases, however, the treatment about to be described will be found of greatest service.* It is absolutely necessary to its success that its various steps be closely followed and properly carried out. The parts are to be cleansed with water and soap, and the following ointment applied:

℞ Emplast. Diachyli, ʒiv;
Olei Olivæ, fʒiv.
M. Ft. ungt.†
Sig. To be used on cloths.

Pieces of muslin or cotton cloth are to be cut to the size

* This method of treatment was first introduced to the profession by Hebra.

† The plaster to be melted, and the oil added and stirred until a homogeneous mass results.

of the parts, and the ointment spread on thickly and applied. Lint smeared with the ointment is also to be placed between the toes or fingers, so that every portion of the skin may be completely covered with a layer of the ointment. These dressings are to be bound down closely by means of a bandage.

The cloths are to be changed after having been on twelve hours, when the parts are *not* to be washed, but simply rubbed dry with lint and a starch dusting powder, after which new dressings are again to be applied in exactly the same manner. This proceeding is to be repeated every morning and evening, and continued for from one to two weeks, according to the severity of the case. Even when the disease is upon the soles, the patient may be permitted to walk about in loose shoes. At the expiration of eight or ten days the parts are to be rubbed with the dusting powder and the dressings discontinued. The powder should be used for several weeks longer. Usually the sweating tends to lessen and gradually disappear, after two or three weeks from the beginning of the treatment. A repetition of the course, in severe cases, is at times necessary before bringing about a complete cure. The relief obtained is generally permanent. For slight cases of hyperidrosis some of the stimulating toilet soaps, containing sulphur, juniper-tar, or carbolic acid, may be employed.

Prognosis.—This should be guarded. Many cases are easily relieved, while others are extremely intractable. The state of the health, the duration and locality of the disease, as well as its extent, are all to be considered. Lastly, the ability of the patient to follow the treatment and necessary directions, must greatly influence the result.

BROMIDROSIS.

Syn. Osmidrosis.

BROMIDROSIS IS A FUNCTIONAL DISORDER OF THE SWEAT GLANDS CHARACTERIZED BY MORE OR LESS SWEATING AND AN OFFENSIVE ODOR.

Symptoms.—The secretion may be normal or abnormal as regards quantity. It may occur either as a universal or as a local disorder.

When universal, the patient is noted to exhale a peculiar, heavy, disgusting odor from the whole surface, which is always intensified with increased perspiration. It may have a distinctive character, which may be likened, for example, to the odor of a goat (odor hircinus) or urine, or it may be simply strong-smelling. It occurs as an independent affection, and also, to some extent, in connection with various systemic diseases, particularly the exanthemata.

The local forms are more frequently encountered. Certain regions of the body, as the axillæ, genitalia, perineum, and feet, are the usual seats of this disorder. The intensity of the odor varies, being at times merely heavy or strong, and in other instances so powerful, penetrating, and offensive as to banish the individual from all society. Bromidrosis of the feet is the most common local form, and constitutes a very troublesome and truly disgusting disease. The emanations here are intensified by the perspiratory secretion acting upon the normal sebaceous matter, producing a smell particularly foul. Owing to the warmth and moisture which always exist about these parts, the scent is exceedingly persistent. The disease is very similar to hyperidrosis, the main difference at times being in the quality of the secretion.

Treatment.—The treatment should be the same as that recommended for hyperidrosis.

CHROMIDROSIS.

CHROMIDROSIS IS A FUNCTIONAL DISORDER OF THE SWEAT GLANDS IN WHICH THE FLUID POURED FORTH IS VARIOUSLY COLORED.

Symptoms.—In this affection the secretion of sweat is usually excessive and possesses positive color; it may be bluish, blackish, reddish, greenish, or yellowish. It consists in an oozing of sweat, more or less profuse, which is observed to come directly from the openings of the ducts. The fluid possesses the properties of normal sweat, and in addition the peculiar coloring matter.

The disease is a very rare one. It occurs most commonly in women, and is much more frequent in unmarried than in married women. It is usually encountered in connection with

serious uterine disorders of one kind or another. Various regions may be attacked, but it has been noted more frequently upon the face, chest, abdomen, arms, hands, and feet.

The amount of secretion may be very slight or excessive in quantity. As a rule, the flow is not constant, but appears suddenly, remains for a short time, and then disappears again. It may come and go in this manner for a period of weeks or months. It is usually brought on by excitement, emotion, or passion, although it may appear without any exciting cause.

Pathology.—The disease is accounted for by a chemical alteration of the secretion, caused by the presence in the system of some abnormal coloring matter, which thus finds its vent from the body. Prussian blue, copper, and other similar substances have been detected by analysis in the sweat, to which the color is due.

Treatment.—The treatment is to be directed against the general condition of the patient, which will usually be found to be one of chlorosis, anæmia, debility, or nervous prostration. It should be similar to that referred to in considering hyperidrosis.

ANIDROSIS.

ANIDROSIS IS A FUNCTIONAL DISORDER OF THE SWEAT GLANDS CONSISTING IN A DIMINISHED AND INSUFFICIENT SECRETION OF SWEAT.

It is the opposite of hyperidrosis. It occurs in the course of certain chronic diseases of the skin, and is particularly noticeable in ichthyosis; the same condition may be observed in patches of eczema, psoriasis, and in elephantiasis Græcorum. It may also exist as the result of a congenital deficiency of the sweat glandular apparatus, in which case the person perspires very slightly, and perhaps sensibly only under a high temperature.

There are other cases in which the individual ceases at times to sweat. In these instances the health is more or less impaired, and serious symptoms often arise, especially during the warm weather. It is at this season that such cases are apt to come under observation. Occurring as an

independent disorder, it is rare. I recall meeting, two summers ago, the case of a man—a blacksmith—who suddenly, during the hot weather, ceased sweating. He was, when I saw him, several weeks after the trouble first manifested itself, unable to pursue his occupation, and complained greatly of indisposition, headache, and other symptoms of distress.

Treatment.—Every means should be instituted to promote the activity of the skin and restore the function of the glands. Hot baths should be ordered, with frictions; the steam bath, in moderation, especially is to be recommended. Cold baths, accompanied with rubbing by means of coarse towels, will also be found of service. Exercise is to be freely indulged in, and the general health looked after in every way.

SUDAMINA.

Syn. Miliaria Crystallina (Hebra).

SUDAMINA IS A NON-INFLAMMATORY DISORDER OF THE SWEAT GLANDS, CHARACTERIZED BY PIN-POINT OR PIN-HEAD SIZED, TRANSPARENT, WHITISH VESICLES, UNATTENDED WITH ITCHING.

Symptoms.—The vesicles are discrete, but crowded together in very great numbers, and may exist upon any portion of the body; they have preference, however, for the neck, chest, and abdomen, and other regions of the trunk. They are somewhat raised above the level of the surface, and may be felt as slight elevations. In appearance they resemble minute drops of free sweat. They are whitish or pearl-colored. They form quickly, and soon assume their definite size, which does not change throughout their course; they may last for several days or longer. Fresh crops may from time to time be developed.

The vesicles are always discrete; they never run together; their contents never become puriform; nor do they ever rupture. The fluid is reabsorbed, and the covering, desiccating, forms a thin, delicate membrane, which passes away in the form of slight desquamation.

Etiology.—The cause of sudamina may almost always be found in some constitutional or febrile disease. The dis-

order is of quite frequent occurrence in tuberculosis, typhus and typhoid fevers, acute articular rheumatism, and puerperal fever. It is invariably caused by high temperature, provoking unusual activity of the glands. At times the vesicles are seen independent of free perspiration.

The affection is common during the hot weather, and is ordinarily observed in those whose skins are delicate. It occurs both in children and in adults. The general condition of the patient exerts a strong influence in favor of or against the production of the complaint. Their presence is to be considered as a sign of general debility.

Pathology.—The affection originates in disturbance of the sweat glands. The glands become excited beyond their capacity for normal excretion, and, in place of the fluid finding its outlet upon the surface, from some cause it collects between the layers of the epidermis. It is in this manner that the vesicles are formed, as demonstrated by the anatomical researches of Dr. Haight, of New York.*

---

* Sitzungsberichte der Kais. Acad., Wien, 1868.

CLASS II.

HYPERÆMIÆ—HYPERÆMIAS.

In this class are arranged those disorders which are characterized by the presence simply of an abnormal quantity of blood in the vessels supplying the skin. The condition may arise from a number of causes, and occasions various appearances upon the surface.

The hyperæmic affections possess the following features. Redness of the skin is constant, and is present in all degrees of color, from pink or light red to dark red; it disappears upon pressure, but is seen to return instantly. The temperature of the part is usually elevated. The seat of the disorder is noted to be in the superficial portions of the skin, either in the papillary layer or in the main body of the corium. The hyperæmiæ occur in a variety of forms or patterns, usually without definite shape; they may be the size of a small coin, or as large as the palm of the hand and even larger. Their course is for the most part acute; they often last but a few hours or days; in other cases they continue for a longer period. Slight itching or burning sensations at times accompany them.

Hyperæmiæ may be classified into *active* and *passive*. Both forms may, further, very properly be divided into those which are *idiopathic* and those which are *symptomatic*.

Idiopathic Active Hyperæmias are, in a strict sense, local affections. They include those disorders occasioned by the direct application of irritating agencies to the skin.

Symptomatic Active Hyperæmias are, on the other hand, due to general disturbance of the system, which usually has

its chief seat in some region of the body distant from the skin.

Idiopathic Passive Hyperæmias are due to external causes; they comprise the various so-called lividities of the skin. Mechanical causes, in the form of severe or continued pressure upon the skin; direct obstruction to the circulation, produced by bandages, articles of dress, etc., and cold, may be referred to as the most frequent sources of this kind of hyperæmia.

Symptomatic Passive Hyperæmia occurs in those cases where there is some imperfection in the function either of the circulation or of the respiration. It manifests itself by a more or less general bluish or purplish discoloration of the skin; it is seen, for example, in cyanosis.

ERYTHEMA SIMPLEX.

ERYTHEMA SIMPLEX IS A HYPERÆMIC DISORDER CHARACTERIZED BY REDNESS, OCCURRING IN THE FORM OF VARIOUSLY SIZED, DIFFUSED OR CIRCUMSCRIBED, NON-ELEVATED PATCHES, IRRESPECTIVE OF CAUSE.

Symptoms.—It consists in a congested state of the skin, marked by the symptoms which have been already enumerated as belonging to the hyperæmias.

The causes which give rise to simple erythema are numerous, and are, moreover, diverse in their nature; they comprise heat, cold, injuries, poisons and irritating substances of all kinds, certain systemic diseases, disorders of internal organs, as of the alimentary canal, etc.

Erythema may be idiopathic or symptomatic.

IDIOPATHIC.

Erythema from Caloric.—Under this head are included the erythemas occasioned by heat and cold. Both of these agencies, at certain temperatures, bring about simple congestion of the skin; carried beyond this temperature they provoke exudation from the vessels or inflammation. Artificial heat, the rays of the sun, etc., are among the well-known and commoner causes of this form of erythema.

Erythema from Traumatism.—Simple erythema may also

be occasioned by traumatism, as, for example, continued pressure, rubbing, etc. It is observed as the result of tightly-fitting garments, bandages, trusses, etc.

Erythema from Poisons.—Poisons of all kinds play a very important part in the production of erythema. Many substances, both mineral and vegetable, act injuriously upon the skin. A few of these, as mustard, sulphur, arnica, various dye-stuffs, acids, and alkalies, may be mentioned as frequently giving rise to cutaneous disturbance.

SYMPTOMATIC.

Here are to be placed all those simple erythemas, or rashes, which occur in the course of certain systemic diseases or as the result of some internal derangement. They may occur upon any portion of the body, commonly upon the trunk. A knowledge of these erythemata is extremely necessary, for they frequently simulate, and may be mistaken for, other more serious affections.

Simple erythemas due to disorders of the internal organs, as the stomach and bowels, are of very frequent occurrence in infants and young children. They may assume various markings and patterns, and may be either slight or well defined in their expression. At times they are persistent; in other cases they dispose to relapse from time to time.

Roseola.—Certain general diseases are at times accompanied with hyperæmia of the skin, which shows itself in the form of roundish spots, the size of a pea or finger-nail, to which the term Roseola has been given. It denotes simply the peculiar *form* of the erythema; it in no degree indicates the nature of the disease which has brought it forth. Thus, roseola is employed to express one of the first lesions of syphilis upon the skin, and also the erythema which is sometimes observed in connection with vaccinia, or with variola.

Diagnosis.—From what has been said it is manifest that the boundary line between simple erythema and dermatitis —simple inflammation of the skin—is very frequently ill defined. As stated in considering the subject of hyperæmia, in connection with the general pathology of the skin, it is

often difficult to determine exactly when exudation commences; clinically, however, no trouble of this character presents itself, for the subjective symptoms in particular, in affections attended with exudation, are so decided as to permit of no doubt concerning the pathological change.

Treatment.—This must obviously depend upon the nature of the erythema, with special reference to the cause.

The idiopathic erythemata require nothing beyond the removal of the cause, which is in all instances sufficiently patent. In cases of persistent symptomatic erythema, such as are of common occurrence in infants, the internal disorder to which the cutaneous manifestation is due must be sought for, and at once relieved, if possible.

Local applications, where they are demanded, should be employed as the case under consideration may require; for this purpose the various bland dusting powders, soothing ointments, and similar preparations, may be used.

ERYTHEMA INTERTRIGO.

ERYTHEMA INTERTRIGO IS A HYPERÆMIC AFFECTION CHARACTERIZED BY REDNESS, HEAT, AND AN ABRADED SURFACE WITH MACERATION OF THE EPIDERMIS.

Symptoms.—It occurs chiefly in those parts where the natural folds of the skin come in contact with one another, as about the nates, perineum, groins, axillæ, and beneath the mammæ, and is produced by the friction of two opposing surfaces. It is especially common in fat persons, and in infants whose skins are tender. The skin becomes chafed, and feels hot and sore.

Perspiration, also, at times takes place, which, acting upon the epidermis, macerates it and gives rise to an acrid, mucoid fluid. If the process be not speedily arrested at this stage, symptoms of inflammation may appear; a simple erythema intertrigo may pass into a dermatitis.

It makes its advent suddenly, and, unless checked by the removal of the cause, soon becomes intensely annoying to the patient; properly managed in its early stage, it ordinarily passes away as rapidly as it came. It may last but a few hours, or, on the other hand, it may continue for weeks.

Occurring between the nates, its common seat, it is usually troublesome, and may prevent walking, or even sitting. It is apt to be more or less persistent in infants; with proper care and treatment, however, it rarely causes serious annoyance. The disorder is hyperæmic in its nature, and always disappears without leaving trace of its former existence; it is liable to relapse.

Etiology.—It is for the most part an affection of hot weather, although it may occur in winter if sufficient cause be present; it is seen at all seasons of the year in young infants.

It may be either idiopathic or symptomatic in its origin. Unusual exercise, sedentary habits, sitting for a long time on cushioned seats, excessive underclothing, and other conditions which occasion more than usual warmth of the body, all favor its development. The cause is always to be found in an undue amount of heat about the parts affected, arising either from friction or from permitting the opposing surfaces exposed to warmth to remain for some time in contact with each other. In children, and in those whose skins are particularly delicate and sensitive, simple rubbing, as from a garment, may be sufficient to cause an erythematous intertrigo. This is often observed in the newly born.

In infants, as in the case of symptomatic simple erythema, the cause may not infrequently be found in stomach or bowel derangements, worms in the alimentary canal, teething, and in other general disorders.

Treatment.—As a rule, very little is required beyond ordinary care and attention. It is, of course, essential that the exciting cause be suspended. The parts should be washed with cold water and castile soap, and dried with a soft rag or towel; they are usually quite sensitive. This operation should be repeated from time to time as may seem indicated. The folds of the skin are to be separated and kept apart with lint or with a piece of linen cloth. Dusting powders constitute the best topical remedies; they may be prepared with starch, together with oxide of zinc, French chalk, and similar substances, in varying proportions, as, for example, in the following:

℞ Pulv. Oxidi Zinci, ʒi;
Pulv. Amyli, ʒvii.
M.—Sig. Dusting powder.

In cases which prove obstinate I am in the habit of using lotio nigra as an application. Applied once or twice a day, followed by the use of some bland powder, as the above, it is certainly a very efficacious remedy. Dilute alcoholic lotions may also at times be employed. Astringent lotions, composed of alum or sulphate of zinc, a few grains to the ounce, prove serviceable in rebellious cases.

CLASS III.

EXSUDATIONES—EXUDATIONS.

The exudations, or exudative diseases, constitute by far the largest and most important group of the diseases of the skin. They include all those affections which are characterized by inflammation.

In this class are to be found urticaria, eczema, psoriasis, acne, and a number of other common diseases, with which the physician finds himself in daily contact.

The various affections are exceedingly diverse as regards their external form and character; some manifesting themselves as erythema; others as papules, vesicles, pustules, and blebs, together with their secondary products, scales, crusts, etc.; while yet another class appear as diffused, more or less deep-seated inflammations, involving not only the skin, but also the subcutaneous structures.

The exudations vary extremely as to their course; some are acute, and terminate in spontaneous recovery; while others, the majority, incline to become chronic, and to continue indefinitely.

Some are simple and benign in their nature; others are most distressing to the patient, and at times serious in their consequences. Their causes are manifold; in many cases they are singularly different. Their pathological features alone entitle them to be grouped into one class; these have been already considered in connection with the subject of general inflammation.

ERYTHEMA MULTIFORME.

ERYTHEMA MULTIFORME IS AN ACUTE, EXUDATIVE DISEASE, CHARACTERIZED BY REDDISH OR PURPLISH MACULES AND PAPULES, OCCURRING EITHER ISOLATED OR IN PATCHES OF VARIOUS SIZE AND CONFORMATION.

Symptoms.—The disease is usually marked by the variety of its lesions, which manifest themselves either as erythematous patches or as papules, vesico-papules, and tubercles. When patches occur, they are apt to be of the most varied shapes and sizes. The peculiarities of configuration which the lesions assume have given rise to the terms annulare, iris, and marginatum, in connection with the disease, according as they happen to represent one or another of these forms.

When the patch is circular in form, fading in the centre as the disease extends to the periphery, it is termed ERYTHEMA ANNULARE.

Occasionally a series of concentric rings are formed, possessing beautifully variegated colors, made up of red, purple, yellow, blue, etc.; when this takes place it is designated ERYTHEMA IRIS.

At times the patches, after spreading over a considerable surface, gradually fade in the centre, and terminate with a sharply-defined border, the disease consisting at this stage simply of serpentine lines or bands; this form is known as ERYTHEMA MARGINATUM.

In place of an erythematous patch, the disease very frequently appears in the form of distinct papules and tubercles, which occurrence has given rise to the names ERYTHEMA PAPULATUM and ERYTHEMA TUBERCULATUM. The former of these varieties is that in which the affection is commonly encountered. It consists of isolated or aggregated flat papules, variable as to size and shape. They are either bright red or purplish in color; disappear in part under pressure, and seldom last longer than a few days or a week. Erythema tuberculatum is to be viewed simply as an exaggeration of the papular form of the disease.

All of these varieties are but different forms and stages of one process. In a given case it is not rare to see several, if

not all, of these manifestations. They frequently, and indeed commonly, run into one another. It is this protean character of the lesions that has given rise to the name by which the affection is known,—erythema multiforme.

The course of the disease is an acute one; it may continue for a few days or for two or three weeks, at the end of which time it disappears spontaneously, leaving, perhaps, slight pigmentation and desquamation. During its course new crops of lesions are apt to develop, appearing from time to time in the place of those which have faded away. The process is often quite ephemeral in character.

It attacks certain regions of the body in preference; the backs of the hands and feet, and the arms and legs, are the localities where it is commonly seen. The hands and fingers are its most common situation. It usually occurs symmetrically. It may also show itself about the face, especially the forehead, in the form of macules and papules; also upon the trunk.

The subjective symptoms are seldom troublesome; there is, as a rule, but little itching and burning, notwithstanding the angry look which the eruption ordinarily assumes. The temperature is not increased to any extent. Symptoms of general disturbance may or may not accompany the complaint; not infrequently malaise, headache, rheumatic pains, and gastric derangement are present. It is seen for the most part in early adult age.

Etiology.—The affection is peculiar in that it makes its appearance almost exclusively during the spring and autumn seasons. It is also seen, exceptionally, at other periods of the year.*

The causes are at times obscure. The papular form, however, is not infrequently called forth by derangement of the stomach; in these cases it is observed to run a course somewhat similar to that of urticaria. It is at times accompanied with rheumatism, and in some instances bears a resemblance

* For further information upon this and other points of interest relating to the disease, see a report by Lipp, of Graz, Archiv für Dermatologie und Syphilis, vol. iii. p. 221; also an able article by Moriz Kohn (Kaposi), in the same journal, vol. iii. p. 381.

to purpura rheumatica. It occurs in both sexes, but is more common in the female.

Pathology.—It must be classed with the exudative affections, occupying a position by the side of urticaria, with which it possesses at times certain points in common. The close relationship between it and herpes iris has long been recognized; the latter disease is but an advanced stage of erythema iris. Up to the point of vesiculation it is an erythema multiforme, while beyond this stage it is called herpes iris. They are, notwithstanding their usual separation (which rests purely upon anatomy), one and the same process. Of the morbid anatomy of the lesions nothing definite is known.

Diagnosis.—When the peculiar appearance and acute course of the lesions, together with their multiform character, are borne in mind, no difficulty should occur in the diagnosis. The absence of all violent itching or burning sensations will serve to distinguish it from urticaria, the affection to which it bears closest resemblance. It differs from urticaria also in that the eruption is usually more pronounced in character, is of a more decided color and form, and is more persistent in its course. Wheals are never present in typical erythema multiforme.

From eczema papulosum it is to be distinguished by the absence of severe itching, and by the large size of the papules, as well as their irregular shape and form.

The difference between herpes iris and erythema iris being one only of development, they are often seen to merge into each other; the diagnosis here would be one simply concerning the name. If there were no vesicles present, it would be termed an erythema; while, if these had formed, the term herpes would be employed.

Erythema nodosum is to be diagnosed from erythema multiforme by its prominently raised, rounded, firm tumors or nodes, which occur for the most part on the extremities, and, in particular, along the line of the tibiæ.

Treatment.—In the majority of cases no active treatment is called for. If derangement of the alimentary canal exist, it is to be corrected by appropriate means. The bowels

should be opened by a mild saline laxative, which may be repeated from time to time during the attack. The diet should be light, all stimulating articles of food and drink being avoided.

The local applications should be of the simplest character. Lotions of equal parts of alcohol and water, or of carbolic acid, a drachm to the pint of water, will be found useful where there is itching. Dusting powders of starch and oxide of zinc, equal parts, are of service in protecting the inflamed surface.

Prognosis.—The affection runs a spontaneous course towards recovery. With or without treatment, it usually terminates in a week or two without leaving any trace of its former existence, except occasionally slight pigmentation and desquamation. It is a benign disease. Relapses are very liable to recur from year to year.

ERYTHEMA NODOSUM.

Syn. Dermatitis Contusiformis; *Fr.* Érythème Noueux.

ERYTHEMA NODOSUM IS AN ACUTE, EXUDATIVE DISEASE, CHARACTERIZED BY THE FORMATION OF ROUNDED OR OVAL, VARIOUSLY-SIZED, FIRM, PURPLISH NODULES.

Symptoms.—The disease is apt to be ushered in with some slight disturbance of the system. The nodules make their appearance quite suddenly, and may exist upon various regions of the body, although they have very decided preference for the legs, arms, and face. They vary in size from a small nut to an egg; are oval or rounded in shape; and are prominent and usually well defined in outline. In color they are reddish or purplish, becoming darker as they grow older. At times they are quite livid. As they disappear they often assume a yellowish tint. They have a shining, tense look, as though suppuration were about to take place; this process, however, never occurs, for they invariably result in reabsorption. To the touch they are firm, or even hard, but they become softer as they are about disappearing. In number they may vary from a few to dozens; they may occupy the legs only, or various regions of the body at the same time.

As a rule, they do not all appear at once, but come out at intervals in the form of crops, accompanied by febrile symptoms. They are painful, and tender on pressure, but are not attended by itching sensations.

The affection terminates in spontaneous recovery; it is seldom noted to last more than two or three weeks.

Both sexes are attacked. It is more frequent in females. It commonly occurs in early adult life.

Etiology.—The causes of this peculiar and quite rare disease are by no means well understood.

Loss of appetite, languor, and other symptoms of malaise, often precede the outbreak of the nodules. Rheumatic pains are also very frequently present, both before and during the attack. Digestive derangements, as well as other functional disturbances, have been noted in connection with its appearance.

Like erythema multiforme, to which disease it is very closely allied, it usually shows itself in the spring and autumn.

Pathology.—Its exact nature is involved in uncertainty. It is an exudative process, similar in character to erythema tuberculatum, but at the same time possesses such marked points of difference as to constitute a separate affection. Hebra* appears to think that, in some cases at least, it is essentially an inflammation of the lymphatics, the nodules being frequently observed seated on the course of these vessels. But, as Hebra himself states, this view does not hold good for all cases met with. Bohn† is of the opinion that each tumor is an inflammatory infarction, caused by embolism in the cutaneous vessels; he consequently regards the affection as being closely allied to purpura rheumatica, a view to which I incline. It presents, certainly, many points in common with this variety of purpura. In some cases the exudation is of a serous character, but in most instances it is hemorrhagic. The process varies in intensity.

Diagnosis.—It is not to be mistaken for the result of external

* Diseases of the Skin, vol. i. p. 291, New Syd. Soc. translation. London, 1868.

† Jahrbuch für Kinderheilkunde, Heft 4, 1868.

violence. The swellings bear a close resemblance to bruises, and may readily be confounded with injuries of this kind.

The disease also simulates erysipelas, especially if it occur about the face, but may be distinguished from it by the presence of distinct and isolated nodules, which are, moreover, firm to the touch.

The tumors at times resemble threatening abscesses; but their previous history, number, situation, and course will always serve to characterize them. They can scarcely be confounded with furuncles. The affection may be diagnosed from erythema multiforme by the presence of the circumscribed, hard, prominent nodules.

Treatment.—No very active treatment is called for, inasmuch as the complaint always ends in spontaneous recovery. When symptoms of functional derangement are present, they should be corrected. The bowels are very apt to be constipated, and are best relieved by a saline laxative. The natural mineral waters may be prescribed with advantage. The condition of the stomach should be investigated; if disordered, a simple diet should be ordered, together with such remedies as may seem proper. In females, the preparations of iron are often given with benefit. Quinine may also be directed. If the affection be extensively developed upon the lower limbs, rest and the recumbent position should always be enjoined.

Local applications are of little avail; warm fomentations, however, are at times useful in affording relief when the parts are painful. Strong applications should never be employed.

Prognosis.—This is always favorable. The trouble seldom lasts more than a few weeks. At times it is more persistent. Relapses may occur.

URTICARIA.

Syn. Nettle-rash; Febris Urticata; *Germ.* Nesselausschlag; *Fr.* Urticaire.

URTICARIA IS AN ACUTE, EXUDATIVE AFFECTION, CHARACTERIZED BY THE DEVELOPMENT OF WHEALS OF A WHITISH OR REDDISH COLOR, ACCOMPANIED BY STINGING, PRICKING, TINGLING SENSATIONS.

Symptoms.—The disease shows itself by the sudden formation of wheals, of variable size, shape, and color.

They vary greatly as to size; at times they are no larger than a split pea, while in other instances they occupy extensive tracts of the surface; ordinarily, they are finger-nail sized. They may occur as circumscribed, isolated efflorescences, or in the form of patches, caused by a number of the lesions having coalesced. All large patches are formed in this manner. Wheals likewise vary exceedingly as to shape; they are usually roundish or oval, but may exist in an endless number of forms. Lines, streaks, crescents, and irregularly-shaped patches, may all in turn be assumed. At times the configuration is quite grotesque. They are observed either as very slight elevations, barely perceptible above the level of the skin, or as raised prominences several lines or more in height. To the touch they may be soft or quite hard. In color they are whitish, pinkish, or reddish, and at times variegated or streaked. They are commonly surrounded by an areola. No trace follows their disappearance.

The subjective symptoms are intense burning, tingling, stinging sensations, likened to the sting of the nettle. They may be simply very annoying, or, on the other hand, exceedingly distressing. The patient impulsively scratches, which, though it in part relieves the disagreeable sensation, always causes more of the efflorescence to appear.

Urticaria is the most ephemeral of cutaneous diseases. Its advent is always remarkably sudden, a few minutes not infrequently sufficing for its full development; it may remain upon the surface for but a few moments, or for an hour or longer. Even while the eruption is out, individual wheals are extremely fugitive in their character, coming and going in a most arbitrary manner. The disease often leaves one portion of the body to show itself in a remote part; it may also repeatedly change its location, shifting its seat from time to time without apparent cause. All regions of the body, including the scalp, are liable to its attacks; the whole surface or only a part may be invaded. It has no regions of predilection, but is apt to occur upon those parts which are subject to pressure or hyperæmia from the contact of the clothes. It occurs at all periods of life, and

attacks both sexes in about equal proportion. Children are particularly subject to it.

It is ordinarily an acute disorder, lasting but a few hours or days, during which time frequent exacerbations may take place. Its duration depends entirely upon the presence or the removal of the exciting cause. It may also occur as a chronic affection, the relapses taking place with such frequency, and extending over so long a period, as to warrant the use of the term chronic.

There are several varieties of urticaria, named according to peculiarities in the conformation of the anatomical lesion, which call for particular description.

URTICARIA PAPULOSA.—This is a variety of the disease which, on account of its peculiar character and frequency, calls for special remark. It is also known as LICHEN URTICATUS.

Here the lesion possesses the form of a papule with all of the characteristics of a wheal. It is observed particularly in young children, and shows itself as pin-head or split pea sized, acuminated papules, which appear suddenly, and, after continuing hours or days, slowly disappear. They usually occur in a dispersed manner over the body, and are rarely seen in great numbers. They are attended with intense itching. Owing to the scratching of the patient, their apices are always more or less torn, and become covered with a slight blood crust. The disease is most annoying at night. The children in whom this form of urticaria is noted are, as a rule, badly cared for and improperly nourished. The affection is common among the poor, especially those who live in squalor.

Urticaria is of not infrequent occurrence in the course of other diseases. It is necessary, therefore, to distinguish those cases in which it is the sole disorder and those in which it exists as a secondary affection. It is seen as a complication in several diseases, and often plays such an active part as quite to overshadow the primary lesion.

Purpura is sometimes the seat of urticaria, a mixed lesion resulting, half hemorrhage and half wheal, whereby the presence of the hemorrhage is often obscured. The urtica-

rial element, however, is observed to be secondary. This occurrence has given rise to the terms URTICARIA HÆMORRHAGICA, and PURPURA URTICANS or URTICATA.

A disposition to the formation of bullæ is now and then observed in connection with urticaria, producing an eruption partaking of the nature of both blebs and wheals. When this occurs the wheals form first, but are displaced by blebs, which assume all of the characteristics of the bullæ of pemphigus. This peculiar and quite rare combination of symptoms has occasioned the term URTICARIA BULLOSA. The disease, however, should, I think, be viewed rather as a variety of pemphigus than as an urticaria.

ACUTE URTICARIA.—According to the cause, will the disease make its appearance in one way or another. It is, however, usually ushered in with febrile symptoms, accompanied by languor, headache, depression, gastric derangement, furred tongue, and other signs of systemic disturbance. The efflorescence appears suddenly, so that in an hour's time the whole body may be more or less invaded. In other cases only a portion of the body, as the face, the trunk, or the limbs, is involved. The wheals are remarkable for their capricious nature. They appear and disappear many times in the course of the attack, but do not, in preference, return upon the old site. About the head they have a tendency to show themselves upon the forehead, ears, and nose, producing considerable swelling and great disfigurement. They usually occur isolated here, and do not incline to run together to the same extent as upon the trunk; in the latter region large, solid patches of wheals, the size of the palm or larger, are not uncommon. The burning and stinging sensations are now intense and almost intolerable. In a variable time, from an hour to a day, the symptoms begin to subside; new wheals cease to appear, and the efflorescence by degrees fades away until no traces of it remain. The termination of the attack is greatly influenced by the removal of the exciting cause, as well as by active treatment. Relapses may take place, but they are exceptional.

CHRONIC URTICARIA.—Here the condition, viewed as a whole, is of a chronic nature, and continues for months or

years, or, indeed, as long as the cause exists. The individual wheals incline to come and go in the same evanescent manner as in the acute form, but the patient is rarely entirely free from them. No sooner has one crop disappeared than another starts up, the skin being in an almost constant state of efflorescence. At times the wheals are persistent, and last for hours or longer. The symptoms of general disturbance, so prominent in acute urticaria, are usually wanting, the individual very often seeming to enjoy average health, with the exception of his trouble. In other cases, the cause which gives rise to the skin affection may be of such a nature as to occasion general ill health.

Etiology.—The causes of urticaria are numerous, and are often of a very diverse nature. Certain external irritants or poisons to the skin are capable of producing it in a marked degree; the stinging nettle, jelly-fish, caterpillars, fleas, bedbugs, and mosquitoes, are not infrequent causes. The more sensitive the skin the greater will be the disturbance when such agents are brought into contact with it.

Among the internal causes, gastric and intestinal derangements are by far the most common; they may be looked upon as productive of the vast majority of acute urticarias. An overloaded stomach, excess in wine, or highly-seasoned food, may occasion an attack. Certain articles of food, as fish, oysters, clams, crabs, lobsters, pork, especially sausage, oatmeal, mushrooms, raspberries, and strawberries, are known to play a conspicuous rôle in calling forth the affection. A number of medicinal substances, taken internally, may likewise occasion the disease; of these copaiba, cubebs, turpentine, and valerian may be mentioned. Copaiba is a not infrequent cause, and is usually observed to bring on the rash in great profusion. It will be understood that in cases in which the eruption is produced by the ingestion of any of the above enumerated articles, a more or less pronounced idiosyncrasy exists.

Any irritation in the bowel may give rise to urticaria; intestinal worms, for example, especially in children, may prove a source of the complaint. Sudden emotion or unusual excitement, in certain individuals, may be quite sufficient to

bring it out. In females, menstrual and uterine difficulties are very often accompanied by urticaria; pregnancy, likewise, is at times attended by it. Organic disease of the uterus may give rise to the affection.

Urticaria is most intimately associated with the nervous system. It is often noted in connection with various nervous disorders, as spinal irritation, neuralgia, and asthma. There is also at times a close relationship between it and certain general diseases, as purpura and rheumatism.

The causes of chronic urticaria are usually obscure; not infrequently they may be found in spinal trouble, or organic disease of certain organs, as, for example, the uterus or kidney. Sometimes the causes are so slight as to be scarcely reconcilable with the amount of local disorder.

Mode of life, habit, exercise, change of air, are all known to exert an influence over the affection.

Pathology.—Upon close examination, a wheal is seen to be a more or less firm or hard elevation, consisting of a circumscribed collection of semi-fluid material which has been exuded into the upper layers of the skin. The process is an acute, inflammatory one, and has its seat, for the most part, in the papillary layer. Neumann* excised and examined with the microscope wheals which had been excited by the sting of the nettle upon rabbits. The condition found was that of marked œdema of the tissues with a diminution in the supply of blood.

The circulation in a wheal is always seriously interfered with, and at times altogether obstructed. The blood is forcibly driven from the centre to the periphery, producing the characteristic whitish apex and red areola. What part the nerves, and what part the muscular fibres of the skin, take in the production of wheals is still the subject of investigation. There can be no doubt, however, that the nerves play a very important part in their formation.

The wheals of urticaria papulosa are peculiar, consisting primarily of a wheal, which induces subsequently a deposit of plastic material.

---

* Hand-Book of Skin Diseases, p. 135. Amer. ed., New York, 1872.

Diagnosis.—When the nature of the anatomical lesion, a wheal, is called to mind, no difficulty should arise in distinguishing urticaria from other affections. The peculiar sensations of pricking, burning, and stinging, together with the remarkably sudden appearance of the efflorescence, are characteristic. Its presence as a complication with other diseases may sometimes lead to confusion in the diagnosis; but in these cases it is to be remembered that it is only a secondary production, and consequently of minor importance.

Erythema papulatum and tuberculatum are allied to urticaria in their nature, as well as at times in their appearance; they may, however, always be diagnosed by the absence of itching. In erythema there are, moreover, no wheals, but papules, which possess a very different history.

Erythema nodosum bears some resemblance in appearance to urticaria; but the tumors are very much more elevated, are hard and persistent, and are unattended with itching. Urticaria should not be mistaken for erysipelas, an error which might occur when it is extensively developed over the looser tissues of the face.

Treatment.—The first point in the management of a case of urticaria is the thorough investigation of the cause which has given rise to the attack. In the greater number of cases this may be readily detected, and will be found to consist in some of the disorders referred to in speaking of the etiology. To remove or to relieve these, is the work to be at once taken in hand.

When acute and due to gastric disturbance, the treatment is to be regulated somewhat by peculiarities of the individual, and also by the severity of the attack. The precise articles of food which the patient has been partaking of should be rigidly inquired into; their quality, as to freshness, etc., should also be made a matter of scrutiny. The possibility of the patient having eaten anything unusual should also be considered. In severe cases an emetic of sulphate of zinc, ipecacuanha or mustard may be administered, especially if food is supposed to be still in the stomach. The bowels should be evacuated at once, and for this purpose

the saline purgatives, such as sulphate of magnesium and Rochelle salt, will be found most useful. Free movement from the bowels should in every case be obtained as soon as possible; the repeated use of mild aperients, moreover, should be continued until entire recovery has taken place. The diet should be of the most simple kind, with the avoidance of all stimulating food and drink.

Other cases, not caused by any discernible intestinal derangement, may often in like manner at first be treated advantageously by saline draughts, after which the mineral acids or other remedies, and a strict dietary regimen, may be prescribed. But the treatment for a given case cannot be determined until its nature and cause have been fully investigated; those remedies which appear then as being most suitable to the case should be prescribed and persisted in. Where there is a disposition to acidity of the stomach, a condition of frequent occurrence, alkaline preparations are valuable. Bicarbonate of sodium in five or ten grain doses, lime water, liquor potassæ in small doses, and other similar remedies may be employed with good result. Subnitrate of bismuth, combined with small doses of calomel and opium, is likewise useful in allaying the irritability of stomach which is so apt to follow acute urticaria. The alkaline mineral waters are often refreshing and agreeable to the patient.

In chronic urticaria the bowels should be carefully regulated by means of laxatives. The food should be nourishing but plain. Attention should in every case be directed to the state of the general health. Inasmuch as the causes of chronic urticaria are apt to be exceedingly diverse in their nature, and to be in many instances obscure, each case will require special study. Very frequently the cause will be found to be apparently insignificant, and altogether out of proportion to the amount of cutaneous disturbance. Whatever the derangement, no matter how slight it may appear, it should at once be remedied, if possible.

In many cases diuretics are indicated; the acetate of potassium in twenty or thirty grain doses, well diluted, is a serviceable remedy. The natural alkaline spring waters, as,

for example, those of Vichy, France, and Saratoga (Saratoga Vichy Spouting Spring), may at times be directed with the best results. If gouty symptoms are present, they must be encountered by the use of alkalies, colchicum, or other means adapted to the requirements of the case. Quinine often proves a valuable remedy, not only in cases bearing an intermittent type, but also in other instances. Arsenic is of service at times when other remedies fail; it is well spoken of by Wilson, Milton, Hardy, and others. Iron may also not infrequently be prescribed with advantage. Bromide of potassium, chloral, and other sedatives will be found useful to calm the nervous system, which is often very much disturbed by long suffering. In some cases, where the disease is persistent and due to no appreciable cause, the bromide of potassium in full doses may be given with the hope of permanent relief: McCall Anderson mentions it favorably in this connection. Change of climate occasionally proves of benefit when all other means have failed.

Local treatment is of great importance. The burning and stinging sensations peculiar to this affection are often so distressing as to call for the most prompt and energetic external remedies. The patient should be divested of all woolen or other irritating underclothing. The bed coverings at night should be light, and the sleeping apartment kept cool.

Baths and lotions constitute the most desirable method of applying remedies; they may be prepared with various substances, and may be used either warm or cold, as may seem to afford the most relief. As the disease is very apt to be obstinate and rebellious to treatment, I shall refer to a number of remedies which may be employed to allay the disagreeable sensations, for experience teaches that where one fails another may prove serviceable.

Sponging the parts with vinegar and water at times affords ease. Salt water baths may also be used with good result in some cases. One of the best remedies, in my experience, is alcohol, in one form or another, as, for example, brandy or whisky. It may be applied as a lotion, either diluted or in full strength, and will in the majority of cases be found to

give decided relief. It should be employed frequently, or as often as may be necessary, in the course of the twenty-four hours.

Alkaline baths, made with the carbonates of sodium and potassium, afford much relief. They may be prepared of varying strength, according to the susceptibility of the skin and the amount of water. For an ordinary tub, containing about thirty gallons of water, three ounces each of the carbonate of sodium and bicarbonate of potassium constitute the average strength; more or less may be added to suit the case. A handful of starch, boiled in a quart of water, may be added to the bath with advantage. Starch, gelatine or bran baths, prepared in the manner just indicated, are also serviceable. Sulphuret of potassium, from one to two ounces to the bath, is another remedy which may often be employed with good result: Fox speaks well of it. Acid baths, as, for example, those containing hydrochloric and nitric acid, are also recommended. Hardy, at the Hôpital St. Louis, Paris, frequently obtains benefit from the nitric acid bath,—a half ounce to thirty gallons of water. In all baths where the patient is expected to remain in the water for a half hour or longer, the temperature of the water should be from 90° to 95° F.,—comfortably warm.

Carbolic acid with water, from one to two drachms to the pint, is a lotion which I have employed with excellent result. Lotions containing the corrosive chloride of mercury enjoy notable repute; about five grains to the pint of water, or better, dilute alcohol, may be prescribed. Dilute hydrocyanic acid also enjoys considerable distinction; from one to five drachms to the pint of water may be used. Chloroform, in the form of an ointment or lotion, is another well known and valuable remedy. Neligan was one of the first to employ it, in the strength of a half drachm to the ounce of cold cream; Gull, Anderson, and others, have since called attention to its value as a remedy in obstinate cases of the disease.

Prognosis.—A few days usually suffice for the relief of acute urticaria, when due to gastric derangement. Relapses in these instances are exceedingly liable to occur whenever the patient is exposed to the exciting cause.

The chronic variety is of a much more serious nature, and is generally very stubborn in its course. The prognosis must vary with the likelihood of the removal of the cause.

ECZEMA.

Syn. Tetter; *Germ.*, Eczem; *Fr.*, Eczéma.

ECZEMA IS AN INFLAMMATORY, ACUTE OR CHRONIC, NON-CONTAGIOUS DISEASE OF THE SKIN, CHARACTERIZED AT ITS COMMENCEMENT BY THE APPEARANCE EITHER OF ERYTHEMA, PAPULES, VESICLES OR PUSTULES, OR A COMBINATION OF THESE LESIONS, ACCOMPANIED BY INFILTRATION AND ITCHING, TERMINATING EITHER IN DISCHARGE WITH THE FORMATION OF CRUSTS OR IN THE PRODUCTION OF SCALES.

Symptoms.—It will be noted that the term eczema is employed in a broad sense, and is made to include a number of diverse lesions. Several of these forms of disease have until quite recently been viewed as distinct affections. With the light of modern pathology, however, we are now enabled to group them together as belonging to one process. As we shall presently see, they are but varieties and stages of one disease.

Regarding, then, these varied manifestations in this manner, their study becomes immensely simplified. Indeed, it is only by so interpreting the subject, it seems to me, that eczema can be at all comprehended.

The affection exhibits itself in various lesions. It is eminently a protean disease. At one time it starts as an erythema; later, perhaps, this erythema becomes a moist, excoriated patch, and terminates finally in a thickened, dry, desquamative surface. At another time it commences in the form of vesicles or pustules, seated upon highly inflamed bases, with swelling and heat; the vesicles soon burst, and there results a red, weeping surface, pouring forth a liquid, gummy discharge, which quickly dries into bulky crusts. The character of this patch may now suddenly change, and instead of a weeping, excoriated surface there exists a dry, scaly, infiltrated, fissured piece of skin, which continues until the disease is removed. Or, again, papules may first appear;

these may remain as such throughout their course or may pass into other lesions, or they may be associated with vesicles.

Such is a brief outline of the changes which may, and commonly do, take place in eczema. There is no other affection of the skin in which the lesions, both primary and secondary, undergo so many and so sudden alterations; not infrequently we may observe every variety of eczema manifesting itself in turn upon the same individual. This subject will be referred to more at length in the consideration of the several varieties of the disease.

More or less infiltration of the tissues is present in every case of eczema.

The exudation, whether fluid or plastic, is always considerable, and in the majority of instances is excessive, giving rise either to discharge and crusts or to the deposition of plastic material.

The presence or absence of discharge, that feature which for so long a time was regarded as a *sine qua non* of eczema, will depend entirely upon the lesions in which the process manifests itself. In the vesicular and pustular forms the amount of fluid exudation is usually very great, and is followed by extensive thickening as well as crust formation. On the other hand, in the erythematous and papular varieties no discharge takes place, and consequently no crusts appear; more or less desquamation, however, is present in these cases, varying in amount with the stage of the disease and the locality attacked.

Itching is a constant symptom of the affection; it is always present. It varies in intensity from that which is annoying to that which is almost unendurable. At times the sensation is that of burning rather than itching; in other cases they occur together.

Eczema runs its course either as an acute affection lasting a few days or weeks, and then disappearing not to return, or, as is much more usually the case, it assumes a chronic state, continuing with more or less variation for months or years. As a rule, when left to itself eczema inclines to settle in the skin and to remain there for an indefinite period. The

acute cases—those disposing to terminate in spontaneous recovery—are the exceptions.

Eczema may appear as a limited eruption, in the form of variously sized and shaped single or multiple patches, its usual mode of distribution, or it may show itself as a diffused disease, involving the greater part or the whole of the body.

Unless occupying an extended area of surface, it is seldom ushered in with any symptoms of constitutional disturbance.

The varieties of eczema are named according to the lesions which the disease assumes at its commencement.

I shall treat of these separately and in detail.

Eczema Erythematosum.—The primary lesion here is a macule,—an erythema. The course of a typical case may be described as follows. The condition first noticed is an erythematous state of the skin, undefined as to outline, and very commonly fading imperceptibly into the surrounding healthy skin. The affected surface may be small or large; it may be the size of a coin, as, for example, upon the nose, or it may be as large as the hand or larger. There is always more or less swelling present, varying with the locality and the amount of surface invaded. There is no discharge or moisture. Ordinarily, the patch is covered with a thin film of dry epidermis or scale; at times the mucous layer is exposed.

The color of the skin is usually bright red; it is also often yellowish-red, and may have a lurid look. It may be uniformly diffused over the affected part, or, as frequently occurs, it may be mottled or in the form of patches or blotches. Upon the face, in particular, great variation in color is apt to manifest itself; at one time it is brilliant, at another time dull.

The disease may either remain localized to a small area or it may invade a large surface. The process varies greatly in intensity from time to time; it is apt to be better one day and worse the next; it may even disappear wholly for a time and then suddenly show itself again. Its course is variable. It may pass off completely at the end of a week or two, or

it may assume a chronic course, attended by considerable thickening of the tissues. It is exceedingly liable to relapse. The influence of external heat or of excitement always aggravates the condition, causing exudation, itching, and other symptoms. A heavy meal, or indulgence in alcoholic drink, is very apt to be followed by an exacerbation. The burning and itching sensations are in almost all cases very violent; they always constitute prominent symptoms.

Eczema erythematosum may remain as such until it finally disappears, or it may undergo various changes, as, for example, into a moist, weeping eczema, with more or less crusting. The locality attacked often determines the form into which it is likely to pass; occurring where two surfaces naturally come into contact, as, for example, about the genitalia, eczema intertrigo commonly results. In the majority of instances, however, it terminates in desquamation, becoming eczema squamosum.

Vesicles or pustules are very rarely seen in the course of this variety of the disease, the patch or patches usually remaining in the erythematous or squamous state throughout their entire duration.

Eczema erythematosum ordinarily shows itself about the region of the face, particularly upon the forehead and nose; it also occurs upon the genitalia, and on other parts of the body.

Eczema Vesiculosum.—This is the commonest variety of the disease. It is to be regarded as the type of eczema. The affection usually appears in the following manner. There is a feeling of heat and irritation about the part for a short time preceding any sign of eruption; then, a diffused or punctate bright redness manifests itself, accompanied by great itching and burning, which continues to increase until in a very short time numerous, minute, pin-point to pin-head sized vesicles appear. They are either isolated or closely packed together; frequently they run into one another, making a solid patch. The vesicles grow more prominent hour by hour, until soon they become tensely distended with a clear fluid. The tissues are swollen, hot, bright red in color, and the itching so intense that the patient is unable

to resist the impulse to scratch. The process is now at its height, and thus far has run an exceedingly rapid course. But the disease does not remain long in this condition; the vesicles soon rupture, either of their own accord or through scratching, the liquid spreading itself over the surface and at once drying into yellowish crusts. New crops of vesicles subsequently come out, or, on the other hand, the liquid exudes so rapidly from the skin that there is actually no time for vesiculation. Through maceration of the epidermis, and rubbing and scratching of the part, there soon results an excoriated, more or less red, weeping surface. The amount of crusting will depend upon circumstances, as, for example, the locality involved, exposure to the air, the removal or not of old crusts, etc. The disease may continue in this state for a few days, when the various symptoms will gradually subside, or, on the other hand, they may all become aggravated, the disease in this event passing into another and more lasting stage, which has received the name of eczema rubrum.

The typical vesicular eczema just described is met with frequently enough in one stage or another of its course; more often, however, associated with the vesicles we find also papules, papulo-vesicles, pustules, and other lesions. It is in these latter cases, and they are very common, that the variable character of eczema is most manifest. The lesions are often so multiform, indeed, that it becomes a matter of difficulty to determine whether, for example, vesicles or pustules predominate.

The vesicles of eczema remain as such for but a short time, for as soon as fully developed, or even before this stage, they burst spontaneously. Their contents, consisting of clear, serous, yellowish, gummy liquid, pour over the surface, and desiccate rapidly into light-yellow, honeycomb-like crusts (MELITAGRA). The quantity of fluid exuded is often very great.

Itching is the most prominent subjective symptom; it is always intense, and gives rise to an irresistible desire to scratch. After the vesicles have been opened, and the fluid allowed to escape, the itching subsides somewhat; burning

sensations are now usually complained of. With the advent of another crop of vesicles the itching returns.

Vesicular eczema may involve a small surface only, or it may occur extensively over various regions of the body. It frequently shows itself upon the face, in both children and adults; in the former it constitutes the CRUSTA LACTEA of older writers. It also shows itself very often about the hands and fingers.

The vesicles show no tendency to group, and occur without regularity of distribution. They form about the openings of the hair follicles and on other parts of the skin without preference.

ECZEMA PUSTULOSUM.—This variety, called also ECZEMA IMPETIGINOSUM, is closely allied to the preceding, the only difference being that the lesions assume the form of pustules rather than of vesicles. The pustules are formed in the same manner as the vesicles, which have been described, except that there is not the same amount of swelling, heat, and itching present. The pustules are apt to be somewhat larger than the vesicles, and are, as a rule, firmer in consistence. They develop as pustules, or, as is often observed, they become pustules from vesicles; again, both lesions may exist at the same time, side by side, upon one individual. A strict line cannot be drawn between vesicles and pustules.

As in the case of the vesicles, the pustules burst and are replaced by thick, bulky, greenish-yellow or brownish crusts, which are apt to cover the skin completely. If the process continue, they accumulate in quantity, causing great disfigurement. They desiccate quickly and become friable, and finally fall off or crumble away.

Eczema pustulosum shows itself most frequently upon the scalp and face; it is common in these regions in children and young people, more especially in those who are ill fed and improperly cared for. Upon the scalp it usually assumes a serious and stubborn character. The pustules are apt to appear here in great numbers, often involving the whole surface of the scalp, and giving rise to a most distressing form of the disease. The eruption may be so excessive as to invade every portion of the scalp, undermining, as it were,

the whole epidermis by the coalition of the pustules. Pustular eczema occurs for the most part in those whose systems are below standard, and in those who manifest signs of the scrofulous habit.

Eczema Papulosum.—This variety, known formerly as lichen simplex, is characterized by the appearance of papules rather than of vesicles or other lesions. Although long considered as a disease distinct from eczema, and termed lichen, it is now recognized as one of the varieties of eczema. Its eczematous nature was first pointed out by Hebra.

It appears in the form of small, round or acuminated papules, varying in size from a pin-head to a small pea. In color they are reddish; at times they are bright red, in other cases darker. They may be either discrete or confluent, and may occur either in patches or in a disseminated manner over a considerable surface, without regularity of distribution. Ordinarily they begin as papules, and continue throughout their entire course as such. At times, however, they commence as papules and pass on into other lesions, as vesicles; or, they may be associated with vesicles, both lesions occurring at the same time. Thus, in papular eczema, while true papules predominate, imperfectly-formed papules, half-developed vesicles, or even typical vesicles may appear. It is this clinical fact which proves the identity of the process, and that the vesicular and papular varieties are but manifestations of one and the same disease.

Where the papules are overcrowded they are apt to run together and form solid patches, which, if they be subjected to violent scratching or other irritation, may become abraded and result in eczema rubrum. Inasmuch, however, as the papules are usually discrete, this seldom occurs.

The papules are exceedingly persistent; they may continue for some time without undergoing marked change, or they may disappear and be replaced by others. Where they aggregate in the form of patches, infiltration is usually extensive. Papular eczema attacks by preference the arms, trunk, and thighs. It may invade a portion or the whole of the body. It is the most obstinate variety of eczema, and is at times exceedingly rebellious to treatment.

The subjective symptoms are more violent than in any other variety of the disease. The itching is intolerable, and always constitutes a prominent symptom. Patients scratch themselves severely, tearing the tops of the papules and causing them to bleed. Small blood crusts may almost always be noticed here and there over regions which are accessible to the hands.

Having described the varieties of eczema considered from the stand-point of the primary lesions, there remain still certain forms of the disease which, although not, strictly speaking, varieties, are important, and call for special description. The first to which attention will be directed has already been incidentally referred to under the heads of eczema erythematosum and vesiculosum, namely, ECZEMA MADIDANS, or ECZEMA RUBRUM. This must be regarded rather as a condition, resulting from previous morbid action, than as a variety of the disease. It is to be viewed as a variety only in a clinical sense.

Eczema madidans, or eczema rubrum, may result either from eczema erythematosum, vesiculosum, pustulosum, or papulosum, as already indicated. It is characterized by a more or less reddish, weeping surface, accompanied by marked inflammatory symptoms. Serum exudes freely, and at once forms into crusts; blood likewise oozes forth from the lacerated and exposed corium, which, together with the serum, dries into thick, bulky, dark-yellow crusts, completely enveloping the region. These crusts adhere closely and firmly to the part, and, unless detached by mechanical means, may remain there indefinitely, the disease continuing its course beneath this mass of effete matter. Eczema madidans, then, presents two appearances,—as it occurs with its crust, and as it exists without this covering. In the one case the skin itself is altogether obscured by a dirty yellowish or brownish crust; in the other the skin presents a bright red, punctate, wounded surface, deprived in great part of its epidermis, and exuding a clear, syrupy, yellowish fluid.

Eczema madidans may occur upon any part of the body. It is most commonly seen upon the legs, particularly in

elderly people, in the form of extensive patches, often occupying the whole surface of the limb. It is for the most part chronic in its nature, not only the skin but the deeper tissues also becoming more or less involved. Infiltration takes place in a marked degree; the skin becomes greatly thickened and hardened, feeling at times, in old cases, almost leathery. Eczemas in this condition may continue for years, showing not merely no disposition to spontaneous recovery, but, on the contrary, tending steadily to increase in their development. The flexures of the joints likewise are often the seat of eczema madidans; the groins, and the cleft between the nates, are also frequently affected, the condition in these instances usually arising out of an eczema erythematosum.

Another important clinical variety or form of eczema is that termed ECZEMA SQUAMOSUM. It is to be viewed as a stage of one or another of the four varieties of eczema; it may follow the erythematous, vesicular, pustular, or papular manifestations of the disease. As already pointed out, it is very apt to succeed eczema erythematosum. In other cases it shows itself at the termination of the vesicular and pustular varieties, in the form of dry, harsh, scaly patches. Papular eczema, when the lesions are confluent, or are seated so close together as to constitute a solid patch, may also result in squamous eczema; patches of this kind are often met with upon the extremities.

Eczema squamosum, when typical, is characterized by variously sized and shaped, reddish patches. They are dry, and are more or less scaly. At times the scales constitute a prominent feature, in other instances they are scanty; the locality attacked determines to some extent the amount of desquamation. Infiltration is always present in squamous eczema. In the majority of cases, where the patches have existed for some time, it is pronounced. When the skin is taken up between the fingers, it is felt to be thickened; this feature, of course, exists in all degrees. It may be slight, or, on the other hand, very extensive, the amount of thickening depending upon peculiarities of the case.

Squamous eczema may be, and is in very many cases, merely an ephemeral stage of the disease, showing itself for

a short time only previous to the disappearance of the affection. The term is commonly employed, however, to denote the chronic squamous stage of eczema, which may continue without notable change for an indefinite period.

Other lesions are encountered in eczema, as they occur upon one part of the body or another, which, having peculiarities of a defined character, are worthy of mention.

Rhagades, or fissures, are observed not infrequently upon those regions which, by their natural conformation, are subject to constant motion; the various joints, particularly the hands and fingers, are usually the seat of fissures of more or less severity; at times they are very extensive, deep, bright red in color, showing the true skin, and so painful that motion is almost impossible. They usually occur about the normal furrows of the skin, but they may show themselves anywhere. They are produced for the most part by motion or strain upon the eczematously diseased tissues, which in many individuals incline readily to split and form fissures. They are found, more or less developed, in all the varieties of eczema. The condition is termed ECZEMA FISSUM or RIMOSUM; the French make it a *variety* of the disease, and call it ECZÉMA FENDILLÉ.

The so-called CHAPS, as they take place about the hands, face, or other localities, are lesions which are liable to occur in skins which have a disposition to eczema, or in those which are abnormally tender. They may also be brought about by the use of external irritants, as strong soap, the excessive use of water, acids, and similar substances. Exposure to cold weather and hard manual labor are the usual sources of this lesion.

In thickened, infiltrated, localized patches of eczema a peculiar warty, verrucous condition at times shows itself, the appearance being due to a hypertrophied state of the papillæ. The condition may be very properly called ECZEMA VERRUCOSUM, as suggested by Wilson; if simply hard, rather than wart-like, ECZEMA SCLEROSUM.

ACUTE AND CHRONIC ECZEMA.—A very natural, and at the same time important and proper, division of eczema is that

into acute and chronic. The line which separates the two conditions is one which may usually be drawn by means both of its clinical and of its pathological features. The division relates not so much to time, as it does to certain pathological changes which occur during the course of the disease, and which it is necessary to bear in mind in viewing the subject of treatment. Eczema, as a rule, inclines to run a chronic course; there are, however, many exceptions, constituting examples of typical acute eczema, where the whole process completes itself in a brief period. So long as the general inflammatory symptoms are high, and the secondary changes insignificant, the disease may be said to be acute; when, however, the process has settled itself into a definite line of action, continually repeating itself, accompanied by secondary changes, the disease is to be considered as chronic. The terms are also at times applied to the length of time which the disease has existed.

Etiology.—Eczema is by far the commonest of all the diseases of the skin. It occurs more frequently in some countries than in others. In Philadelphia, according to my experience, it constitutes almost fifty per cent. of the entire number of cutaneous diseases. In Boston, according to White,* the percentage is almost as great; out of 5000 cases of skin disease encountered in the out-patient department of the Massachusetts General Hospital, 2242 were eczema. In New York, Bulkley† makes the proportion less,—namely, about one-third of all the cases. Anderson,‡ in Glasgow, out of 10,000 cases in hospital practice encountered 2527 examples; while Hebra,§ in Vienna, out of 29,535 cases met with in thirteen years in the General Hospital, records only 2195 cases. Thus it will be noted that the disease is much more frequent in this country than abroad.

It attacks people in all spheres, the rich as well as the poor, and may appear at any period of life from infancy to old age.

---

* Boston Medical and Surgical Journal, Jan. 27, 1876.

† American Practitioner, May, 1875.

‡ The Lancet, Nov. 11, 1871.

§ Neumann's Lehrbuch der Hautkrankheiten. Wien, 1873.

Males and females are affected in about like proportion, although very extended statistics prove it to be somewhat more frequent in males.

In certain cases it is hereditary, the term being used in the sense that a predisposition to its development is handed down from parent to child. On the other hand, in the vast majority of cases no hereditary taint is to be detected.

All temperaments are by no means equally liable to the disease; individuals with light hair and florid complexion suffer more frequently than those with dark hair and skins.

There are, moreover, certain persons so peculiarly constituted that their skins are ever ready to manifest signs of eczema upon the slightest provocation, whether this be in the form of internal or of external irritants. For example, it is well known that in certain people local irritants invariably tend to bring out eczema, while the same kind and amount of irritation upon others produce at most a simple dermatitis, which passes away completely with the removal of the cause. In like manner, in these cases, internal derangements of various kinds are often sufficient to cause eczema to appear, while, as we are well aware, no amount of like irritation in another class of persons will occasion the least symptom of eczema. I would state, then, that there seems to be a certain inherent peculiarity of constitution in some, which, under favorable circumstances, encourages the appearance of eczema.

Constitutional Causes.—Here are to be found many conditions which are capable of giving rise to the disease. They play a most important part in the production of eczema, and, having called it forth, exert a powerful influence in keeping up the process.

Chief among the constitutional causes I would rank the various disorders of the digestive tract. Dyspepsia (the term being employed in its broadest sense), with its vast train of symptoms, is to be regarded as one of the commonest causes. Constipation, irregularity in the action of the bowels, flatulence, dyspepsia of the stomach and intestine, and other similar states, may frequently be observed to be the source of the eruption.

Deficient excretion through the various emunctories of the body is to be regarded as a cause. In certain individuals the presence of an excess of uric acid and urates in the system is quite sufficient to produce and to keep up eczema. The association of gout and rheumatism with eczema has long been recognized by observers; without question, the presence of the gouty or rheumatic vice, in some subjects, strongly disposes to attacks of eczema.

As causes of eczema, certain writers have insisted upon the following somewhat unsatisfactory explanations, which I shall very briefly mention. Mr. Wilson, for example, considers that it is due to "constitutional or general debility," which may present itself as "assimilative debility," as "nutritive debility," or as "nervous debility." Other observers consider that "perverted innervation" is to be viewed as the chief cause; others, again, that it is due to the "strumous or scrofulous state." It is manifest, however, that these expressions are too vague in their meaning to be of any practical value.

Improper food, either as to quantity or quality, also acts as a cause. This remark is applicable in the case of both adults and infants, but is especially true concerning the latter, where the continued use of unsuitable diet frequently leads to serious disturbance of the health and eczema.

In certain cases, pregnancy and the period of lactation possess a decided influence in calling forth the disease. In the same way, all causes which tend to lower the average degree of health may serve as generators of eczema. It is in this sense that debility, nervous exhaustion, excessive mental or bodily work, and kindred states, act with manifest force in producing and in maintaining the disease. Eczema is very often dependent upon a chlorotic state, the disease clinging tenaciously to the patient until the general condition has become improved. Various kinds of internal irritation, such as ascarides or tæniæ in the bowel, may determine an eczematous eruption.

Dentition may operate as a cause, and may occasion the disease to appear in infants who are predisposed to it; but it is to be viewed in the light of a cause only as in the case

of any other source of irritation to the constitution. The process, as we know, is one which not infrequently creates considerable systemic disturbance.

Vaccination, at times, occasions an outbreak of eczema, but this occurs only in those who have already a tendency to the affection, the general disturbance to the system resulting from this operation being quite sufficient to call it forth.

Eczema is not contagious. It cannot be acquired from being in contact with or from handling the patient; nor can it be taken from the discharge.

Local Causes.—These are numerous, and are worthy of careful investigation; they play a conspicuous part in the production of many eczemas. They give rise to the so-called artificial eczemas. They are all cutaneous irritants, which act injuriously upon the skin. Mineral and chemical substances of various kinds are not infrequently the source of trouble. The improper external use of the preparations of mercury, for example, is capable of giving rise to eczema, as is seen in the condition termed ECZEMA MERCURIALE, which results from the excessive employment of mercurial frictions. The form of eruption here does not differ materially from that provoked by other similar substances. Croton oil, one of the most powerful of irritants, tincture of arnica, tincture of cantharides, mustard, antimonial ointment, sulphur, turpentine, and other like substances, all have a part in the production of the artificial eczemas. Dye-stuffs, especially those containing aniline, are highly injurious to the skin; undergarments, shirts and socks, dyed with this alkaloid, are known to occasion vesicular eczema.

The effects resulting from contact with the poison vine (Rhus toxicodendron) and poison tree (Rhus venenata) are well known, and exhibit forcibly the virulent influence which certain vegetable substances are capable of producing when brought into contact with sensitive skins. The condition produced by these poisons is an artificial eczema, which may be of an erythematous, a vesicular, or a bullous character; the eruption, pathologically, possesses all the features of an eczema. It is well recognized that certain persons

are always attacked when they come in contact with either of these plants, while others are able to touch and handle them with impunity, the skin in these latter cases being altogether insensible to their deleterious influence. This observation demonstrates very clearly the great difference which naturally exists in the degree of sensitiveness of skins, and aids in explaining the whole subject of artificial eruptions.

Heat and cold have a share in the production of eczema; the former element, especially, has long been acknowledged as a source of much mischief upon the skin. The heat of the sun, upon parts exposed for some time to its action, is not infrequently the cause of eczematous eruptions; the term ECZEMA SOLARE is employed to express this condition. Excessive perspiration, with elevation of temperature, occurring about the genitalia and other localities where the skin inclines to form folds, often occasions abrasion of the epidermis, chafing, and subsequently eczema; when this occurs it is called ECZEMA INTERTRIGO.

Eczema may also follow the inflammatory disorder of the sweat glands known as miliaria, or prickly heat, when this latter affection is prolonged and subjected to exasperating agencies, as friction, irritants, etc.

In connection with this subject I may refer to the influence of the seasons upon eczema. The disease is found to be of much more frequent occurrence in winter than in summer. Many examples of chronic eczema recover spontaneously during the summer season, only, however, to reappear with the winter. Sudden changes in the weather, especially from warm to cold weather, always aggravate these eczemas; they are not infrequently observed to be controlled in a remarkable manner by the seasons.

Water may, under certain circumstances, provoke an eczema; it is seen at times following the inordinate use of baths, water dressings, fomentations, etc.

Alkalies, and also acids, in one form or another, may be alluded to as causes of eczema.

Strong soaps, particularly potash soaps, are exceedingly deleterious to many skins, giving rise to harshness, fissures,

and eczema. It is in place here to make mention of the injurious effects resulting from the improper use of sapo viridis, or common soft brown soap. This substance is, as we know, a most valuable remedy in the treatment of certain varieties and stages of eczema; but it is also a harsh irritant, capable of doing much mischief when injudiciously applied to the skin; artificial eczemas from its imprudent use are not rare.

Two other important sources of eczema remain to be noticed, namely, parasites and scratching. The animal parasites claim particular attention, the pediculus and the acarus scabiei being most prominent. Pediculi, especially those of the head, give rise to much disease upon the scalp, and are to be regarded as the cause of a not inconsiderable amount of eczema capitis in children. Of a like character is the inflammation of the skin produced by the ravages of the itch mite; the condition here differs in no way from eczema vesiculosum brought about by other causes.

Lastly, scratching plays a very significant part in the production of artificial eczema, as seen in scabies and in phtheiriasis.

Pathology.—In considering the pathology of eczema, it is necessary to bear in mind that we have a highly inflammatory disease, which undergoes many rapid changes during its development. We must also remember that we have several varieties of the disease, as, for instance, eczema papulosum and eczema vesiculosum, each running a somewhat different pathological course. Finally, it is important to separate the acute from the chronic stage in an investigation into the pathology of this affection.

Eczema possesses the following points in connection with its pathological anatomy.

There is, in the first place, hyperæmia or congestion of the skin, as shown by the redness which is present. The blood-vessels and capillaries are overloaded with blood; this may take place uniformly over the surface, as in the case of eczema erythematosum, or in points, as in eczema papulosum. The condition is always particularly marked about the follicles, as may readily be seen with the naked eye.

The important pathological process which occurs in the disease is an exudation, which may be either of a fluid or of a plastic quality, or of all grades between the two. According as the disease assumes an erythematous, papular, vesicular, or pustular form will the changes present one picture or another.

The anatomical changes which have been observed in the course of the disease afford interesting knowledge upon the subject. Neumann's* experiment upon the skin of the ear of a living rabbit, consisting of the irritation of healthy tissue by means of croton oil, shows the changes which take place, in all probability, in idiopathic vesicular eczema. At first a rhythmical contraction of the vessels took place, they being at one moment distended and at the next empty, but becoming gradually more and more dilated, until stasis was observed. The skin, which in the normal state was transparent, became opaque, swollen, and hot, accompanied, after a few hours, by the appearance of numerous vesicles. Forty-eight hours afterwards the animal was killed, and the tissue found to be infiltrated with serous fluid, and filled with a great quantity of cells.

The changes occurring in the papular and vesicular varieties have been carefully investigated by Biesiadecki,† as follows. The principal seat of disease is the papillary layer. In circumscribed portions of the skin the papillæ are somewhat enlarged in breadth and in length, and are infiltrated with cells, and a clear, serous fluid.

The connective-tissue corpuscles of the papillæ are remarkable for their size and succulence, and are increased in number. The presence of a serous fluid in the tissues of the papillæ is made manifest by the compressed condition of the swollen connective-tissue fibres. The rete mucosum is observed to be particularly altered over the papillæ affected in this manner. Numerous spindle-shaped cells are seen prolonging themselves into the mucous layer, lying half in the papillæ and half in the deepest cells of the rete mucosum.

---

* Loc. cit., p. 169.

† Beiträge zur physiol. und pathol. Anat. der Haut. Sitzungsberichte der k. Akad., Wien, LVI. Bd. p. 243, 1867.

They crowd the cells of the rete apart, and reach even to the horny layer. These cells often form quite a dense network in the rete between the papillæ, penetrating one another in all directions. Within this network are found somewhat swollen epithelial cells, whose protoplasm appears less marked. This circumscribed infiltration of the papillæ forms the papule of eczema. In the further course of this process a vesicle may be formed. This is produced by the new formation of cells within the papillæ, and the superficial cells of the mucous layer swelling up considerably, perhaps rupturing, so that the epidermis becomes raised. The cells in the middle of the mucous layer are more markedly swollen, or they may be indistinct, as if containing granular matter, the largest nuclei being scarcely recognizable. In cases of rapidly-developed eczema the connective-tissue cells are found entering the rete in greater numbers, and form a dense network. With the increased abundance of these cells there is at the same time a larger quantity of fluid developed in the papillæ, to such an extent at times as to raise the epidermis up in the form of bullæ. If the epidermis covering the vesicles be removed, the fluid oozes forth upon the surface of the mucous layer, constituting moist eczema.

The fluid which pours forth in vesicular eczema is not to be distinguished from ordinary serum; microscopically it offers no peculiarities. It is a clear, yellowish, syrupy fluid, of a sticky nature, and, as is well known, has the property of staining and stiffening linen. When exposed to the air it rapidly dries and forms crusts of a yellowish color.

The alterations which are found in chronic eczema are of another character, and differ somewhat according to the stage of the disease. The skin here is subacutely inflamed; is very much thickened, hardened, and infiltrated with cells. The papillæ are enlarged, often greatly so, and at times may be distinguished with the naked eye. The cell infiltration extends throughout the entire corium, even into the subcutaneous connective tissue. This infiltration occurs diffusely in the tissue of the corium, and also about the vessels. Pigmentation may take place in the deep layers of the rete, and

in the corium, especially about the vessels. In a typical case of chronic eczema of the scrotum, Neumann* found the papillæ considerably larger than normal, and not only their bloodvessels, but also the loops of the lymphatics, elongated, the latter being dilated in the form of a flask. Nowhere in the course of the lymphatics was there to be found any cell proliferation, such as existed about the adventitia of the bloodvessels, although the corium was in part displaced by cell infiltration.

In severe cases of eczema of long standing, the hairs and glands may become obliterated.

In considering the relation existing between the capillary congestion and the cell proliferation, Fox† is inclined to the view that both cells and vessels play an important and somewhat independent part, in obedience to a nerve paresis, and that the most important element in the production of the disease is faulty innervation. Hebra‡ has expressed a similar opinion concerning impaired innervation, but does not speak of the influence of nerve irritation as causing cell proliferation. He remarks, in seeking an explanation of the occurrence of the disease, that inasmuch as it may result from irritants and varicose veins, it is fair to suppose that the direct cause is a disturbance of the circulation, especially in the capillaries, causing capillary congestion. Whether this be the result of disease of the nerves or of the bloodvessels cannot be determined. He further believes that the congestion occasions such an excessive exudation of liquor sanguinis that it cannot be completely consumed in supplying loss, a certain superfluous quantity remaining over and infiltrating itself in the cutaneous tissues, especially in the epidermis.

Diagnosis.—Eczema being the most important of all the cutaneous diseases, a very careful study of the subject of diagnosis becomes necessary,—the more so when the various anatomical lesions which the process assumes are taken into consideration. No other disease appears in such varying

* Lehrbuch der Hautkrankheiten, p. 217. Wien, 1873.

† Skin Diseases, p. 173. Amer. ed., New York, 1873.

‡ On Diseases of the Skin, vol. ii. p. 140, New Syd. Soc. translation. London, 1868.

forms. At one time an erythema, either with or without desquamation, followed, perhaps, by a weeping surface and crusts; in another case, a vesicle, passing rapidly into a pustule; again papules, which, when aggregated, may break down into a patch, accompanied by moisture; finally, one or all of these primary lesions may occur in the same patient, presenting a complete picture of this wonderfully protean skin manifestation. Add to this the secondary changes which always occur, and it will be readily perceived how difficult the diagnosis of eczema at times becomes. To understand thoroughly the affection it should be viewed as a whole, when it will be noted that it always presents certain characteristics, some of which are invariably at hand.

These may now be referred to.

A certain amount of cell infiltration is always present in eczema. It may be very marked or only slight, according to the severity of the process. It may be detected by the thickening of the skin, which may be both seen with the eye and felt with the finger. Swelling and œdema also exist in all acute eczemas, and often in the more chronic cases. The patch is red and congested, the redness disappearing slowly beneath pressure, and returning in like manner. The exudation of fluid or plastic material is a constant symptom of eczema, and is observed in varying degrees.

In the vast majority of cases, fluid exudation, or moisture, has taken place at one stage or another of the disease. This symptom is peculiar, and is characterized as an oozing of serum, in varying quantity, which discharges quite uniformly from the surface; it is very properly termed weeping, discharging, or running. No other disease has this symptom. It may be of the nature of a clear yellowish fluid or puriform; it may also contain blood.

The plastic exudation, on the other hand, constituting the papule of eczema, is more difficult of recognition, and may be mistaken for other forms of disease, to be presently referred to in detail. Slight desquamation succeeds the typical papule.

Following discharge come crusts, and those of eczema cannot possibly be confounded with others. When the discharge

has been copious, as is commonly the case, the crusts form rapidly and in great quantity; they are yellow, brown, or greenish in color, and adhere to a moist surface beneath. The amount of cleansing modifies the formation of crusts. They are frequently so abundant as entirely to mask the skin itself.

Of the diagnostic subjective symptoms that of itching is characteristic. It is of an intense character, far exceeding that of other diseases. It is a constant symptom, never being altogether absent, although its degree may vary. Burning sensations are also always complained of in the acute stage, which soon give way to the more decided feeling of itching. With the itching of eczema there is always an irresistible inclination to scratch; so strong, indeed, as not to be denied.

Finally, it must not be forgotten that two or more varieties of the disease may be present at the same time upon one patient, offering a mixture of lesions in various stages of development.

The diseases with which eczema is liable to be confounded may be referred to.

Scarlatina.—There may in certain cases be difficulty in distinguishing it from this disease; rarely, however, for the general symptoms of systemic disturbance in scarlatina are so marked as to be very significant. There could be doubt only in those cases of acute eczema where the eruption is universal, or diffused, occupying the greater part of the body. A very short period would in such instances serve to decide the question.

Erysipelas.—Here, however, is an affection with which it is more apt to be confused, and which may at times resemble eczema erythematosum or vesiculosum, particularly when about the face. The points of difference are numerous and patent. Erysipelas is an acute affection, commencing at a point and extending itself on the periphery as a creeping disease. The inflammation of erysipelas is a deep one, involving the subcutaneous tissues as well as the skin, and is attended with great heat, swelling, and œdema. The disease

is accompanied by symptoms of fever and other general disturbance. The sensations are those of burning and fullness. The skin is deep red, shining, and tense; there is no discharge except from the bursting of bullæ, which are often present in the latter stage of the affection.

Erythema Simplex.—Eczema can scarcely be mistaken for any of the simple erythemas, or, more properly speaking, hyperæmias, this being their pathology, for in these disorders there is no exudation of any kind, hyperæmia, without inflammation, being the sole morbid condition. Eczema, however, at times may bear some resemblance to the exudative erythemata, and, in particular, to a variety of urticaria.

Urticaria.—The peculiar form of this affection known as urticaria papulosa presents lesions looking very much like eczema papulosum, especially in children, which fact has given rise to the term lichen urticatus, a disease which, however, must be viewed as an urticaria. None of the other varieties of eczema can be mistaken for urticaria.

Herpes.—In their early stages zoster and eczema may bear considerable resemblance, although the irregular distribution of the vesicles of eczema will usually serve to distinguish it from the peculiar and constant symptom of grouping in zoster. Eczema is never attended with the violent neuralgic pain which always accompanies zoster,—a feature in itself quite sufficient to prevent any confusion in diagnosis.

Eczema vesiculosum is much more apt to resemble other varieties of herpes, especially those forms occurring about the face and genitalia. These, however, run their course in a few days as very simple and mild disorders.

Pemphigus.—Eczema will never be confounded with typical pemphigus vulgaris, for here the bullæ are isolated and large, and have a very different history from the vesicles of eczema. There is, however, a variety of pemphigus, known as pemphigus foliaceus, which has certain features in common with eczema. It is extremely rare, and differs from eczema in its history, course, and symptoms.

Seborrhœa.—Squamous eczema bears many points of close resemblance to this affection. The two diseases very

often present similar appearances as they occur upon the scalp. In this region they may even at times exist together, the seborrhœa existing as a secondary disorder, having been provoked by the eczema. They are nevertheless entirely distinct diseases, and it is of the utmost importance to diagnose them when they occur separately.

In eczema the scales are larger, less abundant, and drier than in seborrhœa. In eczema they are, moreover, usually seated upon a circumscribed patch, while in seborrhœa they cover the scalp quite uniformly. The skin in eczema is more or less red and inflamed and always itchy; in seborrhœa it is apt to be paler than normal, and may or may not be itchy. The history of the two affections in most cases is sufficiently different to render the diagnosis clear and positive. They are both common affections.

Psoriasis.—Here also is a common disease often confounded with eczema, the appearances very frequently being so alike that it becomes a matter of difficulty to decide upon the case. Both diseases attack all parts of the body; both are prone to occur on the scalp, where trouble in diagnosis is apt to arise. Typical eczema can never be mistaken for psoriasis, but old, infiltrated, inflammatory, scaly patches frequently look very much like psoriasis.

The edges of patches of eczema usually fade away into the healthy tissue; in psoriasis they terminate abruptly. The scales upon eczematous patches are thin and scanty; in psoriasis they are always abundant, and are observed to be large, silvery, and imbricated. In eczema there is usually some account of moisture at one stage or another of the patch; in psoriasis it is always dry. The occurrence of the disease on other parts of the body will further serve to clear away any doubt, while the general history of the two diseases will also assist materially in arriving at a correct diagnosis.

Lichen Planus.—Eczema may be confounded with this rare disease. The distinctive features of eczema, however, should be remembered; they will prove sufficient to establish the diagnosis. The papules of lichen planus are flat, and have an angular base; those of eczema are acuminated, and

have a round base. Those of eczema are bright red in color; those of lichen planus have a dull crimson hue, with a shining aspect. The papules of eczema form quickly, and are apt to undergo change; those of lichen planus form slowly, and never exhibit any other form; they remain papules throughout their entire course. Lichen planus disappears slowly, and leaves stains in the place of the papules; papular eczema leaves but little pigmentation. In eczema the general health is not seriously affected; in lichen planus it is usually greatly disturbed.

Pityriasis Rubra.—This is even a rarer disease than lichen planus, and presents symptoms which might readily be interpreted as eczema. It may be distinguished from eczema by its uniform redness; great masses of large, thin, papery, whitish, epidermic scales which continually reproduce themselves; abrupt termination of the edges of the disease; slight itching; burning heat; and lastly, by the absence of infiltration and thickening of the skin, a symptom so common in eczema. It undergoes very few changes throughout its course.

Tinea Circinata.—This affection is not unfrequently confused with eczema squamosum. The course of the two diseases, however, is very unlike, and should alone be enough to separate them. Eczema has no tendency to assume circular patches; tinea circinata always has. In eczema there is no history of contagion; in tinea circinata the disease may almost invariably be traced to this source. The edges of patches of eczema seldom terminate abruptly; those of tinea circinata always do. Eczema squamosum tends to run a chronic course; tinea circinata an acute one. The itching in eczema is always marked, and usually severe; in tinea circinata it is not usually a very prominent symptom. The microscope reveals the existence of a fungus in the scales of tinea circinata.*

Sycosis.—Both varieties of this affection, parasitic and non-parasitic, bear some likeness to eczema of the beard;

* The differential diagnosis of tinea tonsurans and eczema of the scalp will be given in speaking of eczema of the head.

but the diseases are in most respects so entirely different as to be easily separable.*

Tinea Favosa.—The yellow crusts of eczema very often simulate those of favus, and mistakes in diagnosis may quite readily occur unless attention be given to diagnostic marks. The crusts of eczema pustulosum upon the body can scarcely be mistaken for favus. Upon the scalp, however, a common seat of both diseases, there is much more liability of falling into error.†

Scabies.—This affection possesses more features in common with eczema than any other disease. The contagiousness of the disease must be one of the strongest arguments against the likelihood of the case being eczema. A history of direct contagion is usually to be found in scabies. Inflammation, papules, vesicles, pustules, and crusts are all at hand as in eczema, and these lesions therefore are of little assistance in arriving at the diagnosis. The presence of the acari, as proved by the burrow or by extraction with a needle, must of course at once settle the question. But the demonstration is not always practicable, for in old cases all signs of the burrows have been destroyed, and the insect is no longer to be caught. The regions of the body attacked offer valuable hints for diagnosis. Eczema is rarely so diffused as scabies; nor does it show itself in preference so markedly about the hands and fingers, axillæ, abdomen, mammæ, nipples, penis, and buttocks, all favorite localities for the exhibition of scabies. The itching of eczema is usually more violent than that which occurs in scabies. In scabies which has existed for some time, the whole body will be seen to be quite generally involved, the scalp, however, remaining free. Patches of disease are not formed in scabies, unless the process has been permitted to run on for a long time, when they may be produced by prolonged scratching. Scratching and strong applications both contribute largely to mask the

---

* The diagnosis will be found more in detail in the consideration of eczema of the face.

† The differential diagnosis of these diseases will be found in connection with eczema capitis.

original lesions of scabies, and to render the condition similar to eczema. In cases of doubt, the diagnosis may be at once decided by treatment. If the disease be scabies, parasiticides will soon afford relief and subsidence of the more active symptoms; eczema, on the other hand, will, as a rule, not be improved by such treatment.

Artificial Inflammations.—Various grades of disease, produced by means of cutaneous poisons, acids, alkalies, and similar substances, often cause true inflammation of the skin and subcutaneous tissues, which may present an appearance very much like acute eczema. The regions affected; the distribution of the eruption; the uniformity and peculiar character of the lesions; and the artificial look which always accompanies these diseases, afford an insight as to their real nature. If suspected, the history, course, and termination will always serve to distinguish them from true eczema.

Syphilis.—Eczema of the scalp is more apt to be mistaken for syphilis than any other local variety; upon the body it can scarcely be confounded with syphilis. A form of syphilis occurring at times upon the scalp looks very much like ordinary eczema pustulosum with fissures; it will be found, however, upon close examination, to be syphilis of a superficial ulcerating form, covered by eczematous-looking crusts. It will have a strong and disgusting odor, which symptom alone will serve to distinguish it from eczema.

In eczema it is very necessary, in all cases, to remove crusts, and other secondary matter, before pronouncing diagnosis; much error will be avoided by attention to this point. The other varieties of eczema, the papular and vesicular, cannot well be mistaken for syphilis. The subjective symptoms, especially the itching, are absent in syphilis.

Treatment.—In the consideration of this portion of the subject it is necessary to state that the outlines only for treatment can be given. To enter upon the matter fully would carry the chapter beyond the space assigned to it.

Eczema is a perfectly curable disease. For its relief two distinct methods of therapeusis are employed, one directing all its force against the skin itself, as the offending organ, trusting by this means alone to restore health to the part;

the other endeavoring to remedy the disorder by the employment of internal or constitutional remedies, intended to act against the real or supposed source of the disease. The plan which appears to me to be the correct one, and which in my experience has proved most satisfactory, is that which recognizes both local and constitutional remedies as being of equal value. I am confident, viewing the matter in a broad light, that this doctrine affords us the best results in practice.

Constitutional Treatment.—Constitutional remedies, if judiciously prescribed, prove of decided benefit in the great majority of cases. They are, however, not demanded in every case, and, unless indicated, are not to be recommended. Great discrimination in this matter is to be exercised.

The subject of diet must in the first place be referred to. During an attack of eczema it is important that the diet be of a good and nutritious quality. In those cases where the natural habit is full, the food should be plain. If there be any disturbance of the digestive tract, all those articles of food which are difficult of digestion—as, for example, pastry, cakes of all description, gravies and sauces, pork, cabbage, pickles, cheese, beer, wine, etc.—are to be interdicted.

Exercise and fresh air are in all instances beneficial; not infrequently they will be found to be invaluable adjuvants in the treatment.

The state of the bowels is to be noted; constipation should not be permitted to exist; the bowels should be open at least once a day.

Dyspepsia, in any form, should receive prompt attention, and every means employed to remedy the condition. Certain eczemas are both brought on and kept up by this state.

The condition of the kidneys often requires investigation; if there be deficient excretion, it should be remedied. Diuretics are frequently of service.

Having mentioned in a general way a few of the more prominent points for treatment, the various remedies which are found to be of service may be spoken of. Laxatives are of value in many cases, particularly in the highly inflam-

matory varieties of the disease. Saline aperients especially are to be recommended; among these the sulphate of magnesium occupies a conspicuous position. It may be combined to advantage with iron, as in the following prescription:

℞ Magnesii Sulphatis, ℥i;
Ferri Sulphatis, gr. iv;
Aquæ, f℥iv.
M.—Sig. Tablespoonful,
with a gobletful of water, a half hour before breakfast.

The laxative mineral spring waters—as, for example, the Hathorn and Geyser springs of Saratoga, Friedrichshall water, and waters possessing like properties—are exceedingly beneficial in many cases.

In infantile eczema, in those instances where the bowels are irregular, great good will often be obtained from the employment of syrup of rhubarb in repeated small doses.

Where there is a coated tongue, with heavy breath, light-colored evacuations, and constipation, small doses of calomel may very often be administered with good result. At the commencement of an acute attack of eczema, cases not infrequently require remedies directed against disorders of the stomach, bowels, and secretions. Derangements of this character must first be rectified, after which other remedies may be prescribed.

Eczema occurring in old persons, especially in those of a gouty or rheumatic disposition, or in those who are *bon-vivants*, may often be very successfully treated with diuretics and alkalies; the acetate of potassium, in full doses, the alkaline natural spring waters, and the lithia waters, are all useful remedies.

If the patient possess a debilitated constitution, manifesting signs of imperfect nutrition or the so-called scrofulous disposition, cod-liver oil will prove a valuable remedy. It is, I am sure, of service in many cases of eczema, and particularly in children.

The preparations of iron are also to be recommended; the syrup of the iodide, the tincture of the chloride, the carbonate, the pyrophosphate, and the wine, are all useful. To

obtain good results from the use of iron it is essential that the remedy be continued for some time.

Arsenic is of unquestionable benefit in many cases, but, as I have remarked elsewhere (see Part I., Treatment), it is very important to select the case, as well as the time for its administration. Given to examples of eczema indiscriminately, as they present themselves for treatment, it will prove of far more injury than benefit. In no cutaneous disease is more discretion called for in the employment of arsenic than in eczema. It should never be prescribed if there is any disorder of the digestive system. It should never be given in the acute stage of the disease; it will do at this time more harm than good. It is found to be of value in the chronic papular form of the affection; also in the late squamous stage.

Tar has been used internally with benefit in the squamous stage of the disease, especially in chronic cases. Sulphur spring waters, of which there are great numbers in our country, also, without doubt, not infrequently prove serviceable.

For washing purposes ordinary water may be employed; in those cases where the skin is delicate, distilled water or some of the mucilaginous waters, made from bran or flour, may be substituted. Ablutions may be used either hot or cold, as may be most agreeable to the patient. Too frequent washings or general baths are to be avoided; they have a tendency to macerate the already morbid epidermis. For cleansing purposes both the soda and potash soaps are made use of. In the majority of instances ordinary castile soap suffices; where the crusts are firmly adherent to the skin, or are piled up in masses, the potash or soft soap may be resorted to.

Local Treatment.—The treatment of eczema by means of local remedies is of great importance, and demands attentive consideration. Very many cases may be relieved by external means alone. External treatment, of one kind or another, is called for in all cases of the disease. There are no cases in which it may not be used with advantage.

It is a matter almost essential to successful treatment that

the part affected be seen by the physician. It is in the first place to be determined whether the disease is acute or chronic, whether the process is in its most active stage or whether it has somewhat subsided.

The variety of the disease next presents itself for consideration; the primary lesions are to be sought for and examined, and the presence of erythema, papules, vesicles, or pustules established. The stage in which the affection exists is to be noted. The amount of cutaneous disturbance, heat, redness, swelling, œdema, and other abnormal phenomena, are all to be noted. The condition of the epidermis, whether intact or lacerated and torn, should be examined into. The character of the crusts and scales is of significance; the presence or absence of fissures should also be observed.

A question of moment, to be ascertained before instituting treatment, is the extent of surface involved; the whole body may be affected, or there may be only a single patch. The region attacked must also be taken into account. Finally, the duration of the disease, its general history as stated by the patient, and, in particular, whether a first attack or a relapse, are all matters of consequence.

In all cases of eczema there are present certain secondary products requiring immediate removal. These consist of crusts, scales, and extraneous matter, which have been allowed to collect upon the surface. They are to be removed before active remedies can be advantageously applied. Crusts, if extensive, are to be treated first with oily preparations until saturated and loosened, or they may at once be acted upon by water and soap or other alkaline washes. The thorough cleansing of the part is a point of the greatest importance, and, unless insisted upon by the physician, will rarely be properly performed by the patient or attendant. Not uncommonly, repeated applications of oil, followed by abundance of soap and water, are required to secure the desired end. Scales are removed without difficulty by the same means. Water and soap have thus far been alluded to only as means for cleansing the skin. I shall speak presently of their uses as curative agents.

Acute Eczema.—Caution is to be observed in prescribing

for the acute eczemas. Remedies which are well tolerated at a later stage of the disease will, as a rule, now be found to be too stimulating. Whatever the remedy applied, it should be at first used over a small surface, in order to ascertain whether the effect be beneficial or otherwise.

Among the many local sedatives which from time to time have been recommended for the early stages of eczema, with a view of relieving the highly inflammatory symptoms, and the intense itching and burning sensations, I shall mention those only which are of most value. It will, however, be borne in mind that a preparation which has been of service in one case will not necessarily afford relief in another case, bearing even, perhaps, the same general features; peculiarities of skin have much to answer for. If, therefore, one remedy does not succeed, another must be tried; and here I would remark that it is often extremely difficult to decide whether this or that prescription is best suited to the case at hand. The patient soon determines this question by the amount of ease obtained; for this is the chief end to which treatment in this stage of the affection is directed.

In acute vesicular or erythematous eczema no soap or water should be employed; the parts should not be washed, for in the majority of instances water irritates the skin. In the place of washing, the surface may be powdered from time to time with a dusting powder composed of starch and small quantities of oxide of zinc and powdered camphor:

℞ Pulv. Amyli, ʒvi;
Pulv. Zinci Oxidi, ʒiss;
Pulv. Camphoræ, ʒss.
M.—Sig. Dusting powder.

Powders of this description may also be made with lycopodium dust, French chalk, carbonate of zinc, and carbonate of magnesium, in varying proportions, with or without starch.

Instead of powders, lotions may be employed. I am in the habit of treating many cases of acute vesicular eczema with lotio nigra and oxide of zinc ointment, according to the following plan, originally suggested to me by Dr. White, of Boston.

The affected part is to be bathed with the lotion, applied by means of a sponge or a piece of cloth, for fifteen minutes at a time, and at intervals of a few hours or longer; the sediment should be permitted to remain on the skin. After the application, a small quantity of oxide of zinc ointment is to be rubbed gently over the part. As a rule, the itching and burning are greatly relieved at once, and the disease is very often arrested in its course.

A lotion consisting of lead water, eight ounces; glycerine, one ounce, will often be found useful.

Carbolic acid, a drachm; glycerine, an ounce; distilled water, a pint, I can also highly recommend; the strength may be increased or diminished according to the effect produced.

Dilute hydrocyanic acid is also a valuable sedative, as in the following formula:

℞ Acidi Hydrocyanici dil., f℥iv;
Glycerinæ, f℥i;
Aquæ Destillatæ, Oi.
M.—Sig. Lotion.

Fox speaks well of the following: an ounce of finely levigated calamine powder; two drachms of glycerine; half an ounce of oxide of zinc; and six ounces of water. To be applied frequently, by means of a sponge, allowing the powder to remain upon the skin.

Weak alkaline lotions, as, for example, one drachm of bicarbonate of sodium to eight ounces of water, may also be tried in cases where the itching is obstinate.

Cloths steeped in hot water, and wrung out and applied to the parts, at times afford great temporary relief from the violent itching symptoms.

In many cases, ointments seem to answer better than lotions. The oxide of zinc ointment is a well known and excellent preparation, admirably adapted for many cases; it may be employed either alone or with other remedies. If it be benzoated, only a very small quantity of benzoin should be used, in order to render the ointment perfectly bland. To make it more sedative, a drachm of spirit of camphor

may be added to the ounce, as originally recommended by Wilson.

The subnitrate of bismuth is also serviceable in the form of an ointment, as in the following prescription:

℞ Bismuthi Subnitratis, ʒss;
Ungt. Simplicis, ʒviiss;
M. ft. ungt.

Where a soft ointment is required, a drachm of glycerine may be added with advantage to the above.

Camphor may also be employed in the form of an ointment, alone or with oxide of zinc and glycerine. The appended formula makes an acceptable, softish ointment, which may be used in the first stage of vesiculation:

℞ Pulv. Camphoræ, ℈i;
Pulv. Zinci Oxidi, ʒii;
Glycerinæ, fʒi;
Adipis Benz., ʒvi;
M. ft. ungt.

Diachylon ointment, made according to the formula of Hebra, is a very useful preparation. It is most effective when spread upon cloths and applied closely to the skin by means of bandages.

℞ Olei Olivæ Opt., fℨxv;
Lithargyri, ℨiii, ʒvi;
Aquæ, q. s.
Coque. M. ft. ungt.*

Olive oil, oil of sweet almond, and dilute glycerine, may

* The following directions are necessary. The oil is to be mixed with a pint of water, and heated by means of a steam-bath to boiling, the finely-powdered litharge being sifted in and stirred continually; the boiling is to be kept up until the minute particles of litharge have entirely disappeared. During the cooking process a few ounces more of water are to be added from time to time, so that when completed water still remains in the vessel. The mixture is to be stirred until cool.

The ointment is difficult to prepare, and requires skillful manipulation. When properly made it should be of a light-yellowish color, and of the consistence of butter. To insure a good article it is essential that the very best olive oil and the finest litharge be employed.

Messrs. McKelway & Borell, Cramer & Small, and Mr. J. P. Remington, apothecaries, have furnished me, from time to time, with a most satisfactory preparation.

also be used as soothing dressings. Likewise, cold cream, cucumber ointment, and glycerole of starch.

In eczema papulosum the inflammation is not diffuse, as in the vesicular and erythematous varieties, but is circumscribed, the papules being usually discrete. The inflammation, consequently, is of quite a different character, and pursues, as a rule, a more chronic course. Soothing applications are of little benefit here; more stimulating remedies, as the various so-called antipruritics used in the chronic stage of the disease, will be found of greater service than bland preparations. Carbolic acid, as a lotion, is, I consider, the most valuable remedy which we possess for papular eczema; its strength should vary from a drachm to two or even three drachms to the pint of water. The formula already given will be found suitable for many cases. Lotions are much to be preferred over ointments for the treatment of this variety of the disease.

It need scarcely be remarked that it is impossible to draw the line definitely between acute and chronic eczema,—to state exactly when the former passes into the latter. In practice, however, it is found that, as a rule, the acute stage is very brief, lasting usually from a few days to a fortnight. In the selection of remedies the physician must be guided rather by the pathological changes which have taken place than by the length of time which the disease has existed. Some of the remedies, to be referred to presently in speaking of the local treatment of chronic eczema, may at times be used with benefit quite early in the course of the disease. I shall, however, refer to this subject again in considering the treatment of the disease as it attacks particular regions of the body.

Chronic Eczema.—After a few days or longer, the acute process will, in most instances, have subsided to a great extent, and other remedies will be found more serviceable. Crusts should never be permitted to form; they should be removed by the means already indicated. In many cases the treatment just referred to for the acute stage serves also for later stages; more stimulating applications, however, are usually required.

Carbolic acid, in varying strength, here, as in the acute stage, is one of our most useful remedies; it may be employed in the form either of lotion or of ointment. In the proportion of ten minims to the ounce of ointment it will be found serviceable in both vesicular and erythematous eczema; it may be combined advantageously with the benzoated oxide of zinc ointment. It is a valuable antipruritic remedy, and constitutes one of the few substances which may be relied upon.

Somewhat similar in effect to carbolic acid are the preparations of tar, which are the most serviceable of all external remedies. To obtain good results they must be handled with care; unless used at the proper time, and in suitable strength, they serve only to irritate, and when this occurs they are to be abandoned at once. Tar is of most benefit when the disease has completely reached the chronic stage. It is never to be applied in the acute stage, or at any time when vesicles are forming. If there is much inflammation, swelling, and heat, it likewise should be withheld. The more chronic the condition the more likelihood is there of its being tolerated. The mode of application, and the strength, are to be determined as the disease is upon one part of the body or another. Ointments of varying proportions are the most suitable means of applying tar, for, in addition to the stimulating effect of the remedy, the emollient effect of the lard is obtained. The ointment should not be too strong; one drachm of the tar to the ounce is usually sufficient. The strength may be increased should the part call for more stimulation. The two forms of tar commonly used are pix liquida and oleum cadinum. They may both be applied in the same manner, and have a very similar effect upon the skin.

℞ Olei Cadini, f℥i;
Cerati Simplicis, ℥i;
Ol. Amygdal. Amar., gtt. vi.
M. ft. ungt.

This constitutes one of the most elegant of the tarry ointments. Fluid preparations are better adapted to the scalp than ointments. Tar is employed with excellent result upon

the scalp combined with alcohol, as in the appended prescription:

℞ Picis Liquidæ, f℥i;
Alcoholis, f℥vii;
Ol. Amygdal. Amar., gtt. xv.
M.—Sig. To be rubbed firmly into the skin.

In whatever way tar is employed, the part should be well rubbed with it twice daily by means of a piece of flannel rag. The ointment should not merely be smeared over the surface, but firmly rubbed in for ten or fifteen minutes each time. A very small quantity should be used for each application, which should be worked into the skin until it has been quite consumed. The same directions apply to the fluid preparations. Tar is also advantageously combined with soap in the treatment of eczema. In the very thick, old, leathery patches of chronic disease, equal parts of alcohol, sapo viridis, and pix liquida may be applied in the same way as the other preparations just alluded to. To produce a stronger impression, potassa may be used in place of the soap, in the strength of five or ten grains to each ounce of the mixture.

Dr. Bulkley, of New York, has given to the profession a valuable alkaline tarry preparation, which possesses the advantage over the usual plain tar in that it combines with water, and can be diluted to meet the requirements of the case. The following is the formula:

℞ Picis Liquidæ, f℥ii;
Potassæ Causticæ, ℥i;
Aquæ Destillatæ, f℥v.
M.*—Sig. "Liquor Picis Alkalinus." To be used diluted.

It may be used in the form of a lotion or with ointment. As a lotion it is to be diluted with water,—from one to two drachms to the pint, according to the state of the skin and the susceptibility of the individual. Care should be observed not to make the mixture too strong at first, for it will be remembered that it possesses a large proportion of

* The potassa is to be dissolved in the water, and gradually added to the tar with rubbing in a mortar.

caustic potash, which may act injuriously upon the skin. I have seen very awkward results from its injudicious use. In infiltrated, localized patches it can, of course, be employed much stronger, as, for example, one part to five or ten of water, followed by the use of some ointment. Bulkley recommends in these cases an ointment of tannic acid, a drachm to the ounce.

The liquor picis alkalinus may also be combined with ointment, from one to two drachms to the ounce.

Various soaps are employed in the treatment of eczema. Common hard or soda soap, of which the variety known as castile is the type, may be used for purposes of ordinary cleansing, but to obtain stronger detergent effects the potash soaps are brought into requisition, and perform a very important part in the handling of certain eczemas. It must be remembered that all soaps are more or less alkaline, as they are hard or soft and according to their quality, and that unless ordered judiciously they may be productive of much mischief. This remark applies particularly to the strong potash soaps known under the names of sapo mollis, sapo viridis, black soap, brown soap, and soft soap, which contain a certain amount of free alkali.

Sapo viridis has numerous uses in eczema. It may be employed alone or with alcohol in the form of an alcoholic solution. (See p. 113.)

It is an indispensable detersive agent, and may frequently be applied to cleanse patches of their crusts and scales previous to the use of other remedies.*

It is in the condition which has been described under the name of eczema rubrum that sapo viridis is found of greatest value.† It is in these cases employed systematically and

* In order to secure uniform results from the use of the soap, it is well to make use always of an article which is known to possess a definite strength. That manufactured by Duvernois, Stuttgart, Germany, contains about twenty-five grains of uncombined caustic potash to the ounce. It is the most reliable soap of the kind with which I am acquainted. It is imported by Messrs. McKelway & Borell, and Mr. J. P. Remington, of this city.

† To Hebra belongs the honor of having been the first to institute the method of treatment about to be described. Its worth is scarcely to be overestimated. It is, I think, one of the most important contributions that has

in conjunction with an ointment. The more localized the disease the better are the chances for success; in fact, it may be stated that, as a rule, this plan of treatment is to be adopted only in cases where the disease is confined to one or several patches. Where the eczema is diffused, and is upon various parts of the body, other methods answer better.

In those frequent, old eczemas of the legs, it is the treatment *par excellence*, and effects changes which are striking and often surprising. It may be relied upon in these cases when all other remedies have failed. It is also to be directed in certain other local forms, as, for example, in infiltrated eczemas of the hands and arms, in chronic eczemas of the face, and, indeed, at all times where the affection is localized upon a particular region.

The treatment consists in the application of the soap, followed immediately by the use of an oily ointment. Soap applied alone, in any form of eczema, acts as a mild caustic and as an irritant, and tends only to increase the disease. This is a point never to be lost sight of; very much damage is often inflicted by the indiscriminate and too free use of strong soap in eczema. The ointment used in preference by Professor Hebra, and the one which is unquestionably the best, is the diachylon ointment already spoken of.*

The accompanying instructions are to be implicitly adhered to.

A small lump of the soap, the size of a nut, is smeared upon a piece of wet flannel; this is to be applied directly to the patch of disease, and rubbed firmly and with moderate pressure upon the skin until all traces of the soap have dis-

---

ever been given to cutaneous therapeutics. To have it prove successful it is essential that the instructions for its proper performance be faithfully carried out.

* In addition to the method given for its preparation, it may also be made with four parts of diachylon plaster and two or three parts of olive oil, the two substances being melted, and stirred until cool. The proportion of the oil necessary to produce a firm ointment will vary with the consistence of the plaster; the older and harder the plaster, the more oil will be required. The ointment, however, resulting from this process of manufacture is somewhat different from the former; it is apt to be more stringy, although none the less effective on this account.

appeared. The piece of flannel may now be dipped into warm water and again applied in the same manner to the part, when an abundant lather will be formed. More water from time to time may be added, until copious suds cover the skin, when with clean water the diseased surface is thoroughly washed off, freed from all signs of soap, and carefully dried with a soft cloth or towel. The rubbing should be performed with a certain amount of force, to be regulated by the amount of infiltration, the region affected, and the sensibility of the skin.

The time occupied in the process also must be governed by the effect produced; in slight cases five minutes may prove sufficient, while in thick infiltrations, especially upon insensible regions of the body, ten or even twenty minutes may be advantageously expended at each operation. The first application should always be somewhat moderate, that too great a destruction of epidermis be not produced, thereby causing soreness. The sensations of the patient will, however, always serve as a guide upon this point. The application is not painful, as might be supposed, but, on the contrary, is usually exceedingly agreeable, destroying that peculiar symptom of itching so annoying and characteristic of the disease. It at once affords ease to the patient, who generally expresses himself pleased with the operation.

The part immediately after the washing presents an inflamed, red, and angry appearance; the skin is clean, tense, and shining, showing the epidermis to be very thin and imperfectly formed. Here and there minute puncta may be seen, from which clear serum oozes out in pin-point drops.

The part is now ready for the ointment, which should be prepared before the washing is begun, so that no time may be lost in applying it, for no delay is permissible in this stage of the operation. The ointment is to be spread with a large spatula or knife upon strips or pieces of soft, flexible muslin, which have been cut to the size of the patch or extent of diseased surface. It is not well to make one large piece cover the whole, but is preferable to have several pieces, in order that they may be the better adapted to the skin. The ointment should be spread quite thickly upon the rags, as

thick as the back of an ordinary table-knife. The part is now to be enveloped with these cloths in a neat manner, so that no folds or wrinkles may occur, taking in the whole surface which has been subjected to the soap. It is more prudent to apply the ointment too freely than too scantily. Finally, the part should have outside cloths applied, to prevent the oil from oozing through, and be bound down by means of strips or a bandage. The bandage is also a matter of moment, for its proper application contributes very materially to the success of the treatment. It is essential that the ointment be brought into the closest contact with the skin, and that it be kept in this position.

If the region be not very extensive, the patient may be permitted to go about as usual, care being exercised that the dressings are not disturbed.

This entire operation is to be repeated in exactly the same manner, and with the same attention to minutiæ, twice daily, in the morning and before retiring. Improvement will be noticed at once. The patient will obtain relief from the itching at the first rubbing with the soap, and very decided comfort after the ointment has been on for a short time. This process is the most effectual means which we possess of affording immediate relief from the itching.

In very extensive and old patches of eczema it is at times necessary to have recourse to a more powerful caustic than the sapo viridis, in which case a solution in water of potassa may be applied. The strength may vary from ten grains to a half a drachm or even a drachm to the ounce, but extreme caution is necessary in the use of such strong remedies, which should in every case be employed by the physician himself. The stronger the application the less often should it be repeated; once every other day, twice or even once a week, will in most cases be sufficient for any of the just-mentioned solutions. The effect of the caustic in these cases should be moderated by cold water cloths and compresses for a time, after which the unguentum diachyli may be used as described.

There are numerous other remedies and modes of treat-

ment for the chronic stage of eczema, some of which are of great value and may here be referred to.

The mercurial preparations occupy the first place in the list, and will be found exceedingly useful in a great number of cases, particularly in those instances in which the disease is confined to a small area without tendency to spread. The red oxide of mercury, in the form of an ointment, varying in strength from five to thirty grains to the ounce, to suit the case, is a remedy of very decided value. It is the active ingredient of a large number of the nostrums vaunted for the cure of all cutaneous diseases.

Ammoniated mercury ointment, made in the same proportions as the above, is also a remedy of worth. It is less severe in its action than the red oxide, and may be prescribed with good result in the pustular eczemas of children. It is likewise one of the popular remedies.

The other mercurials—as the corrosive chloride, red iodide, nitrate, and bisulphuret—may also be used, care being taken not to prescribe them too strong. It must be remembered that there is some risk of salivation, even when applied to very small surfaces; this it is which necessitates their being prescribed with caution.

Sulphur at times acts with some success, although its value is in no degree comparable to that of the mercurials.

For exceedingly obstinate circumscribed patches of eczema, blistering with cantharides will be found serviceable. A similar result may be obtained from carbolic acid, diluted with alcohol or in its pure state; also from nitrate of silver.

Vulcanized india rubber is a useful therapeutic agent in certain cases. In the form of a cloth or sheet, applied closely to the part, it serves to protect the skin and to exclude the air. In some instances it has a decided curative effect. When practicable, it should be employed continuously, day and night. It should be removed and cleansed once or twice in the course of the twenty-four hours, when the skin may be wiped or rubbed dry with a rag, and the cloth re-applied.

Prognosis.—This must depend very materially upon the circumstances attending the case in question. It may, however, be stated that eczema is always a curable disease. There

are a number of points which should be taken into consideration before an opinion is given as to the probable duration. The general health and condition are, in the first place, to be well investigated; and in this connection the cause of the disease is, if possible, to be ascertained. This question is one of the greatest importance, upon which the prognosis must entirely depend. The variety of the disease is next to be determined; whether the elementary lesions appear in a regular, definite manner, or whether the process inclines to irregularity and polymorphism.

It is well known that certain varieties of eczema usually run obstinate and long courses, while others tend to recovery after reaching a certain stage. Acute inflammatory eczema vesiculosum, for example, is apt to run a short and definite course, while, on the other hand, eczema papulosum is prone to be stubborn and chronic. The stage of the eruption is also to be taken into account, as well as the duration of the disease; further, whether it is a first attack or a relapse. It is, moreover, of the greatest moment to ascertain whether the disease be acute or chronic; whether the process tend to terminate spontaneously, or to run on indefinitely, with secondary changes.

In calculating the prognosis, the location of the eruption is also to be considered, for eczema of certain parts of the body is almost invariably obstinate. Upon the head and ears it is always troublesome, and often tends to be chronic. About the nose and mouth the erythematous variety is usually very unyielding. Eczema of the scrotum is likewise difficult to relieve; at times it is intensely rebellious. About the legs in old people, more particularly if complicated with varicose veins or ulcers, it is always more or less intractable.

Local Varieties of Eczema, their Diagnosis and Treatment.

Eczema may show itself upon any part of the body. No region is exempt. It may manifest itself upon a small portion of the body only, or it may involve the whole integument. When the entire surface is affected, leaving no portion of the skin free, it is termed ECZEMA UNIVERSALE, the variety

of the disease being in this event either erythematous or vesicular; so extensive a distribution of the disease, however, is of rare occurrence. Usually it appears in the form of one or more irregularly-shaped patches, varying in size from a small coin to the palm of the hand.

Eczema attacks certain regions of the body in preference. Inasmuch as it exhibits peculiarities of appearance and course as it is located upon one part or another, it will be necessary to give a description of the more common of these so-called local varieties of eczema. I shall, at the same time, speak of their differential diagnosis and special treatment.

Eczema Capitis.—Eczema is frequently encountered upon the head, especially in children, in the erythematous or pustular form. The former variety, as a rule, at once tends to take on a chronic course, and soon settles into that stage which is known as eczema squamosum. The patches are usually roundish, and may occur either singly or in numbers upon any part of the scalp. The disease may also involve the whole head, every part of it being similarly affected. The itching is generally very annoying.

The pustular variety is very common in children, and occurs also in adults. It either exists in the form of a few patches of pustules, occurring here and there, or, as is more apt to be the case, it takes possession of pretty much the whole scalp. The pustules usually appear in great numbers, for the most part about the hair follicles; they soon rupture, and the liquid oozing over the surrounding skin dries and forms thick, greenish-yellow crusts. As the process goes on and new pustules are produced, which undergo the same course, the crusts become thicker and more bulky, until in a short time the whole head is completely covered with a cap of crust. The hair becomes matted and caked, the sebaceous secretion collects, and soon, if the part be not frequently and properly cleansed, the head becomes exceedingly offensive. In this description we have a typical eczema pustulosum, which applies to adults as well as to children.

The disease may last a few weeks or years, according to circumstances. The itching is usually not so decided or so violent as in the other varieties; at times it is slight.

Accompanying severe cases of pustular eczema of the head it is common to observe marked enlargement of the subcutaneous glands of the neck; they often become very greatly swollen, and present a bunchy appearance. The condition occurs particularly about the back of the neck, where the hair ends, and also back of the ears. They are sympathetically affected, and increase and diminish in size as the disease is worse or better. They never suppurate, but continue until the eczema disappears. Small abscesses are often met with upon the heads of unhealthy children, which tend to complicate the original affection.

Pediculi are frequently found in connection with eczema capitis, especially in children, either as a primary cause or in consequence of the matted condition of the hair, constituting a favorable habitat for them. They are a very common source of the affection, especially in the heads of the poorly nourished and ill cared for, and their presence or absence should always be established at once. They are very apt to escape notice, owing either to the fact of their not being numerous, or to long and thick hair, which may conceal them. Their eggs, or nits, however, are usually to be found clinging to the hairs, quite remote from the scalp. When present, pediculi are exceedingly mischievous, and call for active handling.

The diagnosis of eczema capitis is at times difficult; it may be confounded with psoriasis, seborrhœa, favus, syphilis, and tinea tonsurans.

Eczema may often be distinguished from psoriasis by its tendency, during some period of its course, to show moisture; psoriasis is never moist. In eczema the edges of the patches are not abrupt, but fade away into the healthy skin; in psoriasis the patches have defined borders. Eczema is apt to show crusts, if there has been any fluid exudation, or small, fine scales if in the squamous stage; psoriasis presents the typical dry, thick, whitish, mother-of-pearl colored scales. Eczema may or may not involve the head alone; psoriasis of the head usually shows signs of its presence upon other regions of the body. Eczema of the head commonly occurs in the debilitated; psoriasis usually in the robust. Eczema

of the head is apt to be much more itchy than psoriasis. In doubtful cases, the general history and course of the affection may be of service in arriving at a diagnosis.

Eczema and seborrhœa very commonly bear a close resemblance to each other. Eczema is prone to occur in patches; seborrhœa almost always invades the whole scalp quite uniformly. The fluid discharge and consequent crusts of eczema are to be remembered; in seborrhœa there is no discharge, the product being composed of dry, fine scales, of an oily nature, which cake together and adhere closely to the scalp. Eczema is a much more acute and rapid process than seborrhœa, often making its appearance suddenly; seborrhœa develops itself by degrees. Eczema is very itchy; seborrhœa not to the same extent; often not at all so. Patches of squamous eczema are red and infiltrated; those of seborrhœa are pale, the same color as the surrounding scalp, and are not infiltrated.

Eczema can only be confounded with tinea favosa when it is of the pustular variety; in such cases the two diseases may readily be mistaken for each other, as the crusts have points in common. In eczema, however, the crusts are the result of previous pustules; in tinea favosa the crusts are peculiar, having begun primarily as crusts. The crusts of eczema are greenish yellow: those of tinea favosa are bright yellow; moreover, they are cup-shaped, rounded, isolated, or, if crowded together, tend to preserve their original shape; they form very slowly, are perfectly dry, and are remarkably friable. The odor about an eczematous head is nauseous; about tinea favosa it is characteristic, and is like that of mice. The microscope establishes the diagnosis at once, the crusts of tinea favosa being composed entirely of fungus, whose elements may be readily discovered under a microscopic power of three hundred diameters.

Certain late forms of syphilis of the scalp may be mistaken for eczema, and in these cases the diagnosis is often difficult. The crusts may be very similar, but there are always signs of ulceration in syphilis, which are altogether wanting in eczema. The ulcers are observed to have abrupt edges, and to have unhealthy looking, grayish bases, with an abundant,

thick, creamy secretion. There is no itching of any moment in syphilis of the scalp; in eczema it is usually marked, and at times excessive. The odor attached to syphilis of the scalp is powerfully penetrating and disgusting; in eczema it is peculiar, but not intensely disagreeable. The history of the case will be of value in assisting the diagnosis.

Eczema erythematosum, or squamosum, may readily be confounded with tinea tonsurans. The patches of eczema, however, are not attended with loss of hair; in tinea tonsurans they are, the hairs being broken off uniformly about an eighth of an inch beyond the scalp, presenting an appearance as though the patch had been shaved and the hair had been permitted to grow again. The hair has a nibbled appearance. The patches of tinea tonsurans are always circular; in eczema they are usually roundish, but not well defined. The hairs in tinea tonsurans have a dried, twisted, brittle appearance, and come out in quantity; in eczema they remain firm, unless scratched out by the patient. The scalp has a dead, leaden, pale color in tinea tonsurans; in eczema it is reddish. The itching in eczema is great; in tinea tonsurans it is often slight. A history of contagion is almost always to be found in connection with tinea tonsurans.

The treatment of eczema capitis will depend upon the variety of the disease, upon the stage it is in, and upon the state of health of the patient. The age of the patient must also be taken into consideration. If the case be of the pustular variety, it is of the first importance to have the crusts thoroughly removed; this is best accomplished by soaking the head with olive or sweet almond oil, and then washing with warm water and abundance of soap. If the crusts are in great quantity and firmly adherent, it will be necessary to allow the oil to remain on the head all night, a flannel skull-cap and bandage being put over the head to keep it in contact with the crusts. The use of the oil and the cap should be persevered in until the head is perfectly free of crusts. In severe acute cases, where the pustules are appearing from day to day, the application of oil, in the manner just described, constitutes in itself a very excellent dressing, and may be employed at times when other remedies prove too

stimulating. Equal parts of glycerine and water, also, will be found useful; to be applied two or three times daily.

It is rarely if ever necessary to shave or to cut the hair. The operation should never be performed, except upon children, the value of a head of hair, especially for a woman, more than counterbalancing whatever slight benefit may be derivable from its removal. In young children and in boys, however, the hair in severe cases, especially if complicated with pediculi, may be cut close, in order that the part may be better attended to and the applications more thoroughly made. If nits be present in numbers, they, too, may be got rid of more promptly and effectually in this way. In inflammatory cases, lotio nigra may be sopped on the scalp for ten or fifteen minutes at a time, morning and evening, followed by an oily preparation.

Although ointments are objectionable as applications to the scalp, yet obstinate cases occur in which their employment seems so beneficial that it is well to sacrifice points of minor importance. An ointment composed of one drachm of the mild chloride of mercury to the ounce of simple ointment will at times be found of value, directions being given to use a very small quantity, and to have it rubbed in. In cases where washing and frequent cleansing appear to increase the inflammation, this proceeding had better be omitted for a few days, when the skin may be in a condition again to bear it. The ammoniated mercury in the form of an ointment, five or ten grains to the ounce, answers very well in cases where the disease is limited; should there be pediculi present, it will also serve as an excellent parasiticide. Ten grains of the red oxide of mercury to the ounce of vaseline, I have found most useful in many cases.

Patches of squamous eczema require a stimulating treatment similar to that employed upon other portions of the body. Liquid preparations are to be preferred to ointments, especially if the disease be extensively distributed. The most valuable remedies are the tarry preparations, which, in one strength or another, will be tolerated in the majority of cases; instances, however, are continually occurring where they cannot be employed, owing to some peculiarity of the

skin. One drachm of tar or of oil of cade to the ounce of alcohol, forms an admirable mixture for the more chronic cases, where stimulation is required. A milder preparation, composed of a half drachm or one drachm of oil of cade to the ounce of oil of sweet almond, is also frequently useful. Carbolic acid, with alcohol and castor oil, may also be employed, the strength varying with the condition of the scalp.

Eczema Faciei.—The face is a common seat of eczema. The disease here may be either acute or chronic. The erythematous variety is frequently encountered here in adults, in the form of patches about the forehead, cheeks, and other regions. The vesicular variety is also very common here, especially in children. Where the disease of the scalp is extensive, it is apt to spread itself somewhat over the forehead. The surface may be simply red, infiltrated, and slightly squamous, or it may show signs of moisture, with large masses of crust.

Eczema occurs much more frequently about the face in infants and children than in adults. In young children it is the most common seat of the disease. The nose, especially about the alæ and nares, is not an unfrequent situation for erythematous eczema in adults; it is usually very stubborn. The itching in these latter cases is always severe, and is the source of great annoyance. In connection with the nose, the upper lip may also be involved.

Eczema Labiorum.—The disease occasionally attacks the lips, either alone or in connection with other parts of the face. One or both lips may be affected. The symptoms observed are swelling, redness, heat, infiltration, slight scaliness, and fissures. The skin around the mouth may be the seat of the disease, or the red of the lips and mucous membrane themselves may be attacked. According as one variety or another of the disease exists, will the symptoms be somewhat different. The mouth may be very much contracted, and the lips partly glued together by the exudation; crusts may also be present. The mucous membrane is at times involved to such an extent as to be quite devoid of epithelium.

Care must be exercised in the diagnosis, for both herpes

labialis and syphilis possess features which may readily be confounded with eczema. Herpes always runs an acute course, lasting at most only a short period, and, moreover, shows itself in the form of a distinct group or groups of vesicles. Eczema invades a greater amount of surface, and is invariably obstinate in its nature. Syphilis occurring about the mouth has a predilection for the angles, where it is usually seen to be localized; the fissures are deep, and secrete a thick, puriform product.

The treatment of this variety of eczema is difficult, and is attended with much discomfort for the patient. Either very strong or very mild applications are found to be of most service. Potassa or nitrate of silver solutions, equal parts of carbolic acid and alcohol, tar ointment, and other heroic remedies, may be tried; or, on the other hand, it may be that more relief is afforded by the emollient ointments and lotions, such as equal parts of glycerine and water, oil of sweet almond, vaseline, and like preparations.

Eczema Palpebrarum.—This occurs quite often in children of a scrofulous disposition, and shows itself along the edges of the eyelids. The hair follicles are involved with small pustules, which soon burst, and are succeeded by crusts, which adhere tenaciously to the hairs and lids. The parts are swollen, red, and itchy, and, unless frequently cleansed, tend to glue together. Conjunctivitis may or may not be present. The local treatment must vary according to the intensity of the disease. If severe, the eyelashes should be extracted and the edges touched with a solution of potassa in water, ten grains to the ounce, as recommended by McCall Anderson. The edges should be carefully dried and the lid everted, a very small quantity on a delicate brush being applied. The alkali should be immediately neutralized with dilute vinegar or acetic acid. The operation may be repeated every few days or even every day for a time, after which a weak ointment of the nitrate of mercury may be used. In mild cases this ointment, weakened, may be employed alone with good result.

Strict rules as regards frequent bathing and careful cleansing are of importance, without attention to which no speedy

or favorable result is to be looked for. It is scarcely necessary to add that energetic internal treatment, with hygienic measures, is called for in almost all of these cases.

Eczema Barbæ.—When the disease attacks the region of the beard it gives rise to great disfigurement, pain, and trouble, and is always found to be exceedingly stubborn in its course. It is characterized by the rapid and extensive formation of pustules, which are situated in preference around the hairs. Crusts of a greenish or yellowish color are soon formed, which, matting the hairs together, adhere firmly to the parts. A portion only, or the whole, of the beard may become involved; the latter condition is usually observed to exist. The face is very much swollen, while the skin has an angry, dark red hue, showing the process to be a fierce one. Pain and intense burning and scalding sensations are present, rendering the affection one of the most distressing of all the forms of eczema. The disease may run an acute course, but much more frequently it takes on chronic action.

Eczema of the beard may be confined to the hairy portions of the face, or it may, and often does, extend to other regions of the face. In this respect it differs from sycosis non-parasitica, which is always limited to the hair follicles. As regards the general features, these two affections are quite similar, but the difference is always sufficiently clear when the various points of distinction are carefully viewed. Sycosis is an inflammation of the hair follicles only,—a folliculitis barbæ,—characterized by the formation of papules, tubercles, and pustules; the process is a deep one, always extending into the follicles themselves. In eczema the process is much more superficial, and extends over the surface, involving the follicles in its course exactly as in eczema of the scalp. Tubercles, so common in sycosis, are altogether wanting in eczema of the beard. The general history of the case, which is always of assistance in determining the diagnosis, will aid in distinguishing the two diseases.

Tinea sycosis also resembles eczema barbæ, but, remembering certain symptoms always found in the former affection, error can scarcely occur. Crusts are always abundant

in eczema; in tinea sycosis they are scanty. The crusts being removed, the surface of the skin in eczema is seen to be smooth; in tinea sycosis it is always very uneven, tubercular, and lumpy. This point I consider of the greatest value in diagnosis. The hairs of eczema are not to be plucked without pain; they are firmly seated in their follicles. In tinea sycosis they almost drop out of their own accord. The hairs themselves, examined either with the naked eye or with the microscope, are found to be very different; in eczema they are straight, with a luxuriant, glutinous mass attached to their roots, while in tinea sycosis they are always crooked, twisted, and dry. In eczema there exists no fungus; it is always present in quantity in tinea sycosis, and may readily be detected with the microscope. Eczema is not contagious; tinea sycosis is highly so, and its source may moreover often be traced to tinea circinata, either upon other parts of the body or to other members of the family.

The treatment, to be effectual, must be energetic and very decided; temporizing measures are to be deprecated.

After all crusts have been taken off by means of poultices or warm water and soap, the part is to be cautiously shaved. The first operation is apt to be painful, but after this, patients, as a rule, do not complain. The beard is to be kept clean, shaving being resorted to every day, or every other day, as may be necessary. This is a very important part of the treatment. The difficulty of bringing the remedies into immediate contact with the skin if the stiff hairs are permitted to protrude will be appreciated. If the process be very acute, the method of treatment by means of unguentum diachyli and soap, either castile or sapo mollis, may be directed, the disease being managed in the same manner as upon the non-hairy portions of the body. The applications may be employed continuously, both day and night, or only at night-time.

The parts are never to be rubbed vigorously, or the soft soap applied, unless the ointment is to be afterwards bound on. Unless the hairs are loose, from very extensive suppuration, depilation is never to be practised. In the chronic

stage, stimulating ointments are to be used; but they should be mild at first, until the excitability of the skin is ascertained. The prognosis is only favorable provided the patient is able to carry out the treatment faithfully; even under these circumstances the cure is often tedious.

Eczema Aurium.—The ears are a frequent seat of eczema, in both children and adults, and may be involved in connection with the disease upon contiguous regions, or they may alone be attacked. The erythematous, vesicular, and pustular varieties all occur here. In the acute stage the ears become very much swollen, are red and intensely hot, and the seat of severe burning and itching sensations. One or both organs may be attacked, more commonly both. The process often extends into the meatus, causing occlusion and temporary deafness. When there are vesicles or pustules, crusts form and envelop the whole appendage; in other cases, there is great thickening and desquamation in the form of flakes or large scales. The meatus, when attacked, is usually observed to be affected in this latter manner.

The diagnosis of eczema of the ears, and especially of the external auditory canal, is often overlooked, the condition being attributed to other diseases.

On account of the peculiar anatomical structure of the ears, the successful application of remedies is difficult; ointments, however, will be found most serviceable. The preparations of tar are of particular value, and are tolerated, in the majority of cases, after the acute stage has passed away. When the disease is located about the meatus, greater care is to be observed in the use of strong remedies, lest the application have an injurious effect upon the membrana tympani. The canal should be washed out by means of a suitable syringe, and cleansed of all crusts and scales. If the crusts and scales be in quantity and hardened, a drop of oil of sweet almond may first be introduced to soften the mass. The use of potassa solutions, followed by stimulating ointments, as suggested in the treatment of eczema of the eyelids, will be found of greatest service. If strong solutions are employed, especially by means of a syringe, care is to be exercised in protecting the drum and in counteract-

ing the effects of caustics. Eczema of the ears is usually obstinate in its course.

Eczema Articulorum.—The disease here generally selects the flexor surfaces for its seat; the axillæ, flexor surfaces of the elbow-joints, popliteal spaces, groins, are all favorite regions for eczema. The disease rapidly passes into the moist state, attended by maceration of the epidermis, which is kept up either by the motion of the parts or by the rubbing of opposite surfaces. The process is almost always symmetrical. In certain of the localities mentioned it passes into the condition known as eczema intertrigo, to be presently referred to.

Eczema Genitalium.—These organs are very frequently attacked, occasioning most distressing symptoms. In the male the scrotum and penis may be involved together, or either alone may be the seat of disease. The scrotum is the region commonly affected. Owing to the rich supply of lymphatics, it is apt to be enormously swollen and œdematous. Moisture, crusts, and painful fissures are prone to occur, followed by extensive thickening and the most intense itching. It is an extremely harassing form of the disease, and is always very obstinate in character.

The female organs suffer like symptoms. The labia are usually affected; the vagina may also be invaded. The disease may further extend to the surrounding parts, including the mons veneris and perineum. When the labia are attacked they are very greatly enlarged and exceedingly œdematous. They become dark red in color, very hot and inflamed, and ordinarily discharge freely from their surfaces; crusts form rapidly, and the opposing surfaces are apt to become glued together. At other times no discharge takes place, the parts being simply erythematous and slightly scaly. The itching is very violent, and occasions intolerable misery. The causes of the disease in females are often to be referred to uterine disturbances.

Eczema of the genital organs in either sex at times yields easily to treatment, and in other instances is in the highest degree intractable. Upon the scrotum, the method by means of sapo viridis and unguentum diachyli will often be found to

relieve the symptoms when other means have failed. Potassa solutions, a half drachm or even a drachm to the ounce, may be applied in place of the soap. But these powerful caustics are never to be used without counteracting their effects by means of water or dilute acids; bland ointments, moreover, should always immediately succeed their use. In the acute stage of the disease, lotio nigra may be recommended, to be followed by an ointment of oxide of zinc and calomel, a half drachm to the ounce.

Carbolic acid, in the form either of lotion or of ointment, is an invaluable remedy in many of these cases. It may be prescribed in the strength of ten or fifteen minims to the ounce, either of water or of ointment. Stimulating ointments may be in turn tried, for it frequently happens that one preparation will answer when another of a similar kind fails utterly in giving relief.

Eczema Ani.—This region is sometimes alone attacked; in other instances the perineum is also involved at the same time. The part becomes red, infiltrated, and thickened, either with or without fluid exudation. Fissures, often of great size, are present, and pain consequently attends each movement of the bowels. The itching and burning sensations are of a most persistent and annoying character. The disease is increased by the friction of the opposing nates, and by the heat, perspiration, and sebaceous secretion, which are usually present.

Great care should be exercised in diagnosing between pruritus and eczema. In the former there exists no eruption, except that produced by rubbing and scratching. Fissures may occur in pruritus, caused by the inordinate scratching and mechanical injuries of one kind or another, which those suffering from this affection are apt to inflict upon themselves with the hope of obtaining temporary ease. One or more of the characteristic symptoms of eczema will always be present, and will aid in distinguishing between the diseases.

The treatment is the same as that which has been given for eczema of the lips.

Eczema Intertrigo.—This has been spoken of when con-

sidering eczema as it appears about the joints. It occurs upon the inner surfaces of the nates, along the groins, beneath the mammæ, and in other localities where folds of skin naturally come in contact with one another. A moist, macerated surface is the result, which is greatly increased by movement, walking, and inattention to cleanliness. It is oftenest met with during warm weather.

Eczema of this description is not to be confounded with erythema intertrigo, or chafing, a hyperæmic affection, which is common in summer among people of all ages and classes. An erythema intertrigo, however, if neglected, may and often does pass into an eczema intertrigo.

The parts should be washed but seldom. Oxide of zinc and starch dusting powders or astringent lotions may be used to advantage, the opposing surfaces being separated, and, if possible, retained in this position by means of lint or cloths. But little exercise should be indulged in; complete rest, indeed, and entire attention to the treatment, will go far towards modifying the symptoms and relieving the affection.

Eczema Mammarum.—These portions of the body in the female are at times the site of a very troublesome eczema, which localizes itself, in a circumscribed form, about the nipples. One or both may be invaded. It is met with for the most part in women who are nursing, but it also appears in those who are not nursing, and in single women. It ordinarily assumes the vesicular variety, and is attended with crusts and extensive fissures. When exposed to the sucking of the child, great pain is experienced, so much that the mother is compelled to withdraw the infant either temporarily or permanently. The disease is always aggravated by nursing. The nipples in severe cases are observed to become retracted and to be sunken in the breast, the part being entirely covered with dried exudation and blood crusts. The affection is noticed most frequently in primiparæ. The diagnosis is not difficult. The mammæ, it will be remembered, are usually affected in scabies.

When practicable, the best and most expeditious treatment will be found in the sapo viridis and unguentum diachyli

method, already described. The parts, though apparently tender and sensitive, will tolerate the free use of the soap and friction in almost all cases, and after being properly dressed will feel greatly relieved. The applications may be made once a day,—at night,—or both morning and evening. Before nursing, the nipples should first be anointed with olive oil, to soften the ointment, and then washed with castile soap and water. After nursing, the ointment may be reapplied. Unless treated vigorously, eczema of the breasts is apt to be of a very refractory nature.

Eczema Umbilici.—This is met with either alone or in connection with the disease upon other parts of the body. The navel itself may be the only portion involved, or the surrounding skin, in the shape of a circular patch, may also be affected. Eczema here is usually moist and fissured.

A disagreeable odor is always connected with the exudation, and crusts form and adhere tenaciously to the skin. The diagnosis is sometimes rendered difficult by the fact that syphilis attacking this locality often closely simulates eczema. Ulcers, however, will be encountered in syphilis, and the smell, moreover, will be noted to be very offensive.

The treatment will depend upon the variety of the disease present, upon the extent of skin involved, and upon peculiarities in the formation of the navel.

Eczema Crurum.—The legs are among the most common localities attacked, especially in old people, both male and female. Eczema here gives rise to a chronic condition which may last for years. It appears in the form of the erythematous and vesicular varieties, which, however, soon lose their distinctive features, passing, as a rule, rapidly into the state known as eczema rubrum or madidans. One or both legs may be affected. Other portions of the body are not apt to be assailed at the same time; patients may have eczema of one or both legs for a very long period without showing any trace of the disease elsewhere. It is rare among young persons, but more common as age advances, while among middle-aged and old people its occurrence is extremely frequent. It shows itself in the shape of one or more patches, varying in size, seated in preference upon the

anterior surface of the limb. These patches ordinarily coalesce and form one large, continuous patch, involving the greater portion of the leg. When chronic,—the state in which it generally first comes under notice,—the leg usually presents one or the other of the following appearances. It may be deep red in color, covered in part or wholly with large, thick, yellow or brownish crusts, discharging here and there between the crusts the ordinary fluid, either clear or mixed with pus and blood. In places the skin is laid bare, the result of scratching, and shows an inflammatory, punctate, oozing surface. On the other hand, the leg may be red, without moisture or crusts, exhibiting a smooth, tense, shining, unbroken skin, in the form of patches, or, more commonly, one large patch. Both forms of the disease are, however, attended with infiltration, thickening, inflammatory symptoms, and itching.

Eczema of the leg is frequently associated with varicose veins, this imperfect state of the circulation being one of the common causes of the disease. Ulcers resulting from the breaking down of these veins are often present, and complicate the condition; they interfere, also, with the treatment.

The diagnosis is rarely obscure. The hypertrophic state of the tissues known as elephantiasis Arabum is at times accompanied by eczema; the eczema, however, will be recognized as being secondary to the original trouble. If varicose ulcers happen to be present, they are to be distinguished from syphilitic ulcers, which often show themselves in this region.

The treatment will depend upon the variety, stage, and extent of the disease, and the surroundings of the patient.

In cases of moist eczema, unquestionably the most successful plan of treatment is that consisting in the employment of sapo viridis and unguentum diachyli, already described. It is in these very cases that the most favorable results follow this treatment, provided it be properly carried out. Where the disease is not in a discharging state, other methods involving less time and trouble may be substituted, and sometimes with equal success. The various

remedies referred to in considering the general treatment of eczema may also be prescribed, as may appear suitable to the case.

It is very necessary where there are varicose veins, or where there is tendency to swelling, that the limb be properly bandaged. The bandage should be applied both for the purpose of retaining the dressings in their place, and for supporting the leg and relieving the congestion. This support will prove of great comfort to the patient, and will materially hasten the cure. Ulcers, when present, may receive the same management as the eczema, or they may demand special handling.

Eczema Manuum.—Owing to the peculiar anatomical formation of the skin about the hands, as well as to the great exposure to which they are subjected, they are very frequently the seat of disease. One or both hands may suffer; ordinarily both are affected. The feet may be attacked at the same time, though this rarely occurs. The feet are not particularly liable to eczema. All of the varieties of eczema are encountered upon the hands; erythema, vesicles, papules, and even pustules are here frequently seen in their typical form. Fissures, sometimes of great size and depth, are usual about the knuckles, and upon the backs and also the palms of the hands. They constitute a very troublesome and painful lesion, and at times are hard to manage, on account of the constant motion which is necessarily taking place. The hands are subject to attacks of acute as well as chronic eczema. All of the fingers are usually more or less involved, especially upon their lateral surfaces; in cases of vesicular eczema of the sides of the fingers, the entire epidermis is at times undermined by fluid, forming bullæ.

In connection with chronic eczema of the fingers, the nails will also frequently be observed to be diseased.

The causes of eczema of the hands are numerous, and embrace all those irritating substances with which the hands are apt to come in contact in certain occupations. Chemists, workers in alkalies or acids, bricklayers, bakers, grocers, cooks, and others, who have their hands continually exposed to the action of poisons, are liable to be attacked. Among

the various substances none act upon the skin so deleteriously as alkalies.

As scabies always affects the fingers in preference, the diagnosis between eczema and this disease is very often extremely difficult. The presence of the acari scabiei, as proved by the burrows, which are to be sought for on the lateral surfaces of the fingers, is at times necessary to determine the diagnosis. In eczema the vesicles are apt to be numerous, and crowded upon a given portion of the hand; in scabies they are more scattered, and are found alike over all the fingers. The vesicles and pustules of eczema are quite small; in scabies they are of variable size, and often large. The vesicles of eczema rupture shortly after they form, especially upon parts where the epidermis is thin; in scabies they often remain whole until disturbed by scratching or other mechanical means. The vesicles of scabies commonly exhibit a fine, dark, irregular line, made up of points, through their tops, being the original burrow in the epidermis which has been raised by the formation of the vesicle. This is characteristic of the disease, and is of course wanting in simple eczema. The peculiar distribution of scabies over certain regions of the body will, with the above features, enable one to make the diagnosis with certainty.

Vesicular eczema of the hands may be confounded with dysidrosis.

Eczema of the hands and fingers is particularly intractable. In the treatment, the cause is first of all and at once to be removed. The hands must be protected from all irritating influences; they should be kept out of water; the use of soap for washing purposes should be prohibited; exposure to heat should be avoided; gloves or other coverings should be worn, to guard them from the air; and, finally, every assistance to recovery should be afforded them. Each finger should receive proper attention; the dressings should always be carefully applied.

Eczema Palmarum et Plantarum.—Eczema presents the same features in both of these regions. Owing to the thickened state of the epidermis it gives rise to peculiar lesions, which at times obscure the diagnosis. Great infiltration,

thickening, callosity, hardness, dryness, and fissuring, usually mark eczema of the palms and soles. It is always a chronic condition, and frequently lasts a long while. The fissures are often very deep and so painful that the patient is unable to use his hands, or, if upon the soles, to walk. One or both palms or soles may be affected, either alone or in connection with other parts. At times palms and soles are simultaneously attacked.

The diagnosis is, as a rule, attended with difficulty, inasmuch as both psoriasis and syphilis are frequently localized upon these regions, and often bear a close resemblance to eczema. Eczema differs from psoriasis in the following points. The fissures of eczema are apt to be moist and bloody; in psoriasis they are dry, and show but little tendency to bleed. The patches of eczema are generally larger and more diffused than those of psoriasis. In psoriasis patches, the edges always terminate abruptly; in eczema they pass gradually into the healthy skin. The color of psoriasis is usually of a deeper hue than that of eczema. The scales, moreover, of psoriasis are whitish in tint, while in eczema they are yellowish. The scales of psoriasis are also larger and thicker than those of eczema.

The itching is always more marked in eczema than in psoriasis. The presence of either disease on other parts of the body will be sufficient to clear away doubt.

Syphilitic manifestations occasionally show themselves on the palms and soles, and must be distinguished from eczema. The infiltration of syphilis is of a firmer nature than that of eczema; it also extends deeper into the tissues, and gives the sensation of there being a compact deposit in the skin. Eczema is usually much more uniformly diffused than syphilis; the patches of syphilis are apt to be smaller, and more circumscribed, and to have a tendency to spread on the periphery. Syphilis, as a rule, does not itch; eczema always does. In syphilis the line of demarcation between disease and health is always sharply drawn. The history may be of some assistance in determining the nature of the lesion.

Eczema Unguium.—Eczema not unusually assails the nails. One, two, or all may be affected. They, however, are not

often involved alone, but commonly in connection with the fingers. The disease is characterized by roughness, want of polish, unevenness, and a punctate or honey-comb appearance, which latter sign, however, belongs also to psoriasis. The nail becomes depressed, particularly at its root, at which point its proper nutrition appears to be arrested. The free edges are often thin, ragged, and broken. The nail may remain in its diseased condition until it by degrees recovers its health, or it may be cast off and regenerated.

Local treatment is to be directed to the root rather than to the nail itself.

HERPES FEBRILIS.

Syn. Hydroa Febrilis; Fever Blister.

HERPES FEBRILIS IS AN ACUTE, INFLAMMATORY AFFECTION, CONSISTING OF ONE OR OF SEVERAL GROUPED VESICLES, OCCURRING FOR THE MOST PART ABOUT THE FACE AND GENITALIA.

Symptoms.—It is an acute disorder, seldom having a duration of more than a few days. The eruption is often preceded and attended by symptoms of general malaise and slight pyrexia. This variety of herpes may occur either alone or in the course of a number of serious febrile diseases, as pneumonia, pleurisy, and the various fevers. The vesicles appear in the form of a cluster; they are always few in number, rarely showing more than three or four distinct lesions. They are pin-head to split pea sized, and contain a clear watery fluid, which soon becomes somewhat thick, and desiccates in small brownish crusts. If rubbed or picked, an excoriation takes place, which cicatrizes without leaving a permanent scar. The appearance of the vesicles is preceded by a feeling of heat and distress in the region, together with marked swelling and redness. These symptoms decline with the advent of the eruption. The affection is very apt to recur from time to time in the same individual.

There are two distinct regions in which febrile herpes generally shows itself, from which circumstance the names herpes facialis and herpes progenitalis have arisen.

HERPES FACIALIS.—This may occur upon any part of the face, although it is commonly encountered about the lips,

and especially the red of the lips; hence the name HERPES LABIALIS. It is frequently seen upon the alæ of the nose; more rarely it is observed upon other regions of the face, and the auricles. The mucous membrane of the mouth, and the tongue, are also not infrequently the seat of this form of herpes. Here the vesicles rupture early, through maceration, and therefore are seldom observed as vesicles, but rather in the form of patches, and shreds of epithelium. Upon the lips the vesicles are usually small, few in number, and confined to one cluster. The upper lip is more commonly affected, although the lower one is likewise often involved. The vesicles may either remain single or may coalesce, forming a vesicular patch, which terminates in a brownish crust. No ulceration takes place, and consequently no scars result. Herpes facialis is usually caused by some febrile disturbance of the system. It is seen in connection with slight fevers and colds, and also attending more serious affections, as intermittent and typhoid fevers, and other disorders.

HERPES PROGENITALIS.—Upon the male this is observed chiefly about the prepuce, which occurrence has given rise to the term HERPES PRÆPUTIALIS. It may also occur upon the glans and upon the dorsum. In the female it shows itself upon the labia or upon the mons veneris. The attack is usually preceded by a feeling of uneasiness or slight burning in the part, followed by a small group of vesicles; their appearance is generally quite sudden. As a rule, only one cluster is seen. The smarting and burning sensations are at times marked, and occasion annoyance. The parts are apt to be red and swollen. The vesicles frequently run together and form small patches, which become covered with a crust. Upon the inside of the prepuce and upon the inner surface of the labia, the vesicles commonly break down and result in excoriations, which resemble superficial ulcers covered with a whitish deposit. Occurring here, the affection is liable to be mistaken for one form or another of venereal disease. The lesions are occasionally very much like those of chancroid, and great care is in these cases necessary in order to make the correct diagnosis. The course of herpes,

however, always enables the observer to come to a definite conclusion upon this point. A few days suffice to determine the question, for in this time herpes will have disappeared spontaneously, whereas a venereal ulcer will have increased in size. Where there is doubt, three or four days should be allowed to pass before pronouncing positively upon the nature of the trouble. Herpes progenitalis is exceedingly prone to recur repeatedly throughout life.

Treatment.—No active treatment is called for. The lesions should always be guarded from rupture and laceration. A simple cerate or ointment may be used to protect the vesicles from excoriation. Camphor cerate with glycerine will be found an agreeable application. A lotion consisting of equal parts of glycerine and orange flower water also makes a grateful preparation.

Where attacks frequently recur, the general condition should be inquired into. The bowels should be carefully regulated.

Herpes Gestationis.—Under this name Milton* and Bulkley† have described a rare affection of the skin, peculiar to pregnancy, and which they regard as a variety of herpes. It consists in the development of erythema, papules, vesicles, and bullæ. The vesicles predominate. They are attended with intense itching and burning sensations. The lesions are commonly grouped, but do not follow any nerve-tracts. The vesicles and bullæ vary in size; they may be pea sized or as large as a walnut. They usually first appear on the extremities, and afterwards involve other portions of the body. It is an affection directly dependent upon the gravid state of the uterus. It may appear at any period of gestation up to the seventh month, and when present usually con-

* The Pathology and Treatment of Diseases of the Skin, p. 205. London, 1872.

† American Journal of Obstetrics and Diseases of Women and Children. Feb. 1874.

Wilson was the first to mention the disease. He speaks of it as "herpes circinatus bullosus." (Diseases of the Skin, p. 294. London, 1867.) Hardy, under the name of "pemphigus prurigineux," also mentions the affection (Leçons sur les Maladies de la Peau, p. 137. Paris, 1863).

tinues until after delivery. It does not terminate in its course immediately after delivery, but slowly retrogrades by the development of fewer and fewer vesicles; it is apt to recur with succeeding pregnancies. It is at times accompanied by urticaria, neuralgia, and other neurotic troubles. Under the name of HERPES IMPETIGINIFORMIS—so named on account of the impetiginous appearance of the crusts—Hebra* has described a similar, although different, form of eruption, occurring in the course of pregnancy, of which he had seen five examples. The lesions consisted of grouped vesicles, situated upon inflamed bases, which in all the cases observed began about the genitalia, subsequently diffusing themselves, by successive crops, over the body. The disease was attended with great prostration, rigors, and intense fever, and in four cases out of the five terminated fatally.

Neumann, in the last edition (1873, p. 188) of his work upon diseases of the skin, describes an affection which he considers a variety of herpes, of which he had encountered five examples. It began with the formation of small pale-red papules, which in the course of a few days increased peripherally, their centres becoming bluish-white and vesicular. As these papular patches spread, new vesicles formed on their margins, while those in the centre dried up. The vesicles were pin-head in size, and were but very slightly raised above the level of the skin. The patches were of the size of coins, were more or less circular, and were inclined to coalesce, forming gyrate forms. The course of the disease was slow, lasting months, and by degrees invaded large portions of the body. It was attended with violent itching. On the palms and soles it resembled vesicular eczema. On some parts of the body thick and adherent crusts formed.†

---

* Wiener Med. Wochenschrift, No. 48, 1872. Abstract to be found in the Lancet, March 23, 1872.

† Since writing the above, Neumann has described this disease more in detail, under the name of Dermatitis circumscripta herpetiformis. Vierteljahresschrift für Derm. und Syph., erstes Heft, p. 41, 1875.

HERPES ZOSTER.

Syn. Zona; Cingulum; Ignis Sacer; Zoster; Shingles; *Germ.*, Gürtelkrankheit; Feuergürtel; *Fr.*, Zona.

HERPES ZOSTER IS AN ACUTE, INFLAMMATORY DISEASE, CHARACTERIZED BY DISTINCT GROUPS OF WELL-FORMED VESICLES SITUATED UPON INFLAMED BASES, ACCOMPANIED BY NEURALGIC PAIN.

It is an acute disease, lasting usually from ten days to three weeks from its commencement to its termination, and is accompanied by well-marked symptoms. The disease commences by neuralgic pains, which are experienced for several days before any sign of eruption shows itself. These pains are usually of a severe nature, and involve both the deeper and the more superficial structures of the region in a manner altogether disproportionate to the amount of eruption which follows. An inflamed condition of the skin is now observed, attended with heat and burning sensations, and groups of vesicles appear over the region. They are of the size of pin-heads and split peas, usually separate one from the other, and are situated on a red surface. They may be so crowded together as to coalesce, when they form irregular patches. The vesicles continue to appear rapidly, one group after another, until the fourth or fifth day, when the eruption is at its height; it stands in this condition for a few days, when it is seen to decrease, the vesicles drying up, until, at the end of ten days or longer, nothing remains but dry, brownish crusts, which soon drop off, leaving scars in the skin, more or less pronounced according to the severity of the attack. The vesicles do not burst as in eczema, but remain tense throughout their course. They contain a clear yellowish fluid, which, as the disease declines, gradually turns into a thicker fluid, ultimately becoming puriform. When at its height the eruption is very perfect in its anatomical characters, the vesicles being well shaped, fully distended, with translucent, yellowish contents, and seated upon a bright inflammatory patch of skin. They always tend to group, and are usually closely crowded together; where the disease is extensive, a number of separate groups may be observed.

Herpes zoster may also run an abnormal course, the above

symptoms being only in part present. The vesicles may not be characteristic, appearing rather as aborted vesicles; on the other hand, small bullæ and pustules may occasionally show themselves. There are also certain cases in which the whole process is checked in its course just as the symptoms upon the skin are about appearing.

The neuralgic pain may vary exceedingly in intensity; it is slight at times, and in other cases of an excruciating nature. The amount of eruption in zoster is never in any manner proportionate to the amount of pain.

The disease attacks various regions of the body, but has marked preference for certain parts. It is in all cases found upon nerve-tracts, and is almost invariably confined to one side of the body. According to the region upon which the disease shows itself, it is termed ZOSTER CAPITIS, Z. FACIEI, Z. NUCHÆ, Z. BRACHIALIS, Z. PECTORALIS, Z. ABDOMINALIS, Z. FEMORALIS. To express the precise locality invaded, other terms indicative of the anatomical region are also employed, as, for example, CERVICO-BRACHIALIS, DORSO-PECTORALIS, etc.

About the head, it is encountered both on the scalp and on the forehead. The eruption usually makes its appearance on the course of the supra-orbital nerve, passing upwards over the scalp. The eye is apt to become involved, and the pain to be excessive. There is frequently injection of the conjunctiva, followed by general and profound disturbance of the organ. The disease may also start at the back of the head, spreading forward and occupying the whole side. The face alone, especially the cheek, may also be the seat of the disease. Likewise the side of the neck, on a line with the second and third cervical vertebræ, extending forwards towards the larynx.

In zoster brachialis the eruption usually first makes its appearance in the region of the lower cervical vertebræ, passing over to and down the arm to the elbow, or even farther. The flexor surface is commonly attacked. This is quite a frequent seat of the disease.

The chest is another region often involved, the vesicles forming parallel with the ribs. The intercostal nerves here determine the track of the eruption. Zoster in this locality

generally gives rise to great pain and difficulty in breathing; in its early stage the distress may be mistaken for incipient pleurisy. The abdominal region, supplied by the lower dorsal and lumbar nerves, is very similarly affected. The two last named regions are the most common local varieties of zoster, and have occasioned the name by which the disease is known.

Zoster also occurs on both the anterior and the posterior surface of the thigh; the buttock is quite a frequent seat. It rarely occurs below the knee. It is also met with about the genitalia.

The course of herpes zoster is always an acute one, terminating in recovery. The process is not infrequently attended by a certain amount of ulceration, and subsequent cicatrices, which may remain for life. The affection rarely occurs twice in the same individual. It is not contagious. Neuralgic pains are not infrequently present about the seat of the eruption long after all traces of the vesicles have disappeared. The disease is met with in both sexes, and in children as well as in adults; it is seen in the very young and also in the aged.

Etiology.—The causes which occasion the disease are involved in obscurity, although clinical experience teaches that their nature may be quite different. It is, however, well recognized that in all cases the eruption is dependent upon a peculiarly irritable state of the cutaneous nerve trunks and branches. The cause producing this condition may be found in various influences. Atmospheric changes, especially sudden cold, are known to call forth attacks of zoster. Exposure to damp winds or wet weather, and the checking of profuse perspiration, have been observed to act as causes. Mechanical violence to a part, and unusual exertion, have also been noted to give rise to the eruption. Bärensprung* was one of the first who considered the cause to be in the nerves, and that the inflammation was conducted through them to the skin. He was further of the opinion that the disease was

---

* Die Gürtelkrankheit, Charité-Annalen, ix. p. 114. Berlin. This paper is a most valuable contribution to the subject.

to be looked upon as belonging to that class of affections which are influenced by the weather.

Pathology.—The writer just mentioned was also the first to present the view that the disease was one of the ganglionic system. He determined the primary seat of the affection to be in the spinal ganglia. In cases of zoster of the trunk he found the intercostal nerves thickened and injected, with their spinal ganglia softened and altered in structure, the inflammation always extending from the ganglia to the periphery. Danielssen* also demonstrated a marked reddened and swollen condition of an intercostal nerve, accompanied by an infiltration of the neurilemma. Weidner† records changes not unlike those observed by Bärensprung.

Wyss‡ gives a very accurate and valuable description of the changes encountered in a case which died in the early stage of zoster involving the eye and forehead. The first branch of the trifacial nerve was seen to be broader, thicker, and softer than that of the opposite side of the body, and had a reddish-gray color. The individual nerve bundles were separated by a reddish-gray, soft tissue containing numerous vessels. The nerve was surrounded by an extravasation of blood along its course from the orbit to the ganglion Gasseri, this body being considerably larger and softer than normal. It was, moreover, not yellowish-white, but bright red in color. The nerve was healthy at its origin from the brain, but was seen to become diseased as it entered the ganglion, and to contain numerous small blood extravasations. The microscopic examination of the skin showed the papillæ and corium to be largely infiltrated with cells. The rete was intact in some places, but entirely destroyed at other points. These facts corroborate the original opinion of Bärensprung, that the disease consists in an inflammation of the spinal ganglia carried forward along the nerves to their termination upon the skin.

---

* Bärensprung, loc. cit., p. 119.

† Berliner Klin. Wochenschrift, No. 7, 1870. Archiv für Derm. und Syph., 4 Heft, 1870.

‡ Archiv der Heilkunde, iv. u. v., 1871. Archiv für Derm. und Syph., 3 Heft, 1872.

Biesiadecki,* and Haight† of New York, have both demonstrated that the vesicles are formed in the same manner as in eczema. Biesiadecki found the papillæ considerably increased in size and filled with new cells, which penetrated into the corium and even into the subcutaneous tissue. The bloodvessels of the papillæ were enlarged and distended with blood. Numerous spindle-shaped cells were seen to come out of the papillæ and to force themselves into the mucous layer, separating themselves freely, so that the epithelial cells were compressed and made to assume the form of narrow perpendicular bands. This network, therefore, consists of the isolated and compressed cells of the middle and upper layers of the rete Malpighii, together with cells from the ducts of the sweat glands and hair follicles. These views correspond with those of Auspitz and Basch‡ and Ebstein.§ The network referred to, according to Biesiadecki, is filled with connective-tissue cells which have made their way up through the mucous layer. Haight found numbers of round, nucleated cells in and around the neurilemma; they were probably pus cells. He also discovered the nerves to be swollen, the medullary substance softened, and the axis cylinder eccentrically increased in size.

Diagnosis.—The characters of herpes zoster are usually so well marked that no trouble should arise in the diagnosis. The premonitory symptoms of neuralgic pain in the part about to be the seat of the eruption must always point strongly to this affection. The appearance of the vesicles, in distinct groups, upon a highly inflammatory base, and the tendency to preserve their form intact, are characteristic. The vesicles are larger than those of eczema, varying in size from a pin-head to a split pea. The vesicles of eczema always rupture, and ooze forth a fluid which rapidly forms crusts; there is no discharge in zoster. The subjective symptoms of zoster are decided pain, smarting, and heat; in eczema there is always positive itching.

---

* Beiträge zur Phys. und Path. Anat. der Haut, p. 245. Wien, 1867.

† Sitzungsberichte der Kais. Akademie. Wien, 1868.

‡ Virchow's Archiv, Bd. xxviii. p. 337.

§ Virchow's Archiv, Bd. xxxiv. p. 598.

Erysipelas should never be confounded with herpes zoster. The line of demarcation about erysipelas, the deep reddish color of the inflammation, the constitutional symptoms, together with the absence of grouped vesicles and of neuralgic pain, serve to distinguish it from zoster.

Herpes zoster is to be diagnosed from the simple febrile form of herpes seen about the face and genitalia, chiefly by the presence of pain, and the tendency it has to occur once only in a lifetime. Febrile herpes inclines to repeated attacks in the same individual. It also confines itself to certain regions, as the lips, nose, and genitalia; herpes zoster is not commonly encountered in these localities. In febrile herpes there is usually only one group of vesicles; in zoster several distinct groups ordinarily occur. Zoster is almost invariably unilateral; herpes febrilis often shows itself on both sides or in the median line itself.

Treatment.—It will be borne in mind that the affection runs an acute course, terminating in spontaneous recovery; also, that the course is usually a benign one as regards the result, except in those cases where sensitive regions of the body, as the eye, are involved.

Internal medication has not heretofore proved of much avail in influencing the course of the eruption, although, according to Ashburton Thompson* and Bulkley,† we have a valuable remedy in the phosphide of zinc, which has recently been recommended by the former of these gentlemen in doses of one-third of a grain, to be given at the commencement of an attack and to be repeated every three hours. It is said to control the pain and to abort the eruption in a remarkable manner. My own experience with the remedy in these cases is as yet too limited to warrant the expression of an opinion.

General symptoms, however, may be combated as they present themselves. Saline laxatives or effervescing draughts may often be agreeable to the patient in the first stage of severe zoster. Opiates, in particular morphia, in the dose

* Glasgow Medical Journal, October, 1874.

† Archives of Dermatology, January, 1876, p. 158.

of a quarter grain or less, to suit the age and habit of the individual, given at night, are useful towards the third or fourth day, when the pain is usually so great as to prevent sleep. In violent and extensive cases a course of tonic treatment, consisting either of iron, arsenic, the mineral acids, or quinine, may be beneficially prescribed, for the purpose of restoring the health, which not infrequently has become considerably impaired.

External treatment is of importance and value. The parts should be protected from the irritation of the clothes and from other external influences; the vesicles should not be punctured, but preserved as far as possible intact. Various dusting powders, containing camphor and morphia, may be advantageously employed. These should be freely sprinkled over the part and covered with a bandage. Anodyne ointments may also be used; those containing powdered opium, a drachm to the ounce, will be found of greatest service. Anodyne lotions containing opium and camphor are also to be recommended. Carbolic acid, in the form of a lotion, ten grains to the ounce of water, may be employed with advantage in certain cases. A preparation of value is found in flexible collodion with morphia, in the strength of ten grains to the ounce; to be painted over the eruption several times in the course of the day. Great relief is often experienced from this procedure. The subcutaneous injection of the sulphate of morphia is another desirable method of relieving the pain, from three to six minims of Magendie's solution (gr. xvi, ad f℥i) being used for each injection; it should be given at night. One of the most successful plans, however, of treating zoster is by means of the galvanic current. This has been recently brought to the notice of the profession by several experimenters, and offers a prompt and effectual means of relief. The constant current will be found of most service, and is to be applied directly to the seat of the eruption and over the course of the nerves by sponge electrodes. I have found from five to ten cells to be sufficient in the majority of cases, the application being continued for from fifteen to thirty minutes at each sitting, and repeated every day, or even twice a day, until recovery takes place. Central

galvanization is also recommended. There is no doubt that both the pain and the eruption may be arrested by the timely use of the current, and even after the disease is at its height, great ease may be experienced from its application. The after-pains of zoster are also successfully treated by the galvanic current.

Prognosis.—A few weeks usually suffice for the spontaneous cure of zoster, although severe cases may linger a month or longer before disappearing. Occurring about the head, the pain is always intensely neuralgic and violent. Zoster of the orbital region may seriously involve the eye. Apart from this, no bad results follow the disease, excepting scars, which are at times quite unsightly.

HERPES IRIS.

Syn. Hydroa; Herpes Circinatus; *Germ.*, Herpes Iris; *Fr.*, Hydroa Vésiculeux.

HERPES IRIS IS AN ACUTE, EXUDATIVE DISEASE, CHARACTERIZED BY ONE OR MORE GROUPS OF VARIOUSLY-SIZED VESICLES ARRANGED IN THE FORM OF CONCENTRIC RINGS, ATTENDED BY THE DISPLAY OF PECULIARLY VARIED COLORS.

Symptoms.—The patches vary in size from a small coin to several inches in diameter, and are made up of a number of distinct vesicles, which arrange themselves side by side so as to form a complete and often perfect ring. Two, three, or more of these rings exist as a series, extending outwards towards the periphery of the patch. In size the vesicles vary from a pin-head to a split pea, or larger; they may be discrete or confluent, more often the latter. In number the patches also vary; several or a dozen may be present. Between the vesicles the skin is pinkish or reddish and somewhat raised above the surrounding skin. The vesicles contain a yellowish watery fluid, which, after a day or two, dries, forming a slight brownish crust. The oldest vesicles, those in the centre, desiccate first, even while new ones on the periphery are being produced.

The affection first shows itself as one or more papules around a central point; these rapidly change into vesicles, which assume the shape of a circle. No sooner has one ring

been completed than another is observed to appear immediately outside and around it, and shortly another one around this, until three or four may be distinguished. These may all exist quite perfectly at the same time, or they may be seen in their various stages of development. Usually, the original and central vesicles will have, in a great measure, disappeared by the time the last crop has formed. Thus it will be noticed that the appearance of a patch of herpes iris is quite remarkable.

The general hue of the eruption is peculiar. The colors are extremely varied and delicate in tint, and pervade the whole patch. It is from this circumstance that the affection has received the name iris. All the colors of the rainbow, subdued in tone, may usually be observed at one time or another in the course of the disease, red, yellow, and violet shades perhaps predominating. The disease is an acute one, and is characterized by the successive appearance of the patches. These continue to come out for one or two weeks, when the process usually ends spontaneously.

Certain regions of the body are attacked in preference; the backs of the hands and feet, and the arms and legs, are the parts commonly involved. Marked symptoms of general disturbance are rarely present at any time during the disease, the patient ordinarily not complaining of any disorder apart from the eruption. Itching or burning sensations may exist; frequently they are absent.

The course of the affection, anatomically considered, may at times be abnormal. Blebs may occur in the place of vesicles, or the vesicles may be confluent, and form irregularly-shaped blebs. In other cases, the eruption may barely arrive at vesiculation. The general features, however, are the same, and the disease may always be recognized. The disorder possesses a tendency to recur in the same person. It is one of the rarer diseases. It is not contagious.

Etiology.—Herpes iris occurs chiefly in the spring and autumn, April and October, especially the former, being the months during which it is usually encountered. It is observed in both men and women, but is more common in children and young people than in adults. But little is

known concerning the nature of this curious affection. There is, however, sufficient clinical proof to demonstrate that, although quite formidable in its appearance, it is in reality a simple disorder. The causes are as yet unrecognized.

Pathology.—The disease undoubtedly bears the closest relationship to erythema multiforme. It is indeed to be viewed as but an advanced stage or a modification of this disorder. From the several opportunities which I have had of observing the course of the complaint, it seems to me clear that they are one and the same process, only terminating in a different manner: in one individual, in an erythema; in another, differently constituted, passing on to vesiculation.*

The objective symptoms, however, are so peculiar and of so different a character from erythema multiforme, as to warrant placing the affection among the forms of herpes rather than with the erythemata, particularly as the lesions are of a markedly herpetic nature. It is a simple, benign, exudative process of a mild type.

Diagnosis.—The presence of the vesicles serves to distinguish it from erythema multiforme. From herpes zoster it may be known by the absence of all neuralgic pain and of burning. The distribution and arrangement of the vesicles are, moreover, altogether different. In herpes iris they are arranged in rings, one outside the other; in zoster they are clustered or grouped irregularly. The regions attacked are, moreover, not the same; the hands and feet are rarely if ever the seat of zoster.

The affection is most liable to be mistaken for pemphigus. But the lesions are unlike those of pemphigus in their size, formation, and course, and in their arrangement. The peculiar coloring of a patch of herpes iris is also always sufficient to distinguish it from pemphigus. The diseases cannot be confounded if their general features are borne in mind. The arrangement of the vesicles, and the absence of marked itching, are sufficient to separate herpes iris from eczema.

---

* See Erythema Multiforme, p. 143.

Treatment.—No method of treatment has any effect in changing or arresting the course of the disease. Its duration varies from a few days to several weeks, when it terminates in recovery. If any medicines be given, they should be of a simple nature, as may seem indicated in the case. Saline laxatives may be ordered, especially where there is a tendency to constipation. Locally, the part should be protected from the clothing; the vesicles kept intact, and dusted from time to time with a powder of oxide of zinc. If excoriations exist, the oxide of zinc ointment may be applied upon a cloth and bound to the limb with a bandage.

Prognosis.—This is always favorable. The patient may be assured that the eruption will disappear in the course of a few weeks. Pigment stains may be left, but these are soon reabsorbed. No unpleasant symptoms remain.

MILIARIA.

Syn. Miliaria Rubra; Miliaria Alba; Sudamina (Hebra); Lichen Tropicus; Prickly Heat.

MILIARIA IS AN ACUTE, INFLAMMATORY DISORDER OF THE SWEAT GLANDS, CHARACTERIZED BY NUMEROUS PIN-POINT AND MILLET-SEED SIZED PAPULES OR VESICLES, ATTENDED BY PRICKING, TINGLING, AND BURNING SENSATIONS.*

Symptoms.—Miliaria may show itself either as a papular or as a vesicular eruption; in many cases both papules and vesicles are present, although usually one or the other form of lesion will predominate. The two varieties call for separate description.

MILIARIA PAPULOSA.—This variety, known as LICHEN TROPICUS or PRICKLY HEAT, commonly commences with the formation of numerous minute, acuminated, bright red papules. The lesions are exceedingly small, pin-head and millet-seed in size, and very slightly raised above the level of the skin. They occur in great numbers; are discrete,

* Miliaria does not include the disease known under the names of Miliary Fever, Miliary Eruption, etc., a complete account of which may be found in Ziemssen's Cyclopædia of the Practice of Medicine, vol. ii. New York, 1875.

although often crowded together; and are usually dispersed, without order in their arrangement or distribution, over a considerable surface. They make their appearance suddenly, and are preceded by and accompanied with more or less sweating. Vesico-papules and vesicles are usually seen here and there between the papules, rendering the affection somewhat multiform as regards its lesions.

MILIARIA VESICULOSA.—In the place of papules, vesicles may form. They are very small, seldom being larger than pin-points and pin-heads. They are usually acuminated in shape, rising from the surface in the form of whitish or yellowish minute points. They are generally present in large numbers, thousands of them appearing upon one patch, as, for example, upon the abdomen; they are always discrete. The skin from which the vesicles arise is always more or less inflamed; commonly it is of a bright red color, owing to each vesicle being surrounded by an areola (MILIARIA RUBRA). The vesicles themselves, when recent, are transparent and contain a fluid the color of water; when older they are opaque and yellowish (MILIARIA ALBA). Owing to the multitude of the vesicles and their proximity to one another, they are apt to give the skin a yellowish cast.

In addition to the presence of the vesicles, there is always more or less general sweating. The eruption may show itself in patches here and there, or it may appear over the greater portion of the body. Its usual seat is the trunk, but it may also attack the face, arms, and lower extremities. It is commonly seen about the abdomen, the sides of the trunk, and the back.

The vesicles run an acute course, drying up in a day or two, and terminating in slight desquamation. They do not tend to rupture spontaneously. If scratched or rubbed, however, they break down and discharge their contents, which form into extremely small, yellowish crusts. Inasmuch as the fluid which they contain is never more than the minutest drop, the crusting is in all cases insignificant. The affection may either come to an end in a few days or it may continue, new crops of vesicles appearing from time to time. Its duration will depend upon the nature of the cause. I have seen

cases which lasted throughout the entire summer, and even far into the autumn.

Miliaria may attack all parts of the body, but certain regions, as the abdomen, chest, neck, and arms, are commonly invaded. The disorder makes its appearance very suddenly, without premonitory symptoms, and quickly assumes its definite characters; a few hours usually suffice for its development. The process varies in intensity; at times it is slight, in other cases it is so severe as to be the source of very great annoyance. It is apt to disappear and to reappear unexpectedly, often without apparent cause. The taking of food or of hot drinks is frequently a sufficient cause to aggravate it, or even to produce an outbreak, when there is a disposition to its manifestation.

Both varieties of miliaria are attended by tingling, pricking, burning sensations, which are at times very distressing to the patient.

Etiology.—It is caused by excessive heat. This may be produced as the result of injudicious and superfluous clothing, or in consequence of a high external temperature. It is very frequently encountered during the summer months in various climates, especially upon the sudden advent of unusually warm weather.

The papular variety is very common in the tropics,—hence the name lichen tropicus,—where it is a much more highly developed and serious disorder than with us. It is usually met with in fleshy persons, who perspire profusely, and in children. Boys who exercise freely during the hot weather are very apt to be troubled with it. Those who have had it once are liable to suffer repeated attacks. Too much clothing, flannel or other irritating wear, tightly-fitting under-garments, and bandages, are all well-known exciting causes.

The vesicular variety, on the other hand, according to my experience, inclines to manifest itself in weak and debilitated subjects rather than in the strong or stout. It is not rare to meet with it in poorly-nourished, feeble, puny infants and young children, especially in summer, although it is also seen upon these at other times of the year. The

superfluous under-clothing with which weakly infants are so often burdened is the cause of much miliaria. In adults I have also observed it in those who were suffering from ill health, nervous prostration, severe dyspepsia, and general debility.

Pathology.—The pathology of the two varieties of miliaria is the same,—they are both inflammatory disorders of the sweat glands. In one variety the process inclines to the formation of papules, which have their seat about the orifices of the excretory ducts; while in the other variety the disposition is to vesiculation. The line separating these lesions, however, is in many instances but ill defined, and in consequence there results a mixture of papules and vesicles. The process, viewed in its totality, inclines to vesiculation. It may be very aptly compared to that which frequently takes place in eczema, where papules and vesicles are produced side by side. Differences in individuals, I think, account for the manifestation of one or the other lesion. Papular miliaria is to vesicular miliaria what papular acne is to pustular acne; they are merely varieties or, in some cases, stages of the same process. Congestion, followed by slight exudation, takes place about the ducts with very great rapidity, and, in a short time, gives rise to the minute papules or vesicles, as the case may be, which remain until the cause producing them has been modified, when they quickly undergo absorption. There can be no doubt that the cutaneous nerves are extensively involved in the process, as shown by the peculiar subjective symptoms; whether this derangement of the nerves be primary or secondary it is impossible to determine.

Diagnosis.—No difficulty should arise in recognizing miliaria, when the nature and seat of the affection are taken into consideration.

The papular variety possesses such peculiar symptoms, and is, moreover, a form of disease so common and well known, that it can scarcely be confounded with other affections. It is produced alone by unusual and sudden heat, and consequently is to be looked for only during warm weather. It may be diagnosed from eczema papulosum, the disease for which it is most likely to be mistaken, by its history, course,

and striking subjective symptoms. It always makes its appearance suddenly, often in an hour's time; eczema, on the other hand, manifests itself, in comparison, slowly. It may continue several hours or days, disappearing usually in as rapid a manner as it came. Removal of the exciting cause—heat—tends immediately to relieve the condition, and very often to dispel the affection completely. Eczema is not influenced in this manner by any treatment; it is more persistent, the exudation being of a different character. The papules of eczema are larger, more elevated, and firmer than those of miliaria.

The vesicular variety is to be diagnosed from sudamina by the presence of inflammatory signs.* The same kind of difference exists between sudamina and vesicular miliaria as between comedo and acne. The presence or absence of inflammation gives one or the other disease. Sudamina and miliaria, it will be understood, are separated from each other upon purely anatomical grounds, as, for example, is done in the case of erythema iris and herpes iris, and in other diseases. It is not to be confounded with vesicular eczema, to which it frequently bears a close resemblance in appearance. The history of the disorder, its sudden advent, the accompanying state of general perspiration, together with the peculiar pricking and burning sensations, will usually be sufficient to distinguish it. In miliaria each vesicle is observed, when sufficiently isolated, to be surrounded by an areola; in eczema the whole surface is more or less uniformly inflamed. The local disturbance is always much greater in eczema than in miliaria. Miliaria is apt to come and go from day to day, in the form of repeated acute attacks; eczema usually runs a progressive and definite course. Finally, the vesicles of miliaria do not rupture spontaneously; those of eczema always do. I consider this a characteristic feature, one which clearly separates the two diseases. The vesicles of miliaria may be, and often are, broken by the friction of the clothes, or by rubbing and scratching; the quantity of fluid poured out is exceedingly

* See Sudamina, page 132.

minute, and never continues to exude as in eczema. Where eczema, however, supervenes upon vesicular miliaria the case at once is altered; in this event, we have all of the symptoms common to vesicular eczema, and the affection is no longer to be regarded as a miliaria.

The eruption of scarlatina is at times complicated by the appearance of vesicular miliaria, producing an erythematous, minute vesicular and pustular affection. The diagnosis here is apt to be difficult, especially so if the constitutional symptoms of scarlatina be slight.

Treatment.—The management of miliaria is usually simple. Active measures tend to increase rather than to improve the condition. Irritating washes and all ointments should be scrupulously avoided, for their employment favors the development of artificial eczema. The expectant treatment is the best. All precautions for the relief of the sweating are to be instituted. With lower temperature the glands cease secreting excessively; whereupon the condition, in the majority of cases, tends to subside spontaneously.

In rebellious cases the use of refrigerant diuretics, as the citrate or acetate of potassium in half-drachm doses, well diluted, will be found of decided value. Quinine is also a valuable remedy. In the case of the papular variety, the removal of the cause, a cool apartment, absolute rest, light clothing, plain food, acidulated drinks, and saline laxatives will ordinarily insure speedy relief. In the vesicular variety, where new crops of the vesicles are continually appearing, constitutional remedies may be prescribed to meet the requirements of the case.

The local treatment is of very decided value. Absorbent dusting powders, consisting of lycopodium dust, or of equal parts of oxide of zinc and starch, will be found most useful; they should be applied freely and frequently. Mild astringent lotions may be employed in obstinate cases; lotio nigra, sopped upon the parts from time to time through the day, will be of service. Alkaline baths or lotions may also be used with benefit. The patient should be warned against rubbing or scratching the skin, for if this be indulged in the disorder becomes at once greatly aggravated. Under judicious

treatment the complaint usually disappears in a short time. Where there is a disposition to a return of the affection, prophylactic measures are to be practised for some time after the attack has passed away; relapses are common. No fears need be entertained concerning danger from retrocession; the sooner the disorder disappears the better for the comfort of the patient.

Prognosis.—In our climate the disorder is seldom obstinate; it rarely continues, under appropriate treatment, longer than a few days. If neglected, however, it may pass into a dermatitis or into an eczema, and as such last indefinitely.

It is most rebellious in fleshy persons, occurring about the natural folds of the skin, where it necessarily resolves itself into an erythematous or eczematous intertrigo. In children, also, it is a source of great discomfort, continuing, off and on, throughout the hot season. It is very apt to relapse in successive years.

Dysidrosis.—Under this name Fox* has described a disease of the sweat glands allied to miliaria, characterized by the retention in the ducts, of sweat which has been rapidly and freely secreted. It consists at first of minute, isolated, vesicular points, which are deeply imbedded in the skin. They do not incline to rupture. After they have existed for several days, they increase in size and assume a yellowish color, and now resemble small boiled sago grains implanted in the skin. As the process advances the vesicles become more distended, and elevated above the level of the surrounding skin, finally coalescing, and forming, in severe cases, small, irregularly-shaped bullæ. There is still no disposition on their part to break and discharge. In the course of some days the fluid is reabsorbed, the epidermis desquamating and leaving an abraded surface. The affection, primarily, is not attended with inflammatory signs; they may, however, occur secondarily. It occurs upon various regions of the body, as the hands, feet, face, neck, and trunk. In its slightest form it is confined to the hands, occurring especially

* Loc. cit., p. 476. Also British Medical Journal, Sept. 27, 1873.

upon the sides of the fingers and over the palm. One or both hands may be attacked. After the affection has existed for a while, the epidermis becomes macerated and soggy, and the skin is apt to be sore and painful. In severe cases, according to Fox, the eruption may extend itself over the backs of the hands and over the arms, resembling the course of an eczema; there are, however, no crusts present. The complaint is generally accompanied by itching and burning sensations, which may be very slight or severe, according to the extent and gravity of the case. It may continue from one to several weeks. It is observed to occur in those who usually perspire freely. It may occur either in summer or in winter, more often in the former. Those who suffer from the disorder are generally the subjects of nervous debility, weakness, dyspepsia, and other depressing conditions. In the several instances in which I have observed the affection, these symptoms were all present in a striking degree.

The disorder manifestly has its seat about the sweat glands, and consists in an undue distention of the sweat duct throughout its entire course, followed by a collection of the fluid within the skin. It may be mistaken for vesicular eczema, although it lacks the inflammatory symptoms, and the discharge and crusting. In severe cases it may be followed by eczema, as in the case of miliaria. It is more closely allied to this last-named disorder, miliaria, than to any other, but differs from it in being a less acute process and being, moreover, unattended by inflammation. The treatment is to be directed against the general condition of the patient. The local remedies referred to in considering miliaria are to be employed. The affection is quite rare in this country. I have never encountered cases so extensively developed as those described by Dr. Fox.

PEMPHIGUS.

Syn. Pompholyx; *Germ.*, Pemphigus; Blasenausschlag; *Fr.*, Pemphigus.

PEMPHIGUS IS AN ACUTE OR CHRONIC, EXUDATIVE DISEASE, CHARACTERIZED BY THE FORMATION OF A SUCCESSION OF IRREGULARLY-SHAPED BLEBS, VARYING IN SIZE FROM A PEA TO AN EGG.

Symptoms.—There are two varieties of pemphigus, pre-

senting symptoms so different in character as to call for separate description. They are named pemphigus vulgaris and pemphigus foliaceus. The former of these is the variety commonly encountered, and is to be looked upon as the type of the disease.

Pemphigus Vulgaris.—The disease may attack all portions of the body, and shows a marked tendency to appear without regularity of distribution over the whole surface, no part being exempt. It is most common, however, upon the limbs. It may also attack the mucous membrane of the mouth and vagina. I have known it to commence in these regions, the disease appearing later upon the skin. Occurring here the lesions are liable to be mistaken for syphilis, the bullæ breaking down and closely resembling mucous patches.

The lesions are blebs from the commencement to the end, and possess marked features. They form slowly or rapidly; at times in the course of a day. Their number may vary from several to dozens; usually a half-dozen or more may be seen at any period during the attack, while at other times much larger numbers occur. In size they vary from a pea to a walnut or a goose's egg; various sizes may always be observed in a given case. In form they are rounded, oval, semiglobular, or dome-shaped, and are elevated in a very prominent manner above the level of the surrounding skin, at times as high as an inch. Their walls are generally fully distended with fluid, giving them the appearance of being greatly stretched. They rise abruptly from the sound skin with a definite line of demarcation. In color they are yellowish. They contain a colorless fluid, which, however, becomes cloudy or puriform as they grow older. They rarely rupture spontaneously. They incline to no particular arrangement, but appear here and there, either singly or together; now and then they cluster in a somewhat semicircular manner. But little inflammation attends them, their bases being, as a rule, alone reddened; the surrounding skin is only occasionally erythematous. Each bulla runs its course in from one to three or six days. A characteristic of these bullæ consists in their successive appearance. One or

a crop of them no sooner disappears than others show themselves, and it is in this way that the disease runs its course. Itching and burning occur as a rule only slightly, the first of the symptoms being, perhaps, the most notable. At times, however, both of these sensations may be present in a marked degree, constituting great distress (PEMPHIGUS PRURIGINOSUS).

Pemphigus in the adult is, as a rule, attended by signs of general disturbance of the system only in severe cases, and in unusual forms of the disease. In children, however, there is always more or less fever and constitutional derangement.

The affection may be either acute (PEMPHIGUS ACUTUS) or chronic (PEMPHIGUS CHRONICUS), the latter course being the usual one. Acute pemphigus, indeed, is exceedingly rare, excepting in children, where it is usually observed to run its course in a few weeks or a month. Pemphigus in the adult has an essentially chronic course, often lasting years.

The disease may be benign or malignant, according to the condition and health of the patient, hygienic surroundings, diet, and other causes which tend to influence the type of diseases in general. Malignant pemphigus (PEMPHIGUS MALIGNUS) is characterized by the great size and number of the bullæ. They form very rapidly, coalesce, rupture, and are succeeded by excoriated surfaces, which not infrequently take on ulcerative action. Blood may also be poured out, which, in connection with a puriform exudation, is observed to collect upon the skin in the form of crusts. The patient's health is always seriously impaired in these cases. Itching and burning are at times present in a remarkable degree. If the individual be cachectic, the disease inclines to an unfavorable termination (PEMPHIGUS CACHECTICUS, PEMPHIGUS GANGRÆNOSUS).

PEMPHIGUS FOLIACEUS.—Here the bullæ differ from those of pemphigus vulgaris in that they are not distended or tense. They are, on the contrary, flaccid and only partially filled with fluid, which seems rather to undermine the epidermis than to uplift it into blebs. This imperfect formation of the lesion constitutes the chief peculiarity of the affection. The bullæ rupture before arriving at a state of

full development, or the epidermis may be so readily detached from the true skin that large, loose, half filled, irregularly-shaped blebs are formed, which soon give way and collapse. They may also coalesce, thus involving a considerable surface. Usually the greater portion of the body is attacked, and not rarely the whole surface.* The bullæ succeed one another with great rapidity and persistence, the same regions, moreover, being the seat of repeated attacks. In this manner large numbers of blebs are continually forming before the skin has had time to regain its normal state. In this respect, as regards its course, the disease is similar to chronic eczema vesiculosum. When the disease has existed for a time the skin presents a white, flaky appearance; the epidermis is loose, torn, and has a shreddy, ragged look. It has been well compared to a superficial scald. The fluid, never very abundant, dries immediately into thin whitish flakes, which are quickly detached and cast off in quantity; beneath is seen an excoriated, red surface,—the rete and corium. The process is invariably a chronic one, and may continue for years. Sooner or later the general health becomes seriously disturbed, profound prostration supervenes, and very often the patient succumbs. It is, happily, a very rare form of disease.

Etiology.—Pemphigus is an uncommon disease. It is, I think, of less frequent occurrence in this country than in Europe. White, in Boston, reports having met with fifteen cases only out of five thousand consecutive cases of skin disease in dispensary practice, a large proportion of these having occurred in infants.† According to my experience, the percentage in Philadelphia is even less.

---

* I recall the case of a man, some forty years of age, and otherwise in apparently perfect health, who was afflicted with this variety of the disease in its universal form. There was not a square inch of healthy tissue upon his surface, the fingers even being affected. He was a patient in the Vienna General Hospital under the care of Professor Hebra. I noted the course of the disease, from time to time, for a year and a half, at the expiration of which period the man was still in a most distressing state. The continuous plain water bath, in which he lived for months, afforded him more relief than any other mode of treatment.

† Boston Med. and Surg. Jour., March 23, 1876.

It is said to occur in all parts of the world. The causes are very obscure. The disease is much more common in children than in adults. After the period of infancy and childhood it occurs at all times of life in about the same frequency. Both sexes suffer in the same proportion. It occurs with equal frequency at all seasons of the year, and does not appear to be influenced by atmospheric causes. Articles of food, as a rule, have no cause in its production, although a low and improper diet may in certain cases determine the disease. Functional derangement in females is now and then found to be associated with the disease, but can scarcely be viewed as a cause. Pemphigus has been noted to show itself first during pregnancy. It is probably of more frequent occurrence in persons of florid complexion. Mental depression has been observed to precede pemphigus, and in some cases may be viewed as the cause. The only recognized origin of the disease is to be found in a state of general debility, nervous prostration, and loss of normal tone. This condition always precedes and accompanies a certain number of cases; it cannot, however, be considered as the only cause of the disease. There are other cases where the general health to all appearances is good. Pemphigus is not contagious.

Syphilis is never a cause of pemphigus. It, however, as is well known, occasionally gives rise to a bullous eruption, resembling pemphigus, but with a different train of clinical characters, which are and can be produced only by syphilis. The so-called syphilitic pemphigus (PEMPHIGUS SYPHILITICUS) is manifestly a bullous syphiloderm, and not a true pemphigus.

Pathology.—The disease consists in the successive production of bullæ, which, according to the observations of Simon and Hebra, differ in no respect, as regards their anatomical structure, from other bullæ.

Hebra* describes the mode of their appearance as follows. "Sometimes a circumscribed light red spot appears, perhaps of the size of a bean or large coin; this is paler in the

* Loc. cit., vol. ii. p. 388.

centre, and may even present a tinge of white, indicating the point at which the bleb is to form, and from which it will spread outwards over the surrounding red surface. In other cases the spot, besides being red, is raised above the level of the surrounding skin, and in fact is at first a wheal, passing afterwards into a bleb. In other cases the bleb is not preceded either by a red spot or by a wheal, but begins originally as a small collection of clear fluid beneath the cuticle. Thus hyperæmia of the skin may exist before exudation is poured out, or the latter may be formed before any congestion of the papillary layer is discoverable."

The contents of the bullæ are yellowish or colorless, and consist of serum or, in later stages, of a puriform fluid; blood is also occasionally present. The reaction is either neutral or alkaline. According to Hebra, the older the fluid the more alkaline it becomes.

The contents of the bullæ, the urine, and the blood have all been submitted to chemical analysis, but without obtaining knowledge as to the more intimate nature of the disease.

Diagnosis.—No difficulty should be experienced in the diagnosis of typical cases. It must be remembered, however, that the mere presence of blebs does not necessarily constitute pemphigus, inasmuch as these are at times developed in other diseases, as well as by artificial means. But when their appearance together with their course is taken into consideration, and the fact that in pemphigus they always occur in successive crops, the diagnosis may usually be made.

Herpes iris is the disease which bears the closest resemblance to pemphigus. The following points of difference may be noted. Pemphigus in the adult is for the most part a chronic affection, continuing for months or longer; herpes iris is always acute, running its course in a few weeks. In pemphigus full-sized blebs may always be noted; in herpes iris the lesions are usually vesicles, which may attain to the size of blebs. The varied colors which invariably encircle the vesicles of herpes iris throughout their course, are never present in pemphigus, nor is the surrounding skin in this latter disease usually so inflamed. The vesicles of herpes

iris are always arranged concentrically, and increase in this manner; the blebs of pemphigus incline to no such arrangement. The seat of the disease in herpes iris—usually upon the arms, backs of the hands, and lower limbs—is quite characteristic; in pemphigus the disease has no seat of predilection.

Scabies sometimes presents quite large vesicles, and even bullæ, but the general symptoms and course of the disease will always render it distinguishable from pemphigus. Pemphigus can scarcely be confounded with eczema.

The bullous syphiloderm is to be diagnosed from pemphigus by the fact that it dries into thick, bulky, greenish crusts. Beneath these crusts there always exists an ulcer, which secretes a greenish-yellow, unhealthy product, mingled with blood. Other symptoms of syphilis (in children as well as in adults) may usually be found in connection with the bullous syphiloderm, which will prevent error as to the nature of the lesion. The bullæ of erysipelas can never be mistaken for those of pemphigus.

It happens at times that bullæ are produced by artificial means on the part of patients, for the purpose of feigning disease. The various stronger acids, especially nitric, dropped or painted upon the skin, cause these lesions to appear, at times in a very perfect manner.* Where such a cause is suspected, the patient should be placed under careful surveillance, when the deceit, if there be any, will readily be detected.

Treatment.—Both internal and external treatment are of service, but especially the former, which must be directed against the supposed cause. The case should first of all be attentively studied, after which the treatment determined upon as most suitable should be rigidly enforced and persisted in. Constitutional remedies are of the utmost im-

* A case of feigned pemphigus in a young girl, in Guy's Hospital, London, whom I was invited by Dr. Fagge to see, is called to mind. The bullæ were numerous, and in appearance differed in no way from those of genuine pemphigus. The artificial nature of the lesions was suspected, and observation subsequently proved that they were produced by nitric acid, although the girl stoutly denied that such was their origin.

portance in all cases where there is general impairment of the health, debility, and prostration. Functional disorders should be inquired after, and the various secretions carefully examined. The digestive system should be regulated, if disordered, by means of laxatives and tonics. Arsenic is the most valuable remedy which we possess for this disease. It should be given in small doses, and its employment persisted in. Hutchinson* considers it in the light of a specific. Quinine is of value as a general tonic, and also in those cases in which the bullæ are preceded by fever; it should be prescribed in full doses and its administration continued for some time.

Of quite as much importance as the use of drugs are matters of diet and hygiene. In a large number of cases there is a failure of accustomed health, which is often only to be restored by proper nourishment and strict attention to the laws of hygiene. The food should be of the best quality and suitably prepared. A full animal diet, including meat, eggs, milk, and cream, should be generously given. Cod-liver oil should be ordered in all cases where the stomach will bear it. Wine or ale, in proper quantities, may likewise be directed with benefit in certain cases. Fresh air, and exercise when practicable, are to be insisted upon. Rest and freedom from mental distress are also to be secured, and, indeed, everything should be done to make the patient as comfortable as possible both in body and in mind. In children the same general principles are called for; the means are to be modified to suit the case.

The local treatment should always receive careful attention, for in certain rebellious cases, in which nothing appears to avail in arresting the process, this may constitute the only means of affording relief. The blebs should be punctured and evacuated as soon as they have formed; if they refill, the proceeding is to be repeated. A dusting powder, composed of equal parts of oxide of zinc and starch, serves as a useful dressing where the bullæ occur over a large surface and in great numbers.

* See Medical Times and Gazette, vol. ii., 1875, pp. 461, 513, 565. A most valuable contribution to the subject.

The bath offers a most acceptable and beneficial method of treatment for all cases. It may be employed either as plain water or in connection with medicinal substances. The tar bath, in which the patient is rubbed with one of the oils of tar, and then placed in tepid water and allowed to remain there for an hour or longer, is often useful in those cases in which this substance is tolerated. In some instances the bran, starch, or gelatine bath affords greatest relief. Hebra has used with benefit the corrosive chloride of mercury bath, in the strength of one-third of a grain to the pint of water; also caustic potassa, in the form of a bath, in the strength of half a grain to the pint of water.

The best local treatment, for grave cases, is to be found in the continuous bath, as recommended by Hebra. This consists in permitting the patient to remain in a specially prepared bath-tub for days, weeks, or months, according to circumstances. In the tub are to be placed a horse-hair mattress and pillows, upon which the patient may rest comfortably. The water is to be kept sufficiently warm, and to be changed from time to time throughout the twenty-four hours. The patient, in almost every instance, experiences great relief from the continuous bath, and will ordinarily prefer it to all other methods of local treatment. The pain, itching, and burning sensations, so severe in grave cases, are relieved by this means, and the patient afforded ease and comfort in his affliction. The simple water applied in this uninterrupted manner for weeks or longer seems to exert a decided curative effect, and must be considered as one of the most satisfactory methods of treating this disease locally. The patient may remain in the bath, eating and sleeping and living in it, for an almost indefinite period without in any way interfering with the general health.*

---

* The continuous bath has been for some years past employed by Hebra, in whose hands it has proved a serviceable method of treating pemphigus. As to the length of time which patients have remained in the water, for various diseases, Hebra has repeatedly kept them in the bath for months (in some cases as long as two hundred and seventy days) continuously, allowing them to come out of the water only for the evacuation of the bowels.

For a more detailed account of the bath and its action, see Prof. Hebra's

Where the bath cannot be employed, water dressings by means of cloths may be substituted. There are cases, however, in which water, owing to some idiosyncrasy, does not appear suitable, or in which it is not considered advisable to use it. In these instances ointments may be directed, none being better than either the oxide of zinc or diachylon ointment. Whichever is selected should be applied upon cloths and bound down to the part with bandages.

Prognosis.—No disease runs a more arbitrary or uncertain course than pemphigus. Relapses are common. The ultimate result can scarcely be predicted. In adults the prognosis should always be considered with deliberation. Very much depends upon the character of the bullæ, their number, the rapidity of formation, and their generalization as regards distribution. If they are flaccid, imperfectly formed, and inclined to rupture, the prognosis is unfavorable. When in large numbers, involving an extensive surface, and characterized by the rapidity and frequency of their formation, the result must in like manner be viewed with caution. The general condition of the health is to be considered. Repeated febrile attacks, together with impairment in strength, point to a serious termination. Opinion should in all cases be guardedly expressed, for the disease is one indicating severe systemic disturbance. In grave cases the process may end fatally.

LICHEN PLANUS.

Syn. Lichen Ruber (Hebra).

LICHEN PLANUS IS AN EXUDATIVE DISEASE, CHARACTERIZED BY PIN-HEAD OR PEA-SIZED, FLAT, ANGULAR, SMOOTH, SHINING, DEEP RED, DISCRETE OR CONFLUENT PAPULES, HAVING A CHRONIC, DISTINCTLY PAPULAR OR PAPULO-SQUAMOUS COURSE, ATTENDED BY MORE OR LESS ITCHING.

Symptoms.—The disease is one of the most peculiar of the papular group, possessing features which serve to make the

---

work upon Diseases of the Skin, Trans. of the New Syd. Society, London, vol. i. p. 320; also, second German edition of the same work (1874), vol. i. p. 273.

process definite and distinctive. The papules vary in size from a pin-head to a split pea; where several have coalesced, as occurs in the later stage, they appear even larger, existing in the form of small, plate-like patches. In shape they differ from all other papules, in that they are not round but angular, having a somewhat square form. They rise abruptly from the healthy skin, above which they are elevated from half a line to a line, are flattened on their tops, and show at times slight umbilication. To the touch they are firm and solid. They have, in their early stage, a smooth surface, are free of scales, and have a glistening or glazed appearance; later, in those cases where the process runs into a papulo-squamous stage, considerable desquamation may be present. In color they possess a dull red or even violaceous hue. The lesions are usually discrete, though, when existing in numbers, they incline to coalesce and form patches; when this occurs, they lose the characteristics of papules, and assume the appearance of elevated, flattened patches of infiltration.

The disease may show itself either in the form of localized areas or as a diffused eruption, involving a large portion of the surface. The localized form is that usually met with. Here the lesions consist of one, two, or more aggregations of papules, which may exist either upon a limited extent of surface, as, for example, an arm, or upon quite different regions of the body. The papules themselves may be disseminated or closely crowded together, in the form of a solid patch. The diffused form* of lichen planus may occupy a part or the whole of the body, appearing either as numerous, isolated patches or in the form of extensive sheets of eruption. When this takes place the papules are quite small, pin-head in size, and are scantily covered with thin, whitish, micaceous scales.

The affection commonly presents itself upon the arms, legs, thighs, and abdomen. Its course is extremely slow, months frequently elapsing without there being any appreciable change in the lesions; the process may continue for

* This variety of the disease constitutes the Lichen Ruber of Hebra, and is chiefly encountered in Austria; it is rarely, if ever, met with in this country.

years. The severe form (lichen ruber) runs even a more chronic course, and is attended by a train of serious symptoms, including constitutional disturbance, marasmus, and, at times, a fatal termination.

Etiology.—The causes are in many instances obscure. Wilson* is of the opinion that the disease is always associated with symptoms of constitutional derangement connected with errors of the digestive and nutritive system, a view which is likewise entertained by both Fox† and Taylor.‡

Patients will not infrequently be found to be suffering from general debility arising from improper nourishment, overwork, nervous depression, and similar conditions. The disease occurs at all periods of life, but is more frequent during middle age. It is more common in women than in men. It is a rare disease in this country. According to Wilson, it is not uncommon in England.§

Pathology.—The disease is to be regarded as an exudation of a chronic nature, accompanied by considerable alteration in the structure of the skin. It will be remembered that two forms of the affection are met with. Microscopical studies have for the most part been undertaken upon chronic cases. According to Neumann‖ and Biesiadecki,¶ the disease involves nearly all the layers of the skin as well as the sebaceous glands and hairs. The cells of the epidermis are accumulated in great quantity, and contain fine granular matter. The rete is highly developed over and around the œdematous papillæ, which are considerably enlarged and contain bloodvessels abnormally large, along the course of which there exists an abundant proliferation of cells.

Biesiadecki is of the opinion that each papule in its gen-

---

* Diseases of the Skin, London, 1867, p. 192.

† Loc. cit., p. 146.

‡ Archives of Dermatology, vol. i. No. 1. An interesting report of cases.

§ See a valuable paper by Mr. Wilson, reporting a large number of cases, in the Journal of Cutaneous Medicine, vol. iii. No. 10, 1869. Mr. Wilson was the first to describe the disease under consideration, and gave to it the name by which it is known.

‖ Loc. cit., p. 238.

¶ Untersuchungen aus dem Pathologisch-Anatomischen Institute in Krakau, p. 32. Wien, 1872.

eral structure consists of two parts, a central, atrophic portion, corresponding to the umbilication which is frequently observed clinically, and a peripheral, succulent, œdematous portion, and that these features distinguish the papules under consideration from those of other diseases.

Interesting changes are also noted by both the observers quoted, in connection with the roots of the small hairs, which are seen to terminate abruptly in the form of tuft-like expansions. The root sheaths are also found to be greatly hypertrophied around the roots of the hairs, and to be distended by cell infiltrations to such an extent as to form knotty, club-shaped extremities. Hypertrophy of the muscles of the skin is also present.

Diagnosis.—Lichen planus may be mistaken for the papular syphiloderm, lichen scrofulosus, and eczema papulosum. The irregular, angular outlines of the lesions, together with their flattened, slightly umbilicated, smooth, dull red, shining tops, will, however, be points sufficiently distinctive to separate the disease from these affections. The papules of eczema papulosum, to which they bear the greatest resemblance, are roundish, somewhat acuminated, bright red in color, intensely itchy, and possess a history very different from those of lichen planus.

Treatment.—A general tonic and supporting treatment is demanded in the majority of cases. The preparations of iron, arsenic, and cod-liver oil prove the most valuable and effective remedies against this troublesome and stubborn affection. The sooner in the course of the disease treatment is instituted the more speedy will be the cure; cases of long standing are found to be exceedingly obstinate and rebellious, continuing for long periods but slightly influenced by remedies which in an earlier stage would have afforded relief. Hygienic measures, adapted to the requirements of the case, will be found to aid in bringing about a favorable result. The best of food should be directed, and everything done to improve the general condition of the patient.

The local treatment should consist of those applications which, by experience in the case, are found to afford the

greatest amount of relief; inunctions with simple ointment, tar ointment of various strengths, alkaline lotions and baths, carbolic acid lotions, varying in strength from one to three drachms to the pint of water, may all be employed for this purpose. In addition to these, the various stimulating remedies useful in eczema may be prescribed with the hope of success.

Prognosis.—This will depend upon the severity of the case, the amount of surface involved, and the duration of the disease. Where the lesions are localized and not extensive the prognosis is favorable, provided the proper treatment can be carried out. In the diffused form of the disease, months and years may pass without there being much change for the better; in very severe cases a fatal termination may even take place.

PRURIGO.

Syn. Germ., Prurigo (Hebra); Juckblattern; *Fr.*, Strophulus Prurigineux (Hardy); Scrofulide Boutonneuse Bénigne (Bazin).

PRURIGO IS A CHRONIC, EXUDATIVE DISEASE, CHARACTERIZED BY NUMEROUS, DISCRETE, ROUNDED, SMALL SPLIT-PEA SIZED, SOLID, FIRMLY SEATED, SLIGHTLY RAISED, PALE RED PAPULES, ACCOMPANIED BY GENERAL THICKENING OF THE SKIN AND INTENSE AND CONSTANT ITCHING.*

Symptoms.—The disease commences by the slow and gradual formation of small, solid elevations, which have their seat in the skin itself, appearing to be situated in a measure beneath the epidermis. At first they are often so slightly elevated as to escape being seen, but they may always be felt by passing the finger over them. When fully developed they are observed to be rounded, raised only to a very slight extent, and about the size of small split peas. They are remarkably solid in consistence, and may be detected by the finger as hard, shot-like bodies, imbedded in the skin. They exist discretely, although often in close proximity to one another; they are never grouped, but always more or less irregularly distributed. In color they are pale red, or

* The term prurigo is used in the sense attached to it by Hebra.

like that of the normal surrounding skin itself. They are frequently covered with a scanty, dry, shrivelled epidermis, but never to the extent of scales. They are frequently perforated by small hairs.

The eruption is accompanied by intense itching, which symptom manifests itself very early, and remains present throughout the entire course of the disease. It is usually of so violent a nature that the patient is unable to desist from scratching, and consequently lacerates the lesions, as a rule, before they have completely formed. From repeated and protracted scratching the tops of the papules become torn, and ooze forth a small quantity of bloody serum, which rapidly dries into a crust. Hence, at all times these blood crusts are present, and constitute a constant secondary lesion of the affection. As the disease progresses, the itching and scratching increase to such an extent that excoriations result. In course of time a peculiar thickening of the skin takes place, attended by a rough, harsh condition of the surface, which is characteristic of the disease and may be recognized by the touch. It is invariably most marked about the lower extremities. The hairs here are seen to be either broken off short or to be torn from their follicles, the result of scratching.

The eruption has its seats of predilection. It attacks by preference the extensor surfaces of the lower extremities, especially the region of the tibia, where it may always be found prominently developed. The arms, particularly the forearms, are next invaded, and finally the trunk. The head is rarely if ever attacked; the palms and soles never.

In severe cases, owing to the great irritation and consequent scratching, the glands of the inguinal region become enlarged and constitute "prurigo buboes," as Hebra has termed them; they occur symmetrically. Pigmentation of the skin is another symptom which shows itself in cases where the complaint is extensive and of long standing; it is probably a result of the scratching, and in this case is to be viewed as of the same nature as that observed in those cases where phtheiriasis has existed for a long period.

The disease almost invariably appears at an early age, and

runs a very obstinate and chronic course, lasting usually throughout life. Eczema may at times be called forth by the inordinate scratching, as well as by the strong cutaneous irritants and caustics which are used for the relief of the disease.

Etiology.—The disease is extremely rare and almost unknown in the United States.* It is only occasionally encountered in France and England,† but is common in Austria, where it may be said to have its home. It is never hereditary, although it always shows itself at an early age, not infrequently before the tenth year; nor is it contagious. According to Hebra, it is more often encountered among males than among females.

Prurigo is emphatically a disease of the poor; its causes are to be found in impoverished conditions of the system, occasioned by bad food, improper hygiene, and general neglect. Hebra justly remarks that "it undoubtedly occurs almost exclusively in poor subjects and those ill nourished in childhood, and so most often in foundlings and beggars' children. Those who have enjoyed a good physical education in early youth, and have always been properly fed according to their age, suffer very rarely indeed from prurigo."

The affection is found to be worse in winter, the summer months always proving most beneficial for those afflicted with this tormenting disease.

It is scarcely necessary to state that prurigo is *never* produced by pediculi or other parasites.

Pathology.—The microscopic anatomy of the prurigo papule has received careful study at the hands of Hebra, R. H.

---

* The only reported case occurring in this country will be found in the Amer. Jour. of Syph. and Derm., vol. iv. p. 21, 1873, recorded by Wigglesworth, of Boston.

† Among certainly many thousand cases of skin disease which I had, some years since, the opportunity of observing at the Hôpital St. Louis, Paris, one case only of the prurigo of Hebra presented itself. It occurred in a lad about sixteen years of age, and was a marked example of the disease. Prof. Hardy, who was present, informed me that he designated the affection Strophulus Prurigineux.

In London, among a large number of cutaneous diseases as met with at the various special hospitals and dispensaries, I do not recollect seeing a single case.

Derby of New York,* Neumann, and Gay.† The views of Neumann and Gay are alike as to the origin of the disease; both these observers hold that the process begins in the papillary layer, the papule being formed by a circumscribed accumulation of young cells, with a certain amount of structureless fluid exudation. As the disease progresses, the epidermis and rete become highly developed and more or less pigmented. Neumann states that he found the whole papillary layer and the corium hypertrophied and greatly thickened by the formation of a firm connective tissue. The outer root sheath was increased considerably in size, and the hair follicle expanded in the form of a club. Gay, in addition, determined the sweat glands and the vessels of the skin to be enlarged.

Diagnosis.—If the peculiar features of prurigo be borne in mind, no difficulty can arise in its diagnosis. It will be seen that a distinct, clearly-defined disease has been described, which bears no relation whatever to either of the affections with which prurigo has long been confounded,—namely, pruritus and phtheiriasis. By reference to these latter diseases, their characters will be noted to be very different from those of prurigo. It will also be remembered that prurigo is an exceedingly rare, almost unknown, affection in this country.

Prurigo may be diagnosed from pruritus by the presence of the papules, which are primary; in pruritus no papules exist, except those produced by scratching, which, of course, are secondary.

Blood crusts exist in both prurigo and pruritus; they are, however, much more numerous in prurigo, and are seen to be seated about the apices of the torn and wounded papules. Prurigo is always attended with remarkable thickening of the skin; such is rarely the case in pruritus, and never to the same extent. The peculiar roughness or harshness of the skin in chronic prurigo is characteristic; it is never seen in pruritus. The regions attacked in prurigo are different

* Sitzungsberichte der Kais. Akad. d. Wissenschaft. Wien, Febr. Heft, 1869.

† Archiv für Derm. und Syph. Erstes Heft, 1871. Translation in the Amer. Jour. of Derm. and Syph., vol. ii. p. 261.

from those usually invaded by pruritus; in the former disease the extremities, more especially their extensor surfaces, are always involved, while in the latter the trunk or all parts of the body may be the seat of the trouble. The itching of prurigo is intenser, deeper-seated, and more constant than that of pruritus, and is relieved only by means which act upon the papillary layer of the skin itself, as, for example, violent scratching or caustics. Prurigo usually begins before puberty, and continues throughout life; pruritus seldom appears before adult age, runs a very variable course, and very frequently disappears, either with or without treatment. Prurigo is seen almost exclusively upon the poorly nourished and ill fed; pruritus is often encountered upon those who are in good general health, having its cause very frequently in some slight functional derangement of the economy.

Prurigo should not be confounded with phtheiriasis. The two diseases have nothing in common. Pediculi are never present in prurigo; they are the sole cause of phtheiriasis, and consequently are always present. Small papules, due to scratched and inflamed follicles, covered with blood crusts, are at times seen in phtheiriasis; but these are very different from the papules of prurigo, both in appearance and in course. The so-called papules of phtheiriasis are due to the bite of the pediculus, and the subsequent scratching of the part.

Prurigo may be confounded with eczema. As already stated, eczema may exist as a complication, especially when the prurigo is very severe; in this event the prurigo will be found to remain after the eczema has disappeared. The two diseases are, however, so different as not to permit of confusion otherwise than when they occur together, and even in such a case they may always be distinguished. The papules of prurigo run a very different course from those of eczema.*

* It will be observed that the author differs in his ideas of prurigo from the majority of English and American writers. The disease, as described, is a marked one, possessing a peculiar clinical history, and is entitled to be clearly separated from the other affections with which it has long been confounded. Prurigo, pruritus, and phtheiriasis are three very different diseases; and yet, one has but to turn to the literature of the day to find sad confusion. The difficulty has arisen from the fact that prurigo, as described by German

Treatment.—From a consideration of the cause of the disease, it will be evident that immediate attention is to be directed to the general condition of the patient. The diet is to be ordered and insisted upon; it should consist of the most nutritious articles of food, including meats, milk, and eggs in generous quantity. Strict hygienic measures are to be instituted, and everything that will tend to improve the state of the patient's health taken into consideration. Iron and cod-liver oil are to be prescribed and taken for some time; other remedies of a similar kind may also be administered from time to time. This general plan of treatment is to be persistently persevered in, for the disease is an exceedingly obstinate one, and is to be relieved only by the most heroic measures.

Very great benefit is to be derived from external remedies, chief among which are to be mentioned the various kinds of baths, simple and medicated. Tar and sulphur are the two most valuable remedies; they are to be used in the form of frictions, and to be followed by a bath, as in the case of chronic and obstinate psoriasis. Wilkinson's ointment, as modified by Hebra,* has been used with marked benefit, and is highly spoken of by Hebra and Neumann. It, as well as other similar remedies, is used exactly as in the treatment of scabies.†

Prognosis.—The disease is always a serious and obstinate one, usually lasting years, or even a lifetime. It is said to be curable in the child, but scarcely so when it has lasted until adult life.

---

writers, is an affection so rare in England and the United States as scarcely to exist in these countries, and is consequently unknown to observers. Both pruritus, and phtheiriasis of the body, however, are sufficiently common, and are often attended by the formation of hyperæmic elevations (especially about the follicles), followed by blood crusts from scratching, which lesions have, very erroneously, been termed the papules of prurigo. In this manner, through serious complications, have the names of these three diseases been used interchangeably.

Dr. Fox, in the last edition of his work, is the first English writer who has even attempted to draw the line of distinction between these affections.

* See formula in the chapter devoted to the treatment of Scabies.

† For detailed description of the various methods of treatment employed for this disease, see Hebra's interesting account, as given in his work.

LICHEN SCROFULOSUS.

LICHEN SCROFULOSUS IS A CHRONIC, EXUDATIVE DISEASE, CHARACTERIZED BY MILLET-SEED SIZED, REDDISH OR YELLOWISH, MORE OR LESS GROUPED, DESQUAMATING PAPULES, UNACCOMPANIED BY ITCHING, OCCURRING IN THOSE OF SCROFULOUS DISPOSITION.

Symptoms.—The papules are always small; never larger than pin-heads. They are pale red, reddish, or yellowish in color; at times, owing to the accumulation of minute scales upon their tops, they present a grayish aspect. They show more or less disposition to group, forming roundish or crescentic patches of various size in different parts of the body. These patches, when they have existed for some time, are usually covered with fine, branny, whitish scales. The papules, when examined closely, are found to have their seat about the hair follicles. They are accompanied by little or no itching.

The disease occurs chiefly on the trunk, more especially about the regions of the chest and abdomen; more rarely it is seen on the limbs. Its course is exceedingly chronic, the individual lesions being slow to undergo involution; it may last for years, old papules gradually disappearing and new ones taking their place; more or less desquamation is always present. The skin, as a whole, of patients with scrofulous lichen is apt to be dry, somewhat harsh, and of a yellowish hue.*

Etiology.—The affection is rare in this country; it is most frequently encountered in Austria, where it was originally described by Hebra. Its cause is found in the scrofulous habit, nearly all those in whom the disease is observed being affected with glandular enlargements, bone trouble, etc. It is seen in both children and adults. In Hebra's experience it occurs very much oftener in males than in females, especially in the case of adults.

Pathology.—The anatomy of the lesions, excised from the living subject, has been studied by Kaposi,† as follows. Each

---

* A representation of the affection under consideration may be found in Hebra's "Atlas der Hautkrankheiten." III. Lieferung, Taf. 3.

† Lehrbuch der Hautkrankheiten, Hebra und Kaposi. Erster Bd. Zweite Auflage, 1874, p. 385.

papule has its seat about the opening of a hair follicle, and is seen to consist of an epidermic collection. The pathological process is an exudation and cell-infiltration in and about the hair follicles, sebaceous glands, and papillæ around the aperture of the follicles.

The exudation, Kaposi holds, commences at first around the vessels and at the bases of the follicles and glands, and later invades the interior of these structures. The cells collect in great numbers within the follicles and glands, to such an extent as greatly to distend them, thus forming the papules, and finally cause separation of the hairs from their sheaths.

The process may disappear without leaving cicatrices, or, on the other hand, it may be followed by pit-like, atrophic depressions at the seat of the follicles.

Diagnosis.—The affection is not to be confounded with eczema papulosum, from which it materially differs in not itching. It is also to be distinguished from lichen planus, more particularly in its later stage,—the lichen ruber of Hebra,—and from lichen pilaris, to which it bears likeness. The history of the case, the general condition of the patient, and the course of the disease, will suffice to determine the nature of the disorder.

Treatment.—The disease always yields to treatment. Cod-liver oil, taken internally and applied externally, is the remedy recommended, which, according to Hebra, never fails in relieving the condition. The dose of the oil should be full, and its exhibition continued for a sufficiently long period. Suitable diet should also be prescribed.

ACNE.

Syn. Acne Vulgaris; Acne Disseminata; Varus; Stone-pock; Whelk; *Germ.*, Finnen; *Fr.*, Acné; Acné Boutonneuse.

ACNE IS AN INFLAMMATORY, USUALLY CHRONIC DISEASE OF THE SEBACEOUS GLANDS, CHARACTERIZED BY THE FORMATION EITHER OF PAPULES, TUBERCLES, OR PUSTULES, OR A COMBINATION OF THESE LESIONS, OCCURRING FOR THE MOST PART ABOUT THE FACE.

Symptoms.—Acne may appear alone, as a well-defined disease, or it may exist in connection with other affections of

the sebaceous glands, as, for example, comedo and seborrhœa.

It shows itself in the form of pin-head to pea-sized elevations, situated around the openings of the hair follicles and sebaceous glands; they may be either papular, tubercular, or pustular in their nature. Usually the disease is seen to exist exhibiting both papules and pustules in all stages of their development, from the incipient inflamed gland and follicle to the same in its suppurative stage. They are more or less inflammatory, but are seldom accompanied by marked burning or itching. Very often they give rise to no subjective symptoms whatever, except a feeling of soreness when touched or handled. In color they are reddish, with a central point which is usually yellowish and the seat of suppuration. The number of acne papules or pustules present varies extremely; there may be only two, three, or a half-dozen, or, as is usually the case, a large number, scattered over the region.

The inflammation may be quite superficial, or it may extend deeply into the glands, occasioning considerable swelling and disturbance; not infrequently abscesses are formed. The inflammation may be acute or chronic, running its course either rapidly, in a few days' time, or sluggishly, lasting several weeks or longer. The disease, taken as a whole, is almost always chronic in its course, crops of papules and pustules appearing from time to time, the process frequently continuing for years. According as the disorder has been more or less suppurative will cicatrices remain; these may be slight or very disfiguring.

Acne may occur upon any portion of the body except the palms and soles, but it has very decided preference for certain regions. Its common seat is about the face; it is also frequently seen upon the shoulders and upon the back. It occurs upon all parts of the face, and, in particular, about the forehead, cheeks, and chin. In certain cases, the shoulders are often attacked at the same time with the face. The eruption does not come out with any regularity of distribution, but breaks forth indiscriminately and often without symmetry over the region invaded.

It varies greatly as regards development and general appearance, constituting either a slight disorder or a grievous disturbance, attended by serious disfigurement and annoyance. It is one of the commonest diseases of the skin. It occurs chiefly in young people of both sexes, appearing ordinarily at the age of puberty. It rarely, if ever, shows itself before this period of life, and seldom is present after mature years; there are, however, exceptions in which it tends to continue for years.

The varieties of acne may now be referred to. Of these I make two; they are named according to the anatomical lesions usually observed in the course of the disease.

ACNE PAPULOSA.—This variety consists in the formation of pin-head or pea sized papules, occurring about the openings of the sebaceous ducts. They are usually quite small, and partake somewhat of the nature of comedones. The amount of inflammation is ordinarily slight. A dark point may frequently be seen in the centre of the papule, which has given rise to the term ACNE PUNCTATA. They usually exist in great numbers, scattered over various parts of the face; their most common seat is upon the forehead. Acne papulosa is the least-developed variety of the disease.

ACNE PUSTULOSA.—This is the typical variety. It may occur in all degrees of development, from small, pin-head to large, split-pea sized pustules. All acne tends to assume this form. The amount of suppuration varies; it may be slight or abundant. The pustules, as a rule, form rapidly, and terminate either in discharge of their contents or in reabsorption and desiccation. In shape they are acuminated, and are surrounded by a deep, circumscribed, more or less extensive inflammatory product. According to the amount of this peripheral inflammation will the pustule have an insignificant or hard base; when it exists in a marked degree the condition is known as ACNE INDURATA. The terms ACNE ATROPHICA and ACNE HYPERTROPHICA have been applied to designate the results of acne in certain cases; the process in the first instance being followed by marked atrophy about the ducts of the glands, in the form

of pit-like depressions, and in the latter by connective-tissue hypertrophy about the glands.

Acne Artificialis.—Under this head it is in place to speak of several kinds of disease which are produced by medicinal substances, either taken internally or applied externally. These agents give rise, in certain individuals, to an inflammatory condition of the glands, similar to ordinary acne.

In some persons tar, used externally, at times causes an inflammation of the sebaceous glands, which continues so long as the skin is exposed to its influence. It is frequently observed upon those who work in tar. It is characterized by a black point, a deposit of tar, in the centre of the pustule. With this condition there exists more or less general inflammation of the whole skin, indicating a deleterious effect upon all the cutaneous tissues.

The preparations of iodine and bromine, taken internally, are frequently productive of extensive glandular suppuration. The more saturated the system with either of these substances the more apt is the trouble to show itself. The eruption at times is of the most serious nature, resulting in the complete involvement and destruction of the sebaceous structures. Superficial abscesses occur, and render a temporary suspension of the medicine imperative, when the symptoms are observed to disappear rapidly. Arsenic acts usefully in these cases of extreme susceptibility, preventing, in a great measure, the occurrence of this form of acne.*

Etiology.—The causes which may give rise to acne are numerous, and are very different in their nature. The disorder may be occasioned by agencies operating directly upon the skin, or, as is much more frequently the case, by causes remote from the seat of the disease. Before mentioning these it is in place to refer to certain facts which observation has furnished.

Acne is seen in both sexes, in about the same proportion. It is more common in individuals who have light complex-

* My friend Dr. S. Weir Mitchell informs me that the bromide and iodide eruptions are almost completely controlled by arsenic.

ions than in those who have dark skins. The most frequent and ordinary origin of acne is puberty. The affection first shows itself at this time of life, and is apt to continue until the system has reassumed a condition of repose. It is at this period that the sebaceous glands everywhere are unusually active; the hairs also now begin to develop, and necessarily determine increased cell growth about the follicles. The whole sebaceous system undergoes a great physiological change, which may occur quietly without occasioning disorder, or, as is very frequently the case, it may be of so violent a character as to give rise to any of the several functional troubles of the glands, and notably acne.

Among the causes which not infrequently are observed to be productive of the affection, general debility of the system occupies a conspicuous place. Under this head may be grouped all those abnormal conditions arising from imperfect physical development, improper nutrition, and other defects of the economy, whether organic or functional. The disease occurring from such causes is usually of the pustular variety, and is apt to show itself copiously. It has been very properly called CACHECTIC ACNE. In this connection anæmia and chlorosis may also be mentioned as causes, both of these conditions favoring the development of functional disease of the sebaceous system.

One of the most common causes of acne, I feel no hesitation in stating, is to be found in habitual derangement of the alimentary canal. Experience with a large number of cases teaches this in most emphatic language. Disorders of the stomach and bowels, including dyspepsia and constipation, are to be considered as among the most frequent and potent causes of the disease. In some cases, even slight derangement of the bowels is sufficient to cause the acne, which will be observed to become better or worse as the condition of the bowel is improved or neglected.

Uterine disorders, particularly those of a functional character, are also to be viewed as the origin and direct cause of many cases of acne. Cases there are, also, in which it is extremely difficult, if not impossible, to find the cause of the disease, the patient appearing to be otherwise in a

perfect state of health. Such instances, as is well known, are not uncommon.

In addition to the causes enumerated, acne may result, as already stated, from the internal use of certain medicinal substances. Iodine and bromine are both very frequently the cause of an acne-form eruption, which differs but slightly from ordinary acne. Among external agencies, tar and its preparations are at times causes of an acne-form inflammatory condition of the glands and surrounding skin.

Pathology.—Concerning the anatomical nature of acne there can be no question. The process originates and has its seat in the sebaceous glands and follicles of the skin. It is an inflammatory disease, involving the gland structure and the tissue surrounding it.

The process for each individual papule or pustule is for the most part an acute one, running a definite course and terminating either in reabsorption or in suppuration. The first stage in the formation of the acne pustule consists in a retention of the secretion. This is soon followed by hyperæmia and exudation about the gland, and especially in its walls. The connective tissue about the gland now becomes infiltrated with cells and takes on active inflammation, which sooner or later results in suppuration.

The disease centres itself around the follicle, where the inflammatory product usually resolves itself into pus, forming the typical acne pustule, which when fully mature is either ruptured and escapes or is retained and reabsorbed. The intensity of the exudation varies; if very active, both the gland and the follicle may perish, leaving ultimately a depressed cicatrix to mark the place of the disease. The amount of inflammation present determines the two varieties of acne described, as well as, at times, certain other accompanying anatomical peculiarities, such as induration and hypertrophy.

Diagnosis.—The chief characters and the history of acne are so well defined, in the vast majority of cases, as to occasion no trouble in diagnosis. The age of the patient, the locality attacked and the anatomical seat of the complaint, its chronic course, the fact of the lesions appearing and disappearing within a short period, together with their inflam-

matory nature, are points to be borne in mind in doubtful cases.

Difficulty may arise in the recognition of artificial acne. That caused by tar, may be known by the presence of this substance about the patient, which may be detected by its peculiar odor. A black point, consisting of tar, may usually be observed at the openings of the follicles.

The acne of iodine and bromine is highly inflammatory; is seen upon all parts of the body; and is generally extensive and virulent, partaking of the nature of abscess. The bromine acne especially is characterized by large areas of inflammation, which at times break down into sebaceous abscesses and become covered with yellowish crusts.

Acne often bears a close resemblance to the papular and pustular syphiloderms, from which it must be distinguished by its history, the absence of the various signs of general syphilis usually accompanying the syphilodermata, its course, and other peculiarities. Acne is usually scattered quite uniformly over the region attacked; the lesions of syphilis tend to group. Acne occurring upon the forehead alone occasionally requires careful study to distinguish it from syphilis. Severe cases of acne may at times resemble variola in appearance, although error in diagnosis can scarcely occur.

Treatment.—This may very properly be considered under two heads, constitutional and local, both of which forms of treatment will be found to be of service; they should, in the majority of cases, be employed conjointly. With all the means at our command the disease often proves very rebellious, and demands every assistance which it is possible to afford. At the same time, the disorder is, in my opinion, by no means so obstinate as is commonly supposed.

Constitutional Treatment.—Before entering upon active treatment it is necessary that the physician make himself thoroughly familiar with the constitution and habits of his patient. It is impossible to treat severe cases of acne satisfactorily without a clear understanding of the causes which are at work in producing the disorder. It must be remembered that it is a functional affection, and that therapeutics must be directed against the cause rather than against the

individual papules or pustules, for these tend to disappear spontaneously. It should be the aim of the physician to prevent the disease from appearing. It is on this account that internal treatment is very often found to be of much greater value in effectually disposing of the disease than external applications. If a case be watched in its course through a period of months, it will be observed how closely the acne follows the general condition of the health, and how it is better and worse according to the state of the patient's health.

Various causes will be found to occasion acne. It must, however, be borne in mind that the same cause, even if present, will not be productive of the disease in every individual. Troubles of one kind or another of the alimentary canal are to be inquired after. Dyspepsia, in all its forms, may be mentioned as one of the most prolific sources of acne; under this term are to be included irregularity of the bowels, constipation, flatulence, acidity, coated tongue, and other similar symptoms. Too much attention cannot be directed to the functions of the stomach and bowels, for derangement of these organs will be found to be at the bottom of a vast number of cases. To correct these troubles is often extremely difficult, requiring all possible skill. It is in these cases that an accurate and thorough knowledge of general medicine, together with complete familiarity with the action of drugs, proves invaluable to the physician.

If constipation exist, a free use of either saline or vegetable laxatives should be prescribed, in sufficient quantity to open the bowels once or twice in the day. Where there is a furred tongue, and trouble in the stomach as well as in the bowel, I have repeatedly obtained excellent results from an acid aperient mixture containing the following:

℞ Magnesii Sulphatis, ℥iss;
Ferri Sulphatis, gr. xvi;
Acidi Sulphurici dil., f℥ii;
Aquæ, q. s. ad f℥viii.
M.—Sig. Tablespoonful in a gobletful of water as directed.

This preparation should be taken once a day, preferably a

half-hour before breakfast. In some cases it is advisable to prescribe it twice daily, before breakfast and before supper. Where a vegetable bitter is desired, infusion of quassia or of calumba may be employed in the place of water. The natural mineral waters are also valuable, and may be ordered to counteract the condition just referred to. The Saratoga waters, particularly the Hathorn and Geyser springs, as well as the German Friedrichshall water, a more powerful cathartic, will be found desirable and efficient; they should be taken before meals. Together with these saline laxatives, it is often of advantage to direct some one of the ferruginous preparations, in small doses, as, for example, the tincture of the chloride of iron. If, for any reason, vegetable cathartics are preferred, pills containing aloes and rhubarb are the most useful.

Both iron and cod-liver oil are frequently called for, and are especially serviceable in the acne of young persons who appear ill developed, spare, pale, and but half nourished. In these cases the affection is sluggish and non-inflammatory, and is, in fact, a mixture of acne and comedones. The use of these remedies must be continued for some time. In females where there is menstrual difficulty the same general plan of treatment is to be pursued. The mineral acids are also of value in bringing up the general health, and may at times be prescribed with advantage. Arsenic is of decided service in certain forms of the disease; it may be ordered with benefit in the papular variety and in those cases where the lesions are imperfectly developed. It should be prescribed as a tonic, in one, two, or three minim doses. Gubler, of Paris, speaks highly of the use of glycerine in the punctate form of acne, administered internally, in tablespoonful doses, two or three times daily. Dr. Bulkley informs me that he has also employed this remedy very successfully in cases exhibiting the punctated and indurated forms of the disorder.

Hygiene is of great importance in all cases, but especially so in those cases where iron and cod-liver oil are prescribed. Proper and sufficient exercise must be insisted upon. A daily walk of an hour in the sun should be urged upon the

patient. Where it is not contraindicated, a cold bath in the morning will be of the greatest assistance in regulating the functions of the economy.

The diet should always be directed by the physician. All kinds of heavy or indigestible food, cheese, pastry, pickles, spices, should be interdicted; stimulating drinks should also be prohibited.

Local Treatment.—This may now be considered. There are two diverse kinds of external treatment which, according to the indications in the case under consideration, may be adopted. The one method calls for soothing, bland preparations, the other for stimulating washes and ointments, with a view of arousing the glands to increased activity.

In rare cases, where there is intense and rapid inflammation, accompanied with heat and redness and a general hyperæmia of the skin, mild washes and bland cerates will be found to be of most service; the skin here is to be treated as any other simple inflammation of a high grade. The parts may be washed frequently through the day with cold water and castile soap, after which a weak lotion, five minims to the ounce, of carbolic acid, glycerine, and water, may be applied.

In the vast majority of cases of acne, however, stimulating lotions and ointments are demanded, and may be at once prescribed with benefit. In acne papulosa, the face may be rubbed and washed every evening, before retiring, with sapo viridis and water, the application being made with a piece of flannel. It will serve to open the gland ducts and permit of a subsequent squeezing out of the contents of the glands. This may be done between the fingers, or, where the papules are small, by means of a watch-key, as described in connection with the treatment of comedones. In pustular acne, hot water cloths, applied at night, afford relief to the congested and swollen follicles, and render their ducts more open for the exit of the sebum. This should be followed in the morning by a cold douche and frictions. Vapor baths and frequent washings of the parts affected are also to be recommended.

Among the more active remedies, sulphur and its prepara-

tions hold the foremost place. In my opinion they are by far the most efficacious remedies in the external treatment of acne. Sulphur may be ordered with good result in a large number of cases and in various stages of the disease. It may be prescribed in the form of ointment or of lotion. The strength of the preparation should be made to suit the case, varying from a half drachm to two drachms to the ounce of ointment. The following can be recommended as an eligible formula:

℞ Sulphuris Sublimati, ʒi;
Glycerinæ, fʒi;
Cerati Simplicis, ℥i;
Ol. Rosæ, gtt. iii.
M. Ft. ungt.
Sig.—To be thoroughly rubbed into the skin at night.

I have also found the English hypochloride of sulphur a valuable preparation. Sulphur is also employed to advantage with alcohol, in the proportion of one drachm to four ounces; it should be used as a lotion, for ten or fifteen minutes, morning and evening. Glycerine, a drachm to the ounce, may at times be added with benefit. The following, suggested to me by Dr. Bulkley, will be found useful:

℞ Sulphuris Loti, ʒi;
Etheris, fʒiv;
Alcoholis, f℥iiiss.
M.—Sig. Apply as a lotion.
Shake the bottle before using.

Sulphuret of potassium also enjoys a reputation as a local remedy; it may be prescribed as a lotion in the strength of ten or twenty grains to the ounce of water.

The biniodide of mercury is a useful remedy in those cases where active stimulation is required; it is to be ordered as an ointment, in the strength of from five to ten grains to the ounce. The corrosive chloride of mercury is likewise a valuable remedy. It is best prescribed as a lotion, with water or alcohol, in the strength of from a quarter or less to two grains to the ounce. Emulsion of almonds also constitutes an excellent vehicle for its employment. The following formula is well known:

℞ Hydrargyri Chloridi Corrosivi, gr. i;
Emuls. Amygdalæ Amaræ, f℥iv;
Tinct. Benzoini, f℥i.
M.—Sig. Apply at night.

The corrosive chloride of mercury constitutes the basis of the majority of the "lotions for the toilet" sold in the market. An excellent stimulating remedy is the protiodide of mercury, which may be used with good result in cases where there is marked induration. It is to be prescribed in the form of an ointment, in the strength of from five to fifteen grains to the ounce. In severe cases of indurated acne, mercurial plaster may be applied with avail, on cloths, during the night, as originally suggested by Neumann.

The various medicated soaps, containing oil of cade, carbolic acid, sulphur, glycerine, are often serviceable in mild cases of acne; they may also be made use of with profit in conjunction with the remedies enumerated.

Where the pustules are large and full they should always be opened by incision with the knife and their contents squeezed out. If there is distention of the superficial cutaneous bloodvessels, they should likewise be incised and permitted to discharge.

The treatment of artificial acne simply requires the removal of the cause, together with general directions as to local remedies, as may be demanded by the case.

Prognosis.—Experience teaches that cases of acne run exceedingly variable courses. The prognosis must depend in a great measure upon our being able to determine the cause and, at the same time, remove it. In many cases this is possible, and the result accordingly favorable. On the other hand, examples not infrequently occur where the cause is obscure and inaccessible; these cases are always remarkably stubborn. But the question as to result is one of time merely, for the disease sooner or later tends to spontaneous recovery, although without treatment it may continue for years, involving the skin in a very destructive manner.

In some instances it is a serious process, in that it is attended with extensive suppuration and obliteration of the glands and ducts, leaving cicatrices which are permanent

and disfiguring. The scars may be either quite small and superficial or they may be large and deep, so pronounced at times as to resemble the marks of variola. Their characters will depend upon the variety and the intensity of the disease. Many cases of acne, on the other hand, leave no scars, suppuration and discharge taking place without destruction of the glands. The process may last a long while, often years, if left to itself, and finally disappear as the cause has been gradually removed by changes in the general health and condition of the patient.

ACNE ROSACEA.

Syn. Gutta Rosea; Gutta Rosacea; *Germ.*, Kupferrose; Das Kupfrige Gesicht; *Fr.*, Couperose.

ACNE ROSACEA IS A CHRONIC, HYPERÆMIC OR INFLAMMATORY DISEASE OF THE FACE, MORE PARTICULARLY THE NOSE, CHARACTERIZED BY MARKED REDNESS, DILATATION AND ENLARGEMENT OF THE BLOODVESSELS, HYPERTROPHY, AND MORE OR LESS ACNE.

Symptoms.—There are three stages of acne rosacea. The disease is characterized at first by a more or less diffuse hyperæmia in the part, unattended by enlargement or swelling. The hyperæmia is of a passive character, the blood circulating slowly through the capillaries, and inclining to stasis. If the nose be attacked, it is often seen to be greasy (seborrhœic), and is apt to feel cold rather than warm. The process is a very gradual one, and comes on slowly, months and years being usually necessary for its development. The hyperæmia is more or less prominent, remaining about the part continuously, although subject to variations of degree.

In the course of time, months or longer, the second stage sets in. The redness is noted to be more permanent in character, and subject to fewer changes. Upon close examination of the affected part, the minute ramifications of the cutaneous bloodvessels are noted to be dilated and enlarged. They may be seen as delicate, fine, red lines running superficially over the skin; they may be numerous or few. The course which these little vessels pursue is noted to be irregular; they run in all directions, following, for the most part, a crooked, tortuous, or winding course. They vary as

to their length; they may be several lines or an inch in length. They also vary as to their calibre; they may be exceedingly fine and narrow, or coarse and thick. Occurring upon the alæ of the nose, they usually run parallel with the cartilages of the alæ; over the nose, they run in various directions, for the most part irregularly. Sooner or later acne papules and pustules manifest themselves over the region affected. They appear here or there upon the part, and may be few or numerous; as a rule they occur only in limited numbers. Their duration is uncertain; they may run their course in a few weeks or less time, or they may continue for a much longer period. True acne rosacea is now developed, the disease consisting of rosacea,—the dilated and hypertrophic bloodvessels,—with papular or pustular acne superadded. It occurs in all degrees, from that which constitutes but a slight affection to that which greatly disfigures the parts.

The face is the region attacked. The nose is the common seat of the disease; occurring here, it may involve the alæ, the tip, or the bridge. The cheeks are also often invaded, the disease either first appearing on these regions separately, or spreading to them from the nose. The forehead is also a not uncommon seat. I have seen it localized here in a most positive form, leaving the nose and the rest of the face free. Finally, all of the regions enumerated may be attacked simultaneously.

The course of the affection is usually a very chronic one, lasting years. In some cases, however, it makes its appearance quite suddenly, in the course of months; in these instances there is commonly simple dilatation of the vessels only, and not hypertrophy; this latter can take place only with time. The affection runs a variable course to its ultimate termination. The process is rarely, if ever, so violent in its nature in women as it is in men. Very often it does not go beyond the first stage in women. Having, however, in either sex once attained certain degrees of development, it may remain in this state; or, on the other hand, it may continue increasing in its proportions, the process becoming more violent month by month or year by year, until finally

the cutaneous tissues are greatly hypertrophied, the bloodvessels enormously distended, the glands enlarged, and the part seriously altered. This condition constitutes the third stage of the process. These changes are usually observed in connection with the nose, which organ is not infrequently seen to be deformed. The new growth of connective tissue and bloodvessels at times goes on to such an extent as to give rise to a bulky formation. Noses of this kind, either with or without acne, may frequently be seen in the streets of our large cities. They are red, usually of a dark-red, livid color, and are either simply enlarged, the normal proportions of the organ being preserved, or are contorted into various irregular shapes, more or less lobulated, weighty, and pendulous. At times they assume monstrous proportions, and are as large as a fist (RHINOPHYMA).*

According as the disease is in one stage or another of its development, as well as at one time or another, will the part be cold, normal, or hot. In the first stage, that of passive hyperæmia, the nose is very often cold. Where the process is accompanied by the abundant formation of acne lesions, the part is apt to be warm, and at times hot; these symptoms come and go from time to time, and may be induced by excesses in eating or drinking, as well as by exposure to heat and cold.

Acne rosacea is unattended with pain or itching; the subjective symptoms, when these are present at all, consist of tingling and burning sensations.

Etiology.—The causes are frequently of a diverse nature. The disease is met with in both sexes, but the causes may be different in the two sexes. It is seen most highly developed in men.

In women the complaint, in the majority of cases, does not pass beyond the first stage,—that of hyperæmia and stasis. In other cases, however, it passes into the second stage, and is characterized by permanent enlargement of

---

* See a case reported by the author in the Photographic Review of Medicine and Surgery, vol. ii., 1871–2. Also, Hebra's Atlas of Skin Diseases, Lieferung vii., Tafel 6.

the vessels and more or less deformity. As Hebra first pointed out, acne rosacea in women is noted to occur at two periods of life, namely, in early womanhood, and again, later, at the climacteric period, and is almost invariably attended by menstrual disorder. In the former of these periods the disease is not apt to be severe, and is usually observed to be associated with seborrhœa; it is manifestly due to the same cause which has brought about this affection. With the disappearance of the seborrhœa the rosacea also generally departs, either to remain away or to return later in life. The causes in these cases are to be found in chlorosis, menstrual difficulties of one kind or another, dyspeptic troubles, and similar conditions of ill health. At the climacteric period, in both married and unmarried women, the affection is liable to show itself in an aggravated and more permanent form, attended usually with enlargement of the bloodvessels.

In men, occurring early in life, in the first stage, I have not infrequently observed it to be associated with a seborrhœic condition analogous to that seen in young women. Here, however, there is simply hyperæmia, the bloodvessels being dilated but not permanently enlarged. Noses thus affected are almost always cold, notwithstanding their rosy color. The causes in these instances are anæmia, general debility, nervous prostration, dyspeptic symptoms, and other conditions which have been mentioned in speaking of seborrhœa.

Spirituous liquors are known to be a frequent source of acne rosacea. Brandy, whiskey, wines, and other strong alcoholic drinks, taken in quantity and habitually, give rise to the affection in all of its stages, and upon various regions of the face. The "brandy nose" and the "wine nose," to be seen daily in any community, are common examples of the power that alcohol possesses in producing the disease.

On the other hand, there are cases, occurring in both men and women, in which no cause whatever for the development of the affection is to be found.* It is at times seen in those

* See a report of a clinical lecture on Acne Rosacea, by the author, in the Medical and Surgical Reporter, Aug. 14, 1875.

who are constantly exposed to the weather, as cabmen, etc.; but in these cases the condition is apt to be one of simple rosacea rather than of acne rosacea.

Pathology.—This has been already alluded to in the consideration of the symptoms of the disease. There are three grades or stages of acne rosacea, and according as one or another of these is examined will the changes be somewhat different, the difference between the first and the third stage being very marked. The process is one involving in the first place the bloodvessels of the affected part. In the majority of cases this is followed by disturbance and inflammation of the sebaceous glands. When the disease is permitted to continue, there result dilatation and hypertrophy of the bloodvessels of the skin and hypertrophy of the sebaceous glands and connective tissue.

In the first stage there is simply a collection of an undue amount of blood in the part, in the form of stasis. This condition is apt to remain for an indefinite period—for months or for years—without undergoing much alteration. Sooner or later, however, the second stage manifests itself by permanent dilatation and hypertrophy of the capillaries, together with the involvement of the sebaceous glands, in the form of acne, either papular or pustular. The disease is now typical. It assumes a chronic action, is better and worse from time to time, and either remains in this condition permanently or goes on to the third stage. This is characterized by an exaggeration of the second stage, and is marked by hypertrophy of all the tissues of the affected part, great enlargement of the vessels and of the sebaceous glands and their ducts, and connective-tissue new growth, which may be so extensive as to produce serious deformity of the part attacked. The tissues are now exceedingly vascular. The nose at times becomes greatly distorted, and may assume any of the various abnormal shapes already referred to.

Diagnosis.—No difficulty should arise in recognizing the affection under consideration when the history, course, and peculiar anatomical changes of the disease are borne in mind. It is a chronic disease, lasting usually years, and often undergoing but little alteration from year to year. In

this respect it differs greatly from the tubercular syphiloderm, the disease with which it is most apt to be confounded. The course of the tubercular syphiloderm may be slow, at times continuing through a period of months; acne rosacea, when pronounced, will in all probability have existed for years. In syphilis the tubercles or lesions do not involve the glands; in acne rosacea the seat of the pustules is always about the sebaceous glands. Ulceration, in one form or another, may usually be detected about syphilis of the nose; this process never takes place in acne rosacea. Crusts are apt to be present in syphilis; they never occur in acne rosacea. The tubercles of syphilis are generally much larger, firmer, and more pronounced than the lesions met with in acne rosacea. The color of syphilitic tubercles is a dull, coppery red; in acne rosacea the color is either bright red or violaceous, according to the stage and form of the disease. In acne rosacea the superficial bloodvessels of the skin are enlarged and very conspicuous; these features are wanting in syphilis. Acne rosacea usually attacks the end of the nose uniformly, both sides being involved; syphilis is apt to localize itself more markedly on one side than on the other. The severer forms of acne rosacea, such as would be likely to be confounded with syphilis, are rarely encountered before the age of forty or fifty, and occur more particularly in men; syphilitic disease of this character may show itself early in life. Finally, the history will, in doubtful cases, usually be of service in arriving at a conclusion.

Lupus vulgaris may bear some resemblance to acne rosacea, for, as is well known, this disease is very apt to make its appearance about the face, and especially the nose. In lupus vulgaris the characteristic, roundish, yellowish or reddish papules and tubercles may always be detected; they are pin-head or larger in size, and usually involve a portion of the nose, as the tip or one ala, only. The bloodvessels are not enlarged in lupus vulgaris. Ulceration, moreover, followed by crusts and ugly cicatrices, takes place sooner or later in lupus vulgaris; these symptoms are never present in acne rosacea.

Lupus erythematosus can only be confounded with acne

rosacea when it happens to show itself upon the end of the nose. The surface of the skin in lupus erythematosus is rough, harsh, and covered with fine, tenacious, yellowish scales, which are seen to be connected with the openings of the sebaceous follicles; in acne rosacea none of these symptoms are present.

The first stage of acne rosacea, especially of the nose, bears considerable resemblance to frost-bite. The histories of the two affections, however, are very different, acne rosacea making its appearance slowly, while frost-bite shows itself suddenly. The symptoms, moreover, will always serve to distinguish these diseases. In frost-bite the nose is apt to be swollen and more or less shining, is of a bluish-red color, and is the seat of a tingling sensation; in this stage of acne rosacea the nose is not swollen, is usually of a bright red color and more or less seborrhœic.

Acne rosacea may be known from acne by the presence of the enlarged bloodvessels, and the hyperæmia of the part affected. The line dividing the early stage of acne rosacea from certain forms of acne is at times indistinct, for, as we have seen, the disease under consideration is made up of certain changes of the vascular system, together with acne. The involvement of the bloodvessels will always determine the case to be one of acne rosacea.

Treatment.—The mode of treatment to be adopted will depend upon the stage of the disease which presents itself, and upon the nature of the cause of the affection, where this is ascertainable.

Both constitutional and local remedies are employed. The causes which have given rise to the process should be diligently sought after, and, where detected, should be removed if possible. In females, uterine and menstrual disorders, and bowel derangement, are to be corrected by the appropriate remedies; the general health is to be improved by the preparations of iron, and the bowels regulated by aloes and the natural mineral waters. In males, the use of all alcoholic drink is to be interdicted. The bowels are to be kept open by saline laxatives. The diet in both sexes should be prescribed as in the case of acne.

Local treatment, however, is, in the vast majority of cases, found to be of much greater value than internal remedies. The remedies to be employed vary with the stage of the disease. Stimulating preparations of one kind or another are, however, suitable in all stages. In the first stage we may expect good results from the use of sulphur and the corrosive chloride of mercury. The former of these remedies I have found the most valuable. It may be employed in the form of an ointment or as a lotion, as in the case of acne. From one to three drachms of sublimed sulphur (the strength being made to suit the susceptibility of the skin in the case under treatment) to the ounce of simple ointment will be found serviceable in the majority of cases. The English hypochloride of sulphur may also be used in the same strength, as recommended by Wilson. Anderson gives the formula for a preparation composed of the hypochloride of sulphur with rumex ointment,* two drachms to the ounce, which he speaks well of. Lotions, containing sulphur, are often of great service; in some cases I have found them to be more useful than ointments. They may be prepared according to the formulæ given in speaking of acne. The corrosive chloride of mercury may also be employed in the first stage of acne rosacea with favorable result, in the strength of from a quarter grain to two grains to the ounce, either of ointment or of fluid, as alcohol. Likewise the various officinal mercurial ointments, care being taken not to make them too strong at first. Mercurial plaster, spread upon cloths and applied to the part, may be used in certain cases with benefit, as recommended by Neumann and Hebra.

In the second stage of the disease stronger applications are frequently required. The distended bloodvessels here should in the first place be incised with a sharp knife, and permitted to bleed. Cold water cloths, or the tincture of the chloride of iron, may afterwards be applied to arrest

* The rumex ointment is prepared as follows: Rumex root, nine ounces; lard, six ounces; yellow wax, one ounce; water, sufficient quantity. Wash and bruise the roots; boil for two hours and strain; evaporate to four ounces; add gradually to the wax and lard previously melted, and keep stirring until cold.

any excessive bleeding that may occur. This operation is to be repeated once or twice weekly, according to circumstances, a small portion only of the disease being attacked in this manner at each sitting. Subsequently one of the sulphur ointments may be rubbed into the part.

In the second stage I have also used caustic potassa solutions with good result, in the strength of from five to ten or more grains to the ounce, painted with a brush over the part once or twice weekly, followed by an emollient ointment.

Faradization has recently been employed by Cheadle, of London, who reports favorable results in several cases.*

Where the process has been allowed to go on to the third stage,—when the nose is greatly deformed by hypertrophy and extensive connective-tissue new formation,—ablation of the diseased skin with the knife is the only effectual remedy, although much can be done to modify the condition by means of the remedies already referred to.

Prognosis.—From what has been said it will be seen that the prognosis must depend upon the stage in which the disease exists. Where the process has not passed beyond the first stage, a favorable result may usually be looked for; on the other hand, where a new growth of connective tissue has taken place about the vessels and around the glands, the prognosis should be extremely guarded. Much, however, can be accomplished by judicious treatment, which in all cases will prove of more or less service. Left to itself, the disease exhibits no disposition to spontaneous cure, but, on the contrary, inclines to continue for years, altering the tissues of the part attacked in the manner already indicated.

SYCOSIS NON-PARASITICA.

Syn. Mentagra; Sycosis; Acne Mentagra; *Germ.*, Bartfinne; *Fr.*, Sycosis Non-Parasitaire.

SYCOSIS NON-PARASITICA IS A CHRONIC, INFLAMMATORY, NON-CONTAGIOUS DISEASE, INVOLVING THE HAIR FOLLICLES OF THE FACE, CHARACTERIZED BY PUSTULES, PAPULES, AND TUBERCLES, ACCOMPANIED WITH MORE OR LESS SWELLING AND BURNING SENSATIONS.

Symptoms.—The disease ordinarily commences by the for-

* The Practitioner, July, 1874.

mation of several or numbers of pustules around the hairs situated about the region of the cheek, chin, or upper lip. New lesions develop, until in a short time a patch involving considerable surface results. The pustules are seen to have their seat immediately around hairs; they are acuminated, pin-head or split-pea sized; contain a thick, yellow fluid, and show no disposition to immediate rupture. They are usually discrete, and remain so throughout their course. Not infrequently, however, they are so numerous as to be greatly crowded and in contact with one another. They are accompanied by redness of the surrounding skin, swelling, and sensations which are described as being of a burning character. If the beard be permitted to remain, the pustules may break and pour forth their contents, which dry into crusts; when this takes place the part may become completely encrusted.

The cheeks, chin, and upper lip are the common seats of the disease; any one of these regions alone, or all of them at the same time, may be attacked. The hairy portion of the neck, in cases where the disease is diffused, may also be involved. The affection may begin either by showing itself at once over all the parts, or, as is more usually the case, it may attack one portion and thence extend over other regions. The hairs are observed to be healthy, and are usually so firmly seated in their follicles as to render their extraction painful; they are neither twisted, brittle, nor broken off. The course of the disease is exceedingly chronic. Without proper treatment it is apt to continue for years.

Etiology.—The causes are not well understood. The disease usually occurs between the ages of twenty-five and fifty. It is encountered among all classes of society, and attacks the well-nourished as well as those surrounded by poverty. It is met with among those who do not shave, as well as among those who do; shaving, therefore, cannot be regarded as its cause.

It is not contagious.

Pathology.—Non-parasitic sycosis is to be viewed as a simple inflammation of the hair follicle. The inflammation extends along the whole course of the follicle, and also

involves the adjacent tissues, terminating in resorption or in suppuration. The amount of pus formation varies; it is, however, usually extensive, and constitutes a prominent symptom. The hairs are firmly seated in their follicles, notwithstanding the presence of abundant pus, and can only be extracted with difficulty and pain. Their roots are seen to be somewhat enlarged, luxuriant, and covered with a light yellowish, jelly-like product, which is to be viewed as plastic material, the result of inflammatory action. Later in the course of the disease the hairs may become loose from excessive and long-continued suppuration, in which case the follicles are destroyed.

Diagnosis.—Non-parasitic sycosis is to be distinguished from parasitic sycosis, from which it differs not only in its cause, but also in its clinical features. These two diseases both attack the hair follicle with inflammation, but produce such different symptoms as to call for a clear separation.

The peculiar lumpy, tubercular, nodular, uneven surface of the skin, so characteristic of parasitic sycosis, is altogether wanting in the disease under discussion. But the changes connected with the hair itself will be found of even more value than this symptom, and may be relied upon as a means of diagnosis. In parasitic sycosis they are loose, readily extracted from their follicles, and are seen to be twisted or broken, with a root that is often dry and manifestly diseased. Under the microscope the question of diagnosis offers no difficulty, for the presence or absence of fungus is easily demonstrable.

It often bears a likeness to eczema, from which, however, it may be known by the absence of oozing, as well as of itching; eczema, moreover, attacking the beard, would be apt to be present upon other portions of the face. It will also be remembered that in sycosis each pustule is penetrated through its centre by a hair.

No difficulty will be experienced in distinguishing sycosis from the acuminated pustular syphiloderm, which is apt to attack the face; the existence of pustules upon other regions of the face, as well as upon the body, would be sufficient to exclude sycosis.

Treatment.—External treatment will be found of greater value than internal remedies. In extremely obstinate cases, however, as well as in those which seem to be associated with a general impairment of nutrition, iron, small doses of arsenic, and cod-liver oil may be given with advantage. Where there is considerable inflammatory thickening, Fox speaks well of Donovan's solution. In some cases benefit is to be derived from the judicious use of saline aperients. The general condition is to be looked after in all cases, as in other diseases of an inflammatory character.

The first and one of the most important steps in the local treatment is to have the parts shaved. This is to be performed every day or every other day, according to the rapidity with which the beard grows. The hairs should at first be clipped with scissors, after which they may be macerated with poultice; when this has been accomplished, no great pain will be experienced upon shaving. After a few days the operation will be found very much less painful, and in a short time may be performed without serious discomfort.

The applications now to be employed must vary with the stage of the disease, whether acute or chronic, and with any peculiarity of the skin that may exist. If very inflammatory, black wash may be applied several times through the day, followed by oxide of zinc ointment with a drachm of camphor to the ounce, spread upon cloths and bound firmly to the part. A weak calomel ointment, half a drachm to the ounce, may also be rubbed into the skin with benefit.

In cases where the affection has existed for some time, the part may be treated by means of diachylon ointment and soft soap. The pustules are to be opened, and the skin well rubbed with soft soap and water, after which strips of muslin spread quite thick with diachylon ointment are to be applied, and bound to the face by means of a bandage. This proceeding is to be repeated twice daily, together with the process of shaving once a day.

In other cases, a more stimulating plan of treatment may be used with advantage; for this purpose weak sulphur ointment, half a drachm to the ounce, or ammoniated mercury,

in the form of ointment, in the same strength, will be found of service. The ointment of the nitrate of mercury, a drachm to the ounce of simple ointment, may also be employed with good result; likewise the red oxide of mercury, in moderate strength, from five to fifteen grains to the ounce. Corrosive chloride of mercury in the form of a lotion, from a quarter to a grain to the ounce of water or alcohol, may also be used in certain cases with benefit.

Epilation is recommended strongly by Hebra and others, the hairs, one at a time, being extracted by means of a pair of epilating forceps. A small area is epilated each day, and the part after the operation dressed with diachylon or oxide of zinc ointment. The operation is painful, and, according to my experience, can be tolerated only in those cases where there exists considerable suppuration.

Veill, of Cannstadt, treats the disease according to the following method. The hairs are cut short, the crusts removed with poultice, and a preparation consisting of two parts of tar and one part of sapo viridis is rubbed into the skin; after which the hairs may be readily extracted. After epilation has been performed, acetic acid is applied with a brush. A crust is formed, which comes off in three or four days; the operation, if necessary, is to be repeated. Sulphur ointment completes the treatment, recovery usually taking place in four weeks.

The patient in all cases of sycosis should be directed to continue shaving for months after all disease has disappeared, in order to avoid the risk of a relapse.

Prognosis.—The hope of a speedy cure should never be held out to the patient, for, while certain cases yield quite readily to treatment, others, and perhaps the majority, will be found to resist the most judicious remedies.

IMPETIGO.

IMPETIGO IS AN ACUTE, EXUDATIVE DISEASE, CHARACTERIZED BY ONE OR MORE PEA OR FINGER-NAIL SIZED, DISCRETE, ROUNDED AND ELEVATED, FIRM PUSTULES, UNATTENDED BY ITCHING, OCCURRING FOR THE MOST PART IN CHILDREN.

Symptoms.—The eruption may or may not be preceded by

symptoms of general disturbance. They are never marked; when present, they consist of loss of appetite, constipation, malaise, and restlessness at night, for a day or two before the cutaneous disease appears. This latter manifests itself by the formation of one or more distinct pustules. They make their appearance quite suddenly, in the course of from twelve to twenty-four hours. They begin as veritable pustules, the pustular character of the lesion showing itself in the earliest stage of the process. When fully formed, the pustules vary in size from a split pea to a finger-nail. They are round or oval in shape; are raised prominently above the surrounding skin; and are at first surrounded with a more or less pronounced areola, which subsequently fades. The elevation is striking, varying from an eighth to a half of an inch, and gives the lesions a dome-shaped or semiglobular outline. There is no central depression or umbilicus. In color the pustules are yellow; at times they are whitish. They are usually tensely distended with fluid, and are consequently conspicuous. After the pustules have arrived at maturity, the areola referred to subsides, and leaves the pustules clearly defined. There is but little infiltration present. The walls of the pustules are thick, and are seen to be made up of the whole epidermis. Throughout their course they manifest no disposition to rupture. They are discrete, and occur here and there in an isolated manner. Even when situated close together, as often occurs upon the hands, they do not incline to coalesce. In number they vary from several to a dozen or more.

They occur upon all parts of the body, but are commonly seen about the face, hands and fingers, feet and toes, and lower extremities. I have also encountered them upon the palms and soles. They are not attended, as a rule, by either itching or burning; soreness, however, is very often complained of.

The disease runs an acute course, usually from one to two weeks in duration. The pustules appear suddenly, often in a half-day's time, and are apt to come out one after another during the first three or four days of the attack. Having reached their full size, they remain in this condition for a

day or two, when their contents become altered, at times bloody, and they undergo reabsorption or crusting. Very frequently they are ruptured through contact with external objects, rubbing of the clothing or scratching, when they are observed to pour out a thin puriform fluid; as a rule, it is not thick, as might be looked for from the appearance of the pustules, nor is it usually abundant. If ruptured or pricked with a needle early in their course, they again fill with fluid. The amount of crusting varies: at times it takes place abundantly, yielding yellowish or brownish crusts; in other cases it is insignificant, the fluid undergoing reabsorption. Whatever crust remains rapidly desiccates and drops off, leaving a slightly red base without pigmentation or scar. The disease is a benign process, inclining to terminate in speedy recovery, either with or without treatment. Relapses are not apt to occur.*

Etiology.—Its causes are involved in obscurity. It is an affection confined for the most part to children, and is usually encountered between the ages of three and eight. As a rule, it occurs in stout, well-nourished, and healthy subjects, who perhaps have had little or no previous illness. It does not appear to be in any way connected with eczema. It is not apt to be associated with disorder of the stomach or of the bowels. It is not contagious.

Pathology.—The lesion is a typical pustule. The first manifestation seen upon the skin possesses all of the characters of a true pustule, which continue throughout the entire course of the disease. The process is a circumscribed one, as is shown by the absence of a permanent areola. At no time during its course are the lesions seated upon a highly inflammatory base; they rise abruptly from the surface very much in the manner of the bullæ of pemphigus. Anatomically the pustule is well formed, and possesses remarkably thick walls, which are composed of both the horny and the mucous layers of the epidermis. Microscopical

* The disease I have described is, it seems to me, the only affection to which it is proper to apply the term Impetigo. The process is a distinct and well-marked one, and is worthy of this name.

examinations of the contents of the pustules, which I have made in various stages of the process, show the fluid to be of a whitish-yellow color, the color as well as the consistence of the fluid depending somewhat upon the age of the lesion. Under two hundred and fifty diameters the field was seen to contain a variable number of pus corpuscles, more or less closely packed together. Here and there were red blood corpuscles, epithelial cells, and cellular detritus.

Diagnosis.—The disease has, I think, features sufficiently distinctive to allow of its being separated from other affections to which it bears resemblance. It may be distinguished from pustular eczema by the unexpected appearance and rapid development of the lesions. The size and peculiar conformation of the pustules are also different from those of eczema. The pustules of impetigo are large and prominent; those of eczema are small, and are not raised to the same extent. In impetigo the pustules are discrete, and do not incline to run together; in eczema they are usually seated close together, and manifest a disposition to coalesce. The pustules of impetigo rarely occur in numbers; those of eczema are usually numerous. In impetigo there is little infiltration and no marked thickening of the tissues; in eczema infiltration and more or less thickening of the skin are pathognomonic features.

In impetigo the pustules do not incline to rupture, and there is consequently no discharge; in eczema the pustules rupture early in their course, and are succeeded by extensive crusting; the exudation, moreover, is in these cases apt to continue. In impetigo there is little or no itching; in eczema there is always more or less itching.

Impetigo bears a close resemblance, both in its general features and in its course, to impetigo contagiosa, which is to be viewed not as a variety of impetigo, but as a distinct disease. The initial lesion in impetigo contagiosa is a vesico-pustule, similar to that of vaccinia; in impetigo it is a perfect pustule. The lesion of impetigo contagiosa is quite superficial; that of impetigo has a deeper seat. The pustule of impetigo contagiosa is flat, and is often marked by umbilication; that of impetigo is rounded, conspicuously raised, and

is without central depression. The crusts of impetigo contagiosa are straw-colored, and are characteristic; those of impetigo are yellowish or brownish. Impetigo, moreover, is not contagious.

Impetigo also resembles ecthyma. In ecthyma the pustules are flat, and are surrounded by an extensive, inflammatory, hard base; in impetigo they are elevated and rounded, and have but a slight areola. The crusts in these diseases are also very different; in ecthyma they are brownish or blackish in color, are large and flat, and are seated upon a deep excoriation. Impetigo usually occurs in strong, healthy children; ecthyma in the weakly and cachectic.

Treatment.—In the majority of cases but little interference is necessary. The pustules, as soon as they mature, may be opened with a sharp bistoury and the contents permitted to escape. The part should be protected from external influences, as rubbing of the clothes or other violence. The pustules may be dressed with some mildly stimulating ointment, as in the case of impetigo contagiosa. The affection inclines to spontaneous recovery.

IMPETIGO CONTAGIOSA.

IMPETIGO CONTAGIOSA IS AN ACUTE, INFLAMMATORY, CONTAGIOUS DISEASE, CHARACTERIZED BY THE FORMATION OF ONE OR MORE SUPERFICIAL, FLAT, DISCRETE, ROUNDISH VESICO-PUSTULES, THE SIZE OF A SPLIT PEA OR FINGER-NAIL, WHICH PASS INTO GRANULAR, STRAW-COLORED CRUSTS.

Symptoms.—The eruption is usually preceded by slight febrile disturbance. Small, isolated, flat vesicles are first noticed, which in a day or two become vesico-pustules or even pustules. At first they are quite small, but they tend to increase in size very rapidly, until they become as large as small coins. They are roundish and flat in shape, and are very often marked by distinct central umbilication. A slight areola usually surrounds them, which, however, disappears upon their maturation. They rarely exist in numbers; usually only two or three are to be seen at the same time. Not infrequently, when situated close together, the lesions coalesce and form a small patch. In a very few days, either from rup-

ture or their natural course, crusts form; these, indeed, are almost always present when the case first comes under observation. They are noticed to be flat, somewhat elevated above the surrounding skin, straw-colored, and but slightly adherent. Beneath them exists an excoriation, which secretes a puriform fluid. After the crusts have become dry they fall off, leaving a reddish base, which gradually fades away. The lesions may all show themselves simultaneously, or they may appear in successive crops. The usual seat of the eruption is about the face; but the scalp and arms, as well as other regions of the body, may also be attacked. It may be spread by auto-inoculation. Its course is a definite one, lasting usually about ten days; rarely longer than two weeks.*

Etiology.—It is encountered chiefly among the poor and improperly cared-for, although it is at times also met with among those in the upper walks of life. It is confined almost exclusively to children. It is both contagious and auto-inoculable. The cause of the disease is not, as yet, conclusively determined, although evidence points strongly to its being due to a vegetable organism; further proof is, however, necessary before this theory can be accepted as established. In a large number of instances it is known to follow vaccination.†

Pathology.—The views of observers are somewhat conflicting as to the nature of the disease, some holding that it is due to the presence of a vegetable organism, others that no such cause can be demonstrated. Both Kohn‡ and Piffard§ describe a fungus as existing in the crusts; the growths discovered by these observers, however, are not the same. Kohn found a luxuriant parasite, consisting of thin, long mycelium, which was branched and fork-shaped,

---

* Cases of this affection have been ably described by Dr. R. W. Taylor, of New York. See Amer. Jour. of Syph. and Derm., Oct. 1871, p. 368; also Boston Med. and Surg. Jour., June 6, 1872.

† The relationship between contagious impetigo and vaccination is as yet not clear, but that some connection does at times exist there can be no doubt. The cases which have come under my observation have, with few exceptions, followed vaccination.

‡ Wien. Med. Presse, June 4, 1871.

§ New York Med. Jour., June, 1872.

each thread terminating in a refractive, knob-like end. It made a thick network, here and there assuming the form of distinct loops. In general appearance it resembled the tricophyton as seen in tinea circinata, but differed from it in being not more than half as thick. Here and there it was observed to be in a state of fructification. The vegetable organism described by Piffard, on the other hand, is made up of variously shaped and sized, mostly extremely minute, circular, oval, biscuit-shaped, and rod-like structures. Neither mycelium nor spores were present.* Other observers have not been able to demonstrate its parasitic nature.

Diagnosis.—The affection is most liable to be confounded with eczema pustulosum and with impetigo; it may always be distinguished from these diseases by the history, character, and course of the lesions. The crust is a superficial one, and has the appearance, as stated by Fox, of being "stuck on." The lesions are usually isolated and itch but little, in both of which points they differ from those of eczema. The pustule of impetigo is prominently raised; that of impetigo contagiosa is flat.

It may also bear a resemblance to varicella. Both affections usually show themselves about the face. The vesicles and vesico-pustules of varicella, however, are smaller, and are not attended with proportionately the same amount of crusting, nor are the crusts of the same character as regards their color and consistence. The usual distribution of varicella over various regions of the body will also serve to distinguish the diseases. The lesions of varicella are, furthermore, apt to be much more numerous than those of impetigo contagiosa. Finally, symptoms of constitutional disturbance are generally present in varicella; they are wanting in impetigo contagiosa.

---

* Dr. Piffard in his investigations twice encountered a fungus similar to that described by Kohn, but inclines to the view of its being accidental.

In the July number, 1872, of the N. Y. Med. Jour., Dr. Piffard discusses impetigo contagiosa and its relations to vaccinia. A series of microscopic examinations upon the crusts of vaccinia were made, in all of which he discovered the same fungoid bodies found in impetigo contagiosa.

Treatment.—The mildest remedies are to be used, for the affection tends to both rapid and spontaneous recovery. Oxide of zinc ointment, together with cleanliness, will often prove sufficient. An ointment composed of five grains of ammoniated mercury to the ounce, as recommended by Fox, may also be used advantageously.

Prognosis.—This is always favorable.

ECTHYMA.

ECTHYMA IS CHARACTERIZED BY THE FORMATION OF ONE OR MORE ISOLATED, FLAT PUSTULES, THE SIZE OF A FINGER-NAIL, SITUATED UPON A HARD, HIGHLY INFLAMMATORY BASE, FOLLOWED BY A DEEP EXCORIATION AND BROWNISH OR BLACKISH CRUSTS.

The pustules are usually well developed. They may exist either singly or in numbers; as many as a dozen are not infrequently present. They are roundish or oval in form, circumscribed, and exhibit a slightly elevated border. They are notably flat, or broad, and consequently never very fully distended, their contents being evenly distributed. At first they are yellow in color; later they become somewhat reddish, owing to the admixture of blood. In size they vary from a small to a large finger-nail. Immediately around their margin the skin is of a bright red or lurid color, forming an areola of considerable extent; it is also quite hard to the touch. After existing for a few days the pustules become flaccid, begin to desiccate, and are soon converted into large, flat crusts, of a dark brownish color. They are not adherent, and may be raised, when an extensive excoriation, covered with a copious, yellowish, sanious secretion, will be observed. The destruction of tissue scarcely amounts to ulceration; at times, however, where the process has been an active one, the excavation is by no means shallow.

The extremities, especially the legs, the shoulders, and the back, are the regions commonly attacked. The lesions have an acute course, developing and running their existence in a few days; after they have begun to crust the process proceeds more slowly, and terminates in about a fortnight by the crusts falling off and leaving more or less of a scar. The pustules are apt to appear successively during the first

week, new ones being formed each day, after which time they usually cease to appear. Where the cause is kept up, however, they may continue to show themselves for an indefinite period.

The affection is ordinarily announced with slight febrile disturbance, which tends to subside upon the appearance of the eruption. Heat, more or less itching, and a certain amount of pain, accompany the pustules; they are usually tender to the touch. Ecthyma is encountered upon both children and adults; it may occur at any time of life. It almost invariably manifests itself in those who are poorly nourished and improperly cared for.

Etiology.—The causes of the disease are to be found in all those influences which tend to lower the normal tone. It is not contagious. The affection is most frequently met with in prisons, poor-houses, tenement-houses, and among those who live in squalor and abject poverty. It is rarely seen in the upper walks of life or in those who are properly cared for. Improper and insufficient diet, want of ventilation, excessive work, and uncleanliness are all causes which are known to call forth the disease. In those predisposed to ecthyma, acquired through an existence among the influences just mentioned, it may be produced by various external agencies, among which acari, pediculi, and scratching occupy a conspicuous place; these, however, are to be viewed as exciting causes.

Pathology.—The affection is markedly inflammatory in character, and tends to the immediate formation of pus. The cutaneous disturbance is severe, as shown by the rapid development of the lesion, its size, and its hard, sensitively-inflamed base. It is a typical pustular process. Commencing as a pustule, it tends to assume speedily its definite proportions, after which it is at once followed by desiccation and crusting. The lesion is a superficial one; the excoriation does not extend beyond the papillary layer of the corium. A slight scar is observed to remain, which, however, is not permanent. Pigmentation also exists, which in a few weeks or a month likewise passes away. In the colored race complete absence of pigmentation succeeds the eruption.

Diagnosis.—Ecthyma may be confounded with eczema pustulosum, impetigo, impetigo contagiosa, and the large, flat-pustular syphiloderm. It may be known from eczema by the size and form of its pustules, as well as by the fact that they always occur isolated. The peculiar, inflammatory, hard base, with extended areola, the large, flat pustule, its course, the brownish or blackish crust, and the excoriation, will, moreover, always serve to distinguish it from eczema. It may be known from impetigo by the character of the pustule, areola, and crust.

It differs from impetigo contagiosa in its non-contagious nature, the character of the lesion, the color and appearance of the crust, the region involved, and the general condition of the patient attacked.

Ecthyma bears a close resemblance to the large, flat-pustular syphiloderm.* The course of ecthyma, however, is very different from that of the syphiloderm; it develops itself more rapidly, and usually terminates in a few weeks. There is, moreover, always more heat and pain, together with other signs of local disturbance, about ecthyma than about syphilis. The characters of the ulcers are sufficient to distinguish the two diseases: in ecthyma the ulceration is slight and superficial; in syphilis the edges are abrupt and more or less deep, and the excavation is covered with a thick, yellowish, puriform fluid. The crusts of ecthyma are brownish in color; in syphilis they are blackish. In ecthyma they are less bulky than in syphilis, and do not tend to heap up into layers. If the disease be syphilis, other symptoms will almost invariably be present, which will further aid in establishing the diagnosis.

Treatment.—The affection yields readily to the proper remedies. All means should be adopted for the purpose of reinstating good health. The diet is of great importance; it should consist of the most nutritious and wholesome food, including meat, eggs, milk, ale, and other articles calculated to improve the tone of the system. The hygienic surround-

* I have found this to be particularly the case in the colored race, where the areola and color of the eruption are altogether wanting.

ings should be inquired into; cleanliness, frequent bathing, fresh air, exercise, proper rest, should all claim attention and regulation. It is to be remembered that the affection is one caused by debility; very frequently the means just indicated will be alone sufficient to arrest the process. It is, however, proper also to administer tonics, among which the preparations of iron, quinine, and the mineral acids, will prove of especial value.

The local treatment will vary with the stage in which the lesions exist. During the first week, alkaline baths, six ounces of the bicarbonate of sodium to the bath, may be ordered; various cooling lotions may also be employed, as in any other inflammatory condition of the skin. After crusts have formed, they are to be removed by poultice or water dressing, and a mild stimulating ointment applied.

℞ Ungt. Zinci Ox. Benz., ℥i;
Hydrargyri Ammoniati, gr. x.
M. ft. unguentum.

If there is no disposition to recovery, the sores may be touched with more stimulating substances, as the nitrate of silver, carbolic acid, or solution of chlorinated soda. It is scarcely necessary to say that if pediculi or other external irritants are present, they should be at once removed.

Prognosis.—This is always favorable. A few weeks usually suffice to restore the patient to health, provided a thorough change can be obtained and the treatment carried out. Relapses only occur if the system be allowed to fall again into the condition which originally occasioned the disease.

PSORIASIS.

Syn. Lepra; Lepra Alphos; Alphos; Psora; *Germ.*, Psoriasis; Schuppenflechte; *Fr.*, Psoriasis.

PSORIASIS IS A CHRONIC DISEASE OF THE SKIN, CHARACTERIZED BY REDDISH, SLIGHTLY ELEVATED, DRY, ROUGH, INFLAMMATORY PATCHES, VARIABLE AS TO SIZE, SHAPE, AND NUMBER, COVERED WITH ABUNDANT WHITISH OR GRAYISH, MOTHER-OF-PEARL COLORED, IMBRICATED SCALES.

Symptoms.—Psoriasis, like other inflammatory diseases of the skin, varies greatly as to the extent of its development,

in one case showing a well-formed and typical eruption, while in another it is very imperfectly and scantily defined. As a rule, however, it possesses characters which render it one of the most uniform and marked of all the cutaneous diseases. It commences by the formation of small reddish spots, scarcely raised above the level of the skin, which become immediately covered with whitish scales. These lesions usually increase rapidly in size, and often in a few days develop into patches as large as a coin. The scales are present from the beginning, and are seated superficially upon the reddened and inflamed skin. The rapidity with which the first lesions of psoriasis extend is often remarkable, especially when it is considered that the process soon settles into a chronic course. It also occurs that the eruption is sluggish from its commencement, spreading slowly, and perhaps involving only a small portion of the body. The amount of skin attacked varies exceedingly, the whole surface being at times the seat of disease, while in other cases but a single small patch exists.

Psoriasis as it is commonly encountered consists of numerous detached patches or islands of disease, scattered more or less over the body, tending to run a definite, slow existence. These distinct patches, with perfectly healthy tissue between them, are quite characteristic, their sharp and abrupt outlines causing them to stand out conspicuously. They may be either light or dark red, depending upon the amount of inflammation, and are invariably covered with whitish scales, usually in such quantities as to mask the color of the skin beneath. When of any size, the patches are slightly raised and have a perceptible border about their periphery; if the scales are plenty the elevation is more manifest.

The scales are peculiar and characteristic of the affection. They are formed in great abundance, and are cast off in profusion; the more active the inflammation the larger the quantity produced and discharged, so that, although at all times present, their number may vary. They possess a whitish, glistening, mother-of-pearl color. They are imbricated, and form laminæ, which adhere but slightly to their bed. They may be readily scratched off, and when the skin

is thoroughly denuded, a bright red surface may be seen, which inclines to bleed, in the form of minute, pin-point drops. But there is never at any time any watery discharge; the patch, with the exception of a drop or two of blood provoked by scratching, always remaining dry and scaly. Fissures not infrequently exist, especially when the disease has attacked the joints or parts exposed to motion; they are likewise common upon very large patches, involving, for example, the thighs or buttocks.

The degree of inflammation attending the process may vary exceedingly. At times symptoms of this kind are highly developed, as is manifested by the heat, swelling, burning, itching, and redness, while at other times most of these signs will be absent. More or less itching usually attends the disease, particularly at the commencement or when it is extending itself. Burning is also a common symptom when considerable surface is attacked with active inflammation. In grave cases only is the affection ushered in by febrile disturbance; it is never marked.

Psoriasis is a conspicuously chronic disease, for, although individual patches may disappear, others are apt to show themselves in various parts of the body; in this way the disease may continue for a long period. Even when all traces of it are lost for the time, relapses are the rule, which may occur at brief or at long intervals.

The eruption assumes differences as to the size and shape of the patches, some of which are of such frequent occurrence as to be worthy of special names. These terms simply denote the form or outline which the disease has taken on, and do not apply to any difference in the character of the anatomical lesions. When psoriasis occurs as a small, pin-head sized eruption it is known as PSORIASIS PUNCTATA. This is a rare form of the disease, for, although all cases begin in this manner, they seldom remain in this state, but, as a rule, quickly pass on to more developed and extensive forms. PSORIASIS GUTTATA is the name given to express the affection when it has assumed the form and size of drops. This is more commonly seen than punctata, though the process rarely stops at this stage for any length

of time. PSORIASIS NUMMULARIS, where the eruption resembles variously-sized coins, is the next stage encountered. The affection not infrequently ceases to grow when it has arrived at this period, and often remains in this condition throughout its career. At times the patches clear away in the centre, leaving the skin here normal, while they continue extending upon their periphery, after the manner of tinea circinata; when this occurs the condition is called PSORIASIS CIRCINATA. These circles are very apt to coalesce sooner or later in the course of their existence, forming more or less broken semicircles and segments of circles, which may present a figured, festooned or ribbon-like appearance, to which the name PSORIASIS GYRATA has been given. When the patches are large, and irregular as to shape, covering a considerable amount of surface, the term PSORIASIS DIFFUSA is employed to express the condition.

As regards the size of the individual patches, they differ very much according to the severity of the process and other circumstances. At times they attain great size, and may be from three or four to eight inches in diameter; where two or more patches have joined by their spreading into one another, extensive areas may exist, covering a considerable portion of a limb or the trunk.

Psoriasis may occur upon any part of the body, though it manifests itself upon certain regions in preference. The extensor surfaces of the limbs are particularly prone to the eruption.* The elbows and knees are frequently the first parts of the body attacked, and slight patches may exist here without the disease being present elsewhere. The back is more commonly involved than the chest, although both regions suffer. The face is more rarely attacked, but the scalp is often the seat of the disease. The palms and soles may also be invaded, either alone or in connection with the affection upon other parts of the body. The nails are at times attacked, but seldom, if ever, unless the eruption exists also upon the skin.

Psoriasis offers certain differences in the appearance of

* See Plate B, Psoriasis, Part I., in the author's Atlas of Skin Diseases.

the eruption as it exists upon one part of the body or another. Upon the scalp it frequently shows itself in the form of irregular bands or streaks of eruption; the patches may also be isolated, as upon the trunk. The hair is apt to fall out after it has existed for some time, but usually grows again after the disease has disappeared. Psoriasis attacking the scalp is apt to extend itself somewhat upon the non-hairy parts; thus it is frequently seen about the ears, and also upon the forehead just beyond the line of the hair. When on the scalp alone it is usually difficult of diagnosis. Psoriasis, probably, never occurs upon the mucous membranes; I have never seen it here.* It is not contagious.

Etiology.—The cause of this disease varies in different cases, there being no one appreciable known cause which occasions the eruption. On the contrary, it is seen to arise in conditions of the body which are diametrically opposite to each other, as in anæmia and plethora. Unquestionably, there exists in some individuals a predisposition to the affection, which may be either inherited, or developed from some inappreciable cause. In these instances the disease shows itself at various times during the life of the patient.

Psoriasis is generally encountered in those who have the best of general health, in those who are well nourished and stout, and also in those who have otherwise a fine, clear skin. On the other hand it is also seen in persons who are much broken down in health; in the spare and poorly nourished, as in those who are nursing. Psoriasis occurs in both sexes in about equal proportion. It may make its first appearance at any time of life after early childhood, but, as a rule, it rarely shows itself before puberty. It never occurs in infants or very young children. The common period for its manifestation is at about the age of twenty, but it may also first appear much later in life. Psoriasis may be inherited, but according to my experience rarely so, for the majority of cases encountered cannot be traced to

* Cases of so-called psoriasis of the mouth, and especially of the tongue, are not psoriasis, but other forms of disease. See papers by W. Fairlie Clarke, Practitioner, Aug., 1874, and Brit. Med. Jour., March 14 and 28, 1874; also, "Le Psoriasis Buccal," Paris, 1873, by Debove.

either father or mother. It is never produced by syphilis. It is a disease in no manner connected with syphilis, either directly or remotely. Syphilis gives rise to certain forms of eruption which closely resemble psoriasis, but true psoriasis —a simple disease of the skin, attacking no other organ of the body—is an affection distinct from syphilis.

It occurs among the rich and the poor. It is found among all occupations without noteworthy difference, affecting those who indulge in exercise as well as those who lead sedentary lives. It is one of the commonest diseases of the skin, taking rank, numerically, in America, after eczema and diseases of the sebaceous glands. My experience at the Dispensary for Skin Diseases, Philadelphia, gives me sixty cases of psoriasis in every one thousand cases of skin disease. The seasons possess some influence upon it, but not so much as upon certain other diseases, as, for instance, eczema; it is usually worse during the winter. Food and drink have little or no effect in the original production of the disease, though when once the process has taken possession of the skin it may at times be modified by both food and drink. Psoriasis is at times noted to be associated with gout and rheumatism, although the relation which it bears to these general diseases is by no means, as yet, clearly or satisfactorily made out.* The relationship is not, I think, of so close a nature as that which exists between these diseases and eczema.

Pathology.—The disease consists in a hyperæmia of the affected portion of the skin, accompanied with the free formation of epidermic cells. This condition is present from the very commencement, and exists throughout its entire course. The disease has a pronounced character, from which it never varies, rendering the pathological process one of the most definite which is encountered upon the skin. The degree to which the inflammatory symptoms may attain is variable, and dependent upon the cause.

---

* For further information upon this subject see a comprehensive and able paper "On the Nature of the Gouty Vice," by Dr. Wm. H. Draper, of New York. American Clinical Lectures, vol. i., No. xii., 1876.

The pathological anatomy has been studied by several German investigators. According to Hebra, who has had opportunity of examining several cases of psoriasis after death, in patients who had died from intercurrent diseases, there remains very little to be seen upon the body. With the naked eye it is observed that the redness of the patches has left the surface, and that the scales are seated very superficially upon the skin. Pieces of skin excised and examined with the microscope fail to show any decided deviation from health. G. Wertheim and Neumann excised portions of skin from living cases of psoriasis and examined them microscopically. The former observer found the papillæ greatly enlarged, with marked distention of the blood-vessels of the skin. Neumann,* who has of late repeatedly excised portions of psoriatic skin, states that he finds the epidermis and rete Malpighii highly developed, and the papillæ considerably enlarged. The corium is filled with an abundant cell growth, which is seen especially along the vessels. It occurs principally in the upper layers of the corium, and in the apices of the papillæ. From his investigations he concludes that psoriasis must be viewed as a disease of the upper layers of the corium and the papillæ, accompanied with marked cell-proliferation.

The scales of psoriasis, examined under the microscope, show nothing peculiar or characteristic. They exist in great abundance, and are made up of masses of epithelial cells, many of which are imperfectly formed.

Diagnosis.—The diagnosis of typical psoriasis does not present any difficulty, but there are cases frequently encountered where the lesions are very imperfectly developed, and where the appearance of the disease calls for more than casual observation. Psoriasis, according as it occurs upon one portion of the body or another, is easy or difficult of recognition; thus, when upon the trunk it is usually characteristic, while upon the scalp it is often irregular in development and obscure. Commonly it exists as a diffused or scattered eruption, extensively present over the various

* Loc. cit., p. 221.

regions of the body, and by taking into consideration the whole aspect of the disease the difficulty in diagnosis will be greatly lessened. Where there is doubt, the history of the case may be referred to, a point which will be of material assistance in forming an opinion.

Psoriasis may be confounded with eczema squamosum, syphiloderma squamosum, tinea circinata, lupus erythematosus, and seborrhœa.

Eczema.—Occurring upon a limited portion of the body, it not infrequently bears a close resemblance to the squamous form of eczema. This is particularly the case when but one or two imperfectly-defined patches exist upon the arms or legs. The appearance of the two eruptions in these instances is often strikingly similar, and the diseases may readily be confounded. The symptom of itching may or may not be present in psoriasis, and therefore neither its absence nor its presence can be relied upon as a means of diagnosis. In eczema, however, it is always present, and to a much greater degree than in psoriasis. In the majority of cases of eczema there will be found an account of the disease having been at some time in its course moist or wet. This is a symptom in the history of eczema which will often prove of value as an aid to diagnosis. Psoriasis, it is to be remembered, is invariably a dry, scaly disease, never at any time in its course showing any sign of moisture. The scales of psoriasis are always much more abundant, larger, and whiter than those of eczema. The patches of psoriasis are usually well defined as to outline, while those of eczema generally exhibit an indistinct border, fading away into the healthy skin.

Syphilis.—Psoriasis and the papulo-squamous syphiloderm are frequently mistaken for each other, the diagnosis between these two diseases being at times extremely difficult. The papulo-squamous syphiloderm at times, indeed, resembles psoriasis very closely. There are, however, points of difference which always enable one to differentiate them. Psoriasis has a decided tendency to occur symmetrically; when present upon one side, it is the rule to find it on the corresponding part. This observation does not apply to the

syphiloderm, for it seldom disposes itself with any degree of symmetry, except in connection with the palms or soles, and even here it is subject to variation. Psoriasis inclines to involve a large portion of the surface at the same time; the squamous syphiloderm rarely does. Psoriasis throws out an exuberant product in the shape of characteristic scales; in syphilis these are scanty. Psoriasis attacks remote parts of the body at the same time, as, for instance, the head and the lower limbs; syphilis confines itself, as a rule, to one region of the body. In psoriasis the elbows and knees are very apt to be affected; in syphilis these regions are seldom involved. Occurring upon the palms or soles alone, the disease in the majority of cases will prove to be syphilis rather than psoriasis.

The color of the patches in both affections is reddish, but it is likely to be of a much brighter and more inflammatory tint in psoriasis, while in syphilis it is dull red or ham-colored. The scales in psoriasis mask the color of the skin and give the patch a whitish or mother-of-pearl hue; in syphilis they are always thin, and scanty, and do not, as a rule, disguise the color of the skin. The infiltration in a patch of psoriasis is less marked than in syphilis; this may be determined by taking a fold of the skin up between the fingers. A psoriatic patch shows infiltration with marked hyperæmia; a syphilitic one, the deposit of a firm, new, cellular material.

The age of the patient may offer some clue to the diagnosis. In the majority of cases psoriasis will have manifested itself before the age of twenty; this form of syphilis rarely appears before adult life. The courses of the two diseases are quite different. Psoriasis is apt to have lasted for years, either continuously or in an off-and-on manner; syphilis seldom remains in one form for any length of time. Other points of value in the history may be brought out. There should be no account of the various symptoms of syphilis in psoriasis; it may or may not be possible to elicit them from the patient in the syphiloderm. Itching may, but seldom does, accompany this form of syphilis; it is not uncommon and is often marked in psoriasis. In obscure

cases the effect of treatment will decide as to the nature of the lesion.

Tinea Circinata.—Psoriasis at times resembles tinea circinata, but the patches of the latter disease are less inflammatory, red, and infiltrated. The scales in psoriasis are very much more abundant than in tinea circinata; they are, moreover, always more bulky and whiter in color. Tinea circinata shows no disposition to symmetry in the arrangement of the patches, nor are the knees and elbows affected. The history of the two diseases is very different. The microscope establishes the presence of a fungus in the scales of tinea circinata; no parasite is to be found in those of psoriasis. There is never any history of contagion in psoriasis; there usually is in tinea circinata.

Seborrhœa.—Seborrhœa not infrequently presents appearances similar to those of psoriasis, both on the scalp and on the body, about the back and chest. On the scalp the scales in seborrhœa are finer, smaller, and more disseminated than in psoriasis; they are, moreover, yellowish in color, greasy, and sebaceous in character. Psoriasis of the scalp occurs in distinct areas of disease; seborrhœa is apt to involve the whole surface. The patches of psoriasis are reddish and infiltrated; the scalp in seborrhœa is usually pale, or at times hyperæmic, but not infiltrated. Psoriasis rarely attacks the scalp without showing some signs at the same time upon the trunk or limbs; seborrhœa commonly has its seat upon the scalp alone.

Lupus Erythematosus.—This disease can be mistaken for psoriasis in its earliest stage only. The obvious involvement of the sebaceous glands, as shown by their patulous ducts, will serve to distinguish it from psoriasis. Lupus erythematosus almost invariably attacks the face, and is only rarely seen upon other parts of the body; psoriasis seldom appears upon the face in the form of large patches. Lupus erythematosus presents yellowish, sebaceous scales; psoriasis white, dry, imbricated scales. Lupus erythematosus is very chronic in its course; psoriasis changes its seat and appearance from time to time.

Treatment.—This is to be considered under two heads,

See British Med Journal 1878
Vol 1/71/p. 656. (Oct 17.)

constitutional and local, both of which methods of treatment are of value and require extended notice. It is usual and proper to employ the two forms of treatment at the same time, for psoriasis is found to be one of the most obstinate of the inflammatory diseases, demanding every available means for its relief.

CONSTITUTIONAL TREATMENT.—Before undertaking to prescribe for a case of psoriasis there are a number of points which should be ascertained. The disease should first be viewed in its totality, and a thorough study made of its history before any plan of attack is adopted. It will be found that different methods of therapeutics are called for with the various cases that are met with, and that a course of medicine which would be of service to one case would be of no benefit to another. Attention should be directed to the general health of the patient: whether he be strong and fleshy or delicate and spare; also whether there be any functional derangement which might act as a cause of the attack. Regard must be given to the duration and course of the disease; how long it has existed; whether it has been upon the patient continuously, or whether it has tended to come and go from time to time or at stated intervals; whether it is slight or extensive; and, finally, whether a recent affection or one of long standing. These and similar points are all of value in aiding us to institute a rational and satisfactory treatment.

Among the medicines of most use in treating psoriasis I shall first speak of arsenic; other remedies are also employed, but this one is unquestionably of the greatest service. For the majority of cases arsenic, given judiciously, is the most efficacious medicine at our command. I add judiciously, because it is frequently prescribed in improper doses and the patient allowed to continue its use indefinitely, causing toxic and unpleasant effects, without affording relief. Arsenic, like every other potent drug, should be administered with due regard to the general condition of the patient's health, which should never be permitted to become deranged. The individual should be warned against its possible disagreeable effects, and should also be constantly

under the surveillance of the physician. The disagreeable symptoms frequently observed to result from arsenic should never be allowed to occur, for they are not only annoying to the patient but do not in any way hasten the cure. Arsenic is by no means suitable for every case of psoriasis. Nor is it to be prescribed in every stage of the disease. If given in the acute stage it is apt to do more harm than good. It may be said, the less active the pathological process of the disease the more likely it is to be of benefit; and, on the other hand, the more acute and hyperæmic the less probability is there of its being of service. If the affection, then, be very active, and attended with highly inflammatory symptoms, it is expedient to withhold its administration until this stage has relatively passed away, and the process has assumed a slower action. The less irritability, heat, itching, and infiltration about the patches the greater the chance of the arsenic relieving the disease. It is a grand error to think that arsenic is demanded in every stage of psoriasis. To procure good results, discretion must be exercised in its exhibition.

In order to obtain the remedial effect of arsenic it is necessary to continue its employment for a considerable period of time, not infrequently for several months, although improvement is usually observed in the course of a few weeks. It should be continued for some weeks after the symptoms have disappeared, the dose being from time to time decreased. The best and most desirable form of administering arsenic is the liquor potassii arsenitis, which admits of convenient mixing with other medicines, with which it is often prescribed. It may be given with wine of iron, or with a bitter infusion, as gentian or calumba, or with syrup of orange peel or ginger and water. It should never be prescribed alone or pure, the patient being directed to take so many drops per dose. This mode has numerous disadvantages, chief among which are that an uncertain number of drops are apt to be taken, through carelessness on the part of the patient, and also that when taken insufficiently diluted it is apt to disorder the stomach. It should always be properly diluted with water and taken directly after

meals, in order that it may become thoroughly mixed with the food, thereby avoiding immediate contact with the coats of the alimentary canal, which it is inclined to irritate, especially when given in large doses. It is ordinarily convenient to order a four ounce mixture, a fluidrachm being given for each dose, three times a day.

A formula which I frequently prescribe is the following:

℞ Liq. Potassii Arsenitis, fʒiss;
Vini Ferri q. s. ad fʒiv;
M.—Sig. One teaspoonful, with a wineglassful of water, three times daily; to be taken directly after meals.

The dose here is three minims; it may be varied to suit the case. In an adult it is proper to begin with not more than three minims per dose, which quantity may be increased. The dose most suitable to the majority of persons is three minims. Four, five, and even ten minims will often be tolerated; but, taking a number of individuals, it will be found that the majority will not be able to take more than three or four minims for any length of time without derangement of the system. Arsenious acid, made into pills, is also a mode of administering this remedy, but it is not so desirable a form.

The Asiatic Pills, as they are called, are employed in various strengths, and have considerable reputation abroad in the treatment of psoriasis; but they are apt to produce gastric trouble, and are not tolerated so well as Fowler's solution. Their composition is as follows:

℞ Acidi Arseniosi, gr. ii;
Piperis Nigri, ℈ii;
Pulv. Glycyrrhizæ Rad., ℈ii.
M.—Ft. in pil. no. xl. div.
Sig. One pill, three times daily, directly after meals.

The unpleasant symptoms arising from the use of arsenic should always be borne in mind, so that should they occur they may not be overlooked. These effects vary exceedingly in different individuals. There are some persons who are extremely susceptible to the influence of this mineral,

and who are poisoned by it with the smallest dose. I have known half minim doses to be sufficient to bring on alarming symptoms, such as redness, heat, dryness, and irritability of the fauces, pain in the eyeballs, watering of the eyes, injection of the conjunctiva, pains in the head, and derangement of the alimentary canal. Some if not all of these symptoms are usually present when the individual is under the toxic effect of arsenic, whether from a small dose, on account of an idiosyncrasy, or from a larger quantity saturating the system. Under such circumstances the medicine should be discontinued until the normal condition has been regained, when it will be proper to guard against a repetition of such accidents. The disagreeable effects usually subside at once upon the suspension of the remedy. Arsenic is a safe medicine when given under the care of a physician. But it should not be prescribed incautiously, any more than mercury or strychnine.

Iron is another remedy of some value in certain cases of psoriasis. It acts beneficially where there appears to be lack of normal strength and tone. In women who have been nursing, in young persons of spare frame, and in those broken down in general health, the various preparations of iron often prove of service.

To the same class of cases cod-liver oil may be ordered with good result, and a combination of this remedy with iron may often be employed with advantage. The use of the oil should be persevered in for some weeks before it is abandoned. But the cases must be selected if improvement is to be looked for under this plan.

Phosphorus has been used with some success, although it cannot be regarded as a reliable remedy. It has of late again been tried by Hardy, of Paris, Eames, of Dublin, and others, with varying results. It is best given in capsules, in the dose of about one-twentieth of a grain, three times daily. According to my experience, it usually produces more or less gastric disturbance.

Cases are encountered where the free use of alkalies proves of service in psoriasis. In patients who have a rheumatic or gouty tendency, or where there are allied con-

ditions, the liquor potassæ may be prescribed in ten and twenty drop doses, largely diluted, three times daily, after eating. In these cases the salts of ammonium, potassium, and sodium are also very serviceable. The carbonate of ammonium, in from ten to thirty grain doses, well diluted with water, is favorably spoken of by Dr. McCall Anderson. The acetate of potassium, in half drachm doses, largely diluted, is a remedy from which I have frequently obtained excellent results in highly inflammatory cases. The various natural alkaline springs may also often be prescribed with beneficial result in these cases. Those of Vichy, France, Saratoga (Vichy Spouting Spring), and others containing like ingredients, are the most valuable.

Saline purgatives may occasionally be of value in promoting a better condition of the general health; but these remedies are to be employed only to correct manifest derangements which the physician may detect in the case before him.

The diet in psoriasis is to be prescribed according to the supposed requirements of the case in hand. As a rule, it matters little what psoriatic patients eat or drink, the disease not appearing in any way to be influenced by the amount or kind of food taken. Exclusive animal diet, taken for a period of weeks, is known to have been followed by the disappearance of the disease, as in the case of Dr. Passavant, of Frankfort, Germany. Unfortunately, however, such a happy result is only exceptional. In a case which seemed to me suitable for this mode of treatment I instituted a strict meat diet for three weeks, with no appreciable result; afterwards, a strict vegetable diet, at the end of which time the patient appeared to be about in the same condition as before treatment.

Local Treatment.—The use of external remedies must vary greatly according to the duration of the disease, its extent, location, obstinacy, and the stage in which it exists. Regard, too, must be paid to the individual whom we have to treat, whether, for example, the patient be a man, a woman, or a young person, and whether he or she be in a position to carry out the plan that may seem most suitable. It is neces-

sary to bear in mind that a course of treatment which could be successfully accomplished in the ward of a hospital or in a private dwelling, would be impracticable in the rooms of the poorer classes. In selecting a method of external treatment, then, it will be important to ascertain to what extent the treatment proposed can be followed out.

The first point to be gained is the thorough removal of the scales which are found upon the patches. This may be done in one of several ways: by repeated washings with soft soap and water, by means of plain or alkaline baths, by detergent washes, or by caustic ointments. For this purpose the bath is of especial service, accomplishing the object much more effectually and agreeably than any other method. When possible, it is always to be employed in all cases of psoriasis, for in no affection of the skin is the bath more beneficial than in this disease. The psoriatic patient of experience, knows full well the comfort, satisfaction, and benefit to be derived from the bath.

If the case be an acute one, with very inflammatory symptoms, soothing applications, either of water or of bland ointments, must be used, for the skin at this period will not tolerate the powerful stimulants which are in place in the later stage of the disease. Inunction with olive oil at times proves serviceable in highly inflammatory cases, the patches being well rubbed with the oil several times in the course of the twenty-four hours. Duckworth, of London, speaks well of the treatment, and I can also add my testimony to its efficacy. The vast majority of cases, however, when they present themselves to the physician, are chronic, and are ready for stimulating applications. The patches having been deprived of their scales, one of the tarry preparations may be applied. These constitute our most useful class of remedies in psoriasis. Occasionally, however, cases present themselves where they are not tolerated upon the skin, even in the smallest quantity, and where they must be at once abandoned. Remembering this fact, it is proper never to apply any preparation of tar over a large surface until it has been ascertained that it agrees with the skin. Where there is an idiosyncrasy, or where tar is not suited to the case,

the parts to which it has been applied immediately become red, swollen, hot, itchy, or painful, and feel more uncomfortable than before the application. In the majority of cases, however, tar, in the form of an ointment or solution, is well borne, and is of great service.

Pix liquida, the common tar, or oleum cadinum, the oil of cade, may be used. Both of these preparations are efficacious, and may be compounded in various ways. An ointment composed of a drachm of tar or of oil of cade to the ounce of simple cerate may be ordered; it may also be prescribed of greater strength. Another preparation which may be employed consists in a drachm or more of the oil of cade to the ounce of alcohol or cologne water, likewise to be rubbed into the patches, with a piece of flannel. In the application of any of the preparations of tar it is of some moment that they should be used in small quantities and effectually worked into the skin. They should be firmly rubbed into the part, and not smeared upon the surface. This is an important point, and the physician should see that it is properly carried into execution. The cleansing of the patches and the application of the ointment or liquid should be regularly attended to once or twice during the day.

A mixture proposed by Hebra, composed of equal parts of pix liquida, alcohol, and sapo viridis, constitutes a preparation which is used with great benefit in obstinate cases of psoriasis. Anderson has given this preparation the name of "tinctura saponis viridis cum pice." The "liquor picis alkalinus," referred to in considering the treatment of eczema, may also be used, in the same manner as in eczema. For most cases, however, the ointment, of one strength or another, is to be preferred.

Apart from the local disturbance to which tar occasionally gives rise, there are systemic troubles which may, in certain cases, be produced by its absorption through the skin. Of these, fever, headache, vomiting of dark colored fluid, discoloration of the feces and urine, are to be mentioned. Upon the suspension of the tar, however, these symptoms rapidly subside, and are not followed by serious consequences. The

greater the surface coated with tar the more likely is this absorption to take place; in the treatment of a case of psoriasis of ordinary severity it is rare to note any such effects. The long continuance of the use of tar may at times be followed by an inflammation of the sebaceous glands of the face, causing a form of acne, called tar acne.

Creasote may also be used in the form of an ointment, varying in strength from a drachm to four drachms to the ounce. Squire, of London, speaks well of it in the strength of two ounces to one ounce of simple cerate.

In cases where it is not practicable to apply the tar, either on account of the odor or of its disagreement with the skin, other ointments may be prescribed and used in a similar manner. Where the patches are small and limited in number, I have frequently obtained good result from the ointment of the nitrate of mercury, either in its officinal strength or weakened,—from one to four drachms to the ounce of simple ointment. The biniodide of mercury, in the form of an ointment, from five to fifteen grains to the ounce, is also a useful remedy; it is much esteemed in France. It is advisable, however, to limit the application of these mercurial ointments to small portions of surface, on account of the liability of absorption and salivation. The officinal white precipitate ointment, or an ointment of the protiodide of mercury, fifteen or thirty grains to the ounce, may also be mentioned as being serviceable.

I have recently used with good result in psoriasis of the scalp, a half drachm of the white precipitate to the ounce of vaseline.

In cases where the patches are the size of a coin, and very obstinate, they may, as recommended by Anderson, be treated successfully with a cantharidal blistering fluid.

The benefits to be derived from the systematic use of sapo viridis in the treatment of psoriasis, as recommended by Hebra, demand a few words. This soap, which possesses sharp caustic properties, may be rubbed into the patches without water, and allowed to remain. The operation should be repeated twice a day for four or six days; then only once a day, until the tenth day; after which the patient

is directed to apply nothing for five days, when a bath may be ordered. The bath should not be taken until the epidermis has begun to loosen itself; if water be applied while the soap is still being used, or before the exfoliation has occurred, tension and a very disagreeable sensation of shrinkage of the skin, with fissuring, will happen.

The soap, either alone or with alcohol, in the form of the "spiritus saponis alkalinus" of Hebra, composed of two parts of soap and one of alcohol, may be employed with excellent result in psoriasis of the head. This may be followed by the "tinctura saponis viridis cum pice," or a mixture of oil of cade and oil of sweet almond, a drachm to the ounce. Carbolic acid, ten minims to the ounce of alcohol or glycerine and water, is also useful.

Mention has been made of the bath only as a means of getting rid of the scales; it is also to be considered as a curative remedy. Various mineral baths are at times of benefit in relieving the disease, if not effectually at least temporarily; they should be employed continuously for several hours in the course of the day. Those containing sulphur, as those of Virginia and New York (Sharon), are to be especially recommended.

In obstinate patches of psoriasis, of limited size, a solution of sulphuret of calcium may be employed with good result, as in the following formula:

℞ Calcis, ℥ss;
Sulphuris Sublimati, ℥i;
Aquæ, ℥x.
Coque ad ℥vi, deinde filtra.
Sig.—"Vleminckx's Solution."

It should be rubbed into the part with a piece of flannel, until slight bleeding takes place. The patient is then to be placed in a plain water bath for an hour, and the patch afterwards anointed with a bland oil or cerate. This treatment is effectual, but painful; it should never be used where the disease is at all extensive. One or two rubbings are usually sufficient.

In cases where the eruption is localized, good service is to

be obtained from cold water packing. The part—as, for example, a limb—is to be wrapped with a cloth wrung out of cold water, and this enveloped in oilskin or some other impermeable dressing. It may be done at night and allowed to remain on till morning. More extensive methods of cold packing may also at times be employed with advantage, the whole body being treated in the same manner with wet sheets, and surrounded by blankets in the place of oilskin. The patient should be thoroughly enveloped and tied up with the sheet, and well wrapped up in a blanket by means of straps; sufficient extra covering should be allowed. After remaining in this condition for an hour or two, a cold plunge bath may be taken, to be followed by a walk or exercise of some kind. Abundance of drink (water) should be permitted the patient, thereby promoting perspiration. The process is to be repeated once or twice in the twenty-four hours.

Prognosis.—As a rule, psoriasis tends to frequent relapses. An attack may last a few months, and under appropriate treatment be made to disappear completely, when, after an interval of an indefinite period, it will usually again show itself. In severe cases relapses occur continually, the patient rarely being entirely free of the disease. On the other hand, psoriasis of a mild type—of which instances are not infrequent—must receive a much more favorable prognosis, for it is generally amenable to treatment, and remains away for a longer or shorter time, according to the cause. Employing a combined treatment of external and internal remedies, an ordinary case should be relieved in from one to two months. It occasionally happens that less time is sufficient; many cases, on the other hand, require a longer period. Psoriasis of years' duration, especially in old people, is more difficult of cure, and is often more successfully handled by continuous external treatment than by internal means. Each case encountered, however, will be found to possess certain peculiarities, which must be consulted as regards treatment. Psoriasis left to itself runs a variable course, which it is impossible to predict, inasmuch as its manifestations are more or less capricious. It is one of the most stubborn of

the inflammatory diseases of the skin, and is often very rebellious to both internal and external treatment.

PITYRIASIS RUBRA.

Syn. Dermatitis Exfoliativa.

PITYRIASIS RUBRA IS AN EXUDATIVE DISEASE, INVOLVING USUALLY THE WHOLE SURFACE, CHARACTERIZED BY A DEEP RED COLORATION OF THE SKIN, AND THE RAPID, ABUNDANT, AND CONTINUOUS EXFOLIATION OF EPIDERMIS IN THE FORM OF LARGE, THIN, WHITISH SCALES, UNATTENDED BY THICKENING OF THE SKIN OR ITCHING.

Symptoms.—The affection usually begins in the form of small, red, scaly patches upon one or upon various regions of the body. These increase rapidly in size and coalesce, forming larger patches, which may in a short time invade the greater portion or the whole of the surface. In other cases the whole skin is attacked at the same time. The disease makes its appearance rapidly. The surface is seen to be uniformly reddened and to be covered with thin, whitish scales, which are being continually cast off and reformed. The color is a vivid deep red, which fades away under pressure, leaving a yellowish-red tint. The scales are extremely abundant, and are composed of thin, dry, papery, whitish, exfoliated patches of epidermis. They are large, varying in size from a small coin to several inches in diameter. They are more appropriately termed flakes; at times they resemble in outline the tiles of a roof, one overlapping the other. They are loose, are seen to be free at one or more edges, curled up, and may be picked off without causing pain or bleeding. When the skin is deprived of the scales it possesses a smooth, more or less shining aspect. When the disease is marked the desquamation is exceedingly rapid and very abundant, large amounts of epidermis being shed in the course of the twenty-four hours. During the night, handfuls may be formed, loosened, and accumulated in the bed.

The skin is not thickened; it may readily be pinched up between the fingers, and in this respect differs from the skin in psoriasis and eczema. It is always dry. Owing to the

dryness of the scales it has a harsh feel. The disease superficial in character, the upper layer of the skin o being involved. At times there is œdema, especially the limbs; stiffness of the joints may also be present. F sores are seldom present. The nails may or may not affected; occasionally they are transversely furrowed. T whole body is almost invariably the seat of the process, region remaining exempt. The palms and soles at tim escape.

As a rule, there are no itching or burning sensation when present they are slight. The patient complains rath of the disagreeable condition of the skin than of marked su jective symptoms. It has been noted that patients are a to feel cold and to suffer from a constant feeling of chilliness Constitutional symptoms may or may not be present; as rule, they are slight or altogether absent. In some case however, they have been recorded as being severe, consis ing of repeated febrile attacks, marked elevation of tem perature, and signs of general disturbance.

The disease may be either acute or chronic; it may co three weeks and months, or years. Relapses are not u common. The affection may last for years, recurring attacks, as in Dr. McGhie's case, which was under observa tion through a period of seventeen years, during which tim many relapses took place.

Etiology.—It is a disease of adult life, occurring usually middle age; it has, however, been encountered in youn persons. According to Devergie,* of Paris, who was one the first to describe the disease, it is met with more often women than in men. It is a very rare disease. The cause are obscure.

Pathology.—The process is inflammatory in its nature, th exudation taking place very rapidly and continuously. must be viewed as being very similar to that of psoriasi although manifestly more superficial in character. The pa

* Traité pratique des Maladies de la Peau, p. 462. Paris, 1857. Both Hebr and Wilson also described the disease under consideration, in their respecti works, at about the same period.

illary layer alone appears to be involved. The changes which occur are probably of the same kind as those of psoriasis. The whole process consists simply in the excessive formation and exfoliation of epidermis.

Diagnosis.—The disease is liable to be confounded with eczema squamosum, psoriasis, and pemphigus foliaceus. It bears a resemblance to all of these affections, but can scarcely be confounded with them if the characters be borne in mind. It differs from erythematous and squamous eczema in its superficial nature and universal distribution; in the absence of all infiltration and thickening of the skin; in the peculiar formation and character of the scales, their rapid production and abundance; and, finally, in the absence of itching and burning.

Psoriasis rarely invades the whole or even the greater portion of the surface; pityriasis rubra, as a rule, attacks the whole surface uniformly. The scales, moreover, are very different in these two diseases, and are alone sufficient to establish the diagnosis. In psoriasis there is always more or less thickening of the patches; and, where the process is active, there is considerable itching and burning.

Pityriasis rubra may be mistaken for pemphigus foliaceus, which it resembles as regards distribution and the character of the exfoliation. In pityriasis rubra, however, there is no attempt at the formation of bullæ; the process is always dry.

Treatment.—Treatment should be directed upon general principles, and must vary somewhat with the case under consideration. Locally, inunctions with bland oily substances are indicated; the remedies should be soothing rather than stimulating. Internally, saline aperients, diuretics, iron, quinine, and arsenic may be prescribed, as may seem indicated.*

---

* Interesting cases of this disease have been reported by McGibbon, Glasgow Med. Jour., vol. v. p. 421, 1858; Wilks, Guy's Hosp. Reports, p. 310, 1863; Wilson, Med. Times and Gazette, Jan. 29, 1870; Benson and Smith, Dublin Jour. of Med. Sci., vol. xlix. p. 451; Tilbury Fox, Lancet, Jan., 1874, p. 294; G. H. Fox, Archives of Derm., July, 1875, p. 296; Perrineau, "Etude sur la dermatite exfoliatrice généralisée," Paris, 1875; Finny, Dublin Jour. of Med. Sci., March, 1876.

FURUNCULUS.

Syn. Furuncle; Boil; *Germ.*, Blutschwär; *Fr.*, Furoncle.

FURUNCULUS IS A DEEP-SEATED, INFLAMMATORY DISEASE, CHARACTERIZED BY ONE OR MORE VARIOUSLY SIZED, CIRCUMSCRIBED, ROUND, CONICAL, HARD, PAINFUL TUMORS, USUALLY TERMINATING IN CENTRAL SUPPURATION.

Symptoms.—Furunculi may occur singly, or, as is more apt to be the case, in numbers. Commonly, they appear in successive crops, two, three, or a half-dozen making their appearance at the same time, to be followed after they have disappeared by another invasion (FURUNCULOSIS). They are always isolated, and are apt to occur at points distant from one another.

The boil first shows itself as a small, rounded, imperfectly-defined, reddish spot, situated in the true skin; even at this stage it is seen to be highly inflammatory, hard, and tender to the touch. It increases in size gradually, and becomes conically raised, its central point exhibiting more or less inclination to suppurate. In about a week from the commencement it arrives at its full development. In size it is extremely variable; it may be as small as a split pea, or as large as a silver half dollar. When mature it consists of a slightly raised, rounded and pointed, inflammatory formation, its centre being marked usually by circumscribed suppuration, termed the *core*. At times no core forms; it is then called a *blind boil*. Its color is deep red, which is more intense towards the centre, gradually fading away on the periphery, in the form of an areola. The pain attending boils is of a dull, throbbing nature; it is usually more marked at night. It is felt as soon as the formation commences, and increases in intensity until suppuration and discharge take place, after which it at once subsides. Remarkable tenderness is also a characteristic of the boil, the slightest contact causing great suffering.

The furuncle may attack any portion of the body; no region is exempt. It has preference, however, for the face, ears, neck, back, axillæ, buttocks, perineum, and legs. Slight constitutional disturbance is very apt to be present;

it may be quite severe, its extent depending upon the nature and amount of the inflammation. The adjoining tissues may be sympathetically affected, manifesting soreness and pain; neighboring glands may also be enlarged.

Furunculi are sometimes noted to occur as a complication with other cutaneous diseases, as, for example, eczema.

Etiology.—The causes which give rise to the production of boils are various. Very frequently they are the result of a low and depraved state of the system, induced by general debility, excessive fatigue, nervous depression, improper food and exercise, irregularity of the functions of the body, and the like. Not rarely they are encountered in the course of other diseases, as in chlorosis, fevers, and similar conditions, when they are apt to appear in great numbers. Their appearance is to be viewed as probably being dependent upon a disordered state of the blood, of the nature of which we are ignorant. They may occur at any time of life, but are more common in youth and old age. In some cases the causes appear to be local, depending upon contusions or other injuries; they, however, can result from such causes only in those cases where there is a predisposition to their development.

Pathology.—The furuncle has its seat in the corium and deeper tissues. It may begin in a gland or in the structure of the skin itself. It is an inflammation of a peculiar type, running a more or less definite course. The disease commences as a small roundish spot, which increases in size until certain dimensions are obtained, when it undergoes suppurative change, resulting in the formation of a central point or core, which, together with pus, is cast off. The furuncle shows no disposition to become diffuse; it is always a circumscribed inflammation. After the discharge of the core, a cavity of more or less depth remains, showing the tissues around it to be hard and infiltrated; after a few days it is observed to fill up by granulation, leaving a cicatrix, which is apt to be permanent. The central point or core, when thrown off, is seen to be composed of a whitish, tough, pultaceous mass of dead tissue; its size varies with the extent and depth of the inflammation.

Diagnosis.—The symptoms of furuncle are so well known, that error in diagnosis can scarcely occur. The affection differs from anthrax, in that it possesses only one point of suppuration, the core, whereas in the latter disease this feature is always multiple. The furuncle is, moreover, always rounded in form, and conical in shape; the carbuncle may be rounded or oval in outline, but is always flat. Furuncle is small, being seldom larger than a walnut; carbuncle varies in size from a large coin to five or ten inches in diameter. Furuncle is exquisitely sensitive and painful to the touch; carbuncle is not particularly sensitive to the touch, the pain being of a spontaneous nature. Furuncle generally occurs in numbers, either at the same time or in the form of successive crops; carbuncle is almost invariably single.

Treatment.—Constitutional and local treatment are both called for, the object being to prevent the formation of new boils and at the same time to care for those which exist. Each case demands special study, with the view of ascertaining the cause of the trouble; as already stated, this will be found to vary in different cases. The functions, if disordered, are to be regulated by appropriate means. Tonics may in almost all instances be directed with good result. Arsenic, iron, quinine, and the mineral acids are all useful remedies. Arsenic, in from two to four minim doses three times daily, will be found serviceable in many cases; it is, I think, our most valuable remedy. Drs. Bulkley and Weisse, of New York, inform me that they have obtained favorable results from the employment of the sulphites and hyposulphites of sodium, given in fifteen or thirty grain doses, every two or three hours through the day. The diet should be generous, embracing the most nutritious articles of food. Hygienic measures play a very important part in the treatment. The patient should sleep in a well-ventilated room. Exercise should be freely indulged in. Change of air is very desirable; not infrequently it is followed at once by manifest benefit.

Locally, hot poultices of flaxseed meal, applied continuously until the core has been cast off, afford the most relief. Cold water dressings may also be employed in the first stage.

Prognosis.—Where they tend to appear in crops they are apt to be rebellious to treatment. Where great numbers of them are present, the general health of the patient is usually much impaired; in such cases the treatment should be energetic, a change of air, travelling, often proving of especial value in arresting their further development.

With the name of HYDROADENITIS Verneuil* and Bazin† have described at length an affection, which is to be viewed as a variety of furuncle, having its starting-point in a sweat gland. It consists in the formation of one or more small, inflammatory tumors, seated about the sweat glands, ordinarily terminating in suppuration. In the first stage it is characterized by a circumscribed, indolent induration, which in a short time increases in size, and is accompanied with inflammatory symptoms: when at its height it is the size of a pea or a cherry, is bright red or violaceous in color, and contains pus. Rupture of the tumor, followed by discharge of the contents, takes place, when the disease suddenly terminates; in some cases the discharge continues, constituting a more or less chronic suppurating tumor. Usually, however, it is an acute disorder. A succession of these formations may, from time to time, show themselves. The disease may attack one or several glands; if several close to one another are the seat of disease, a considerable area of inflammation may result, forming an uneven, dark red, painful tumor. The usual seat of these tumors is in the axilla, around the nipple, and about the anus and perineum; they are also encountered upon the face, and elsewhere over the body. The affection differs from furuncle in having a deep origin, and in the absence of pointing and a core; it is a form of abscess. The treatment is that of furuncle.

Under the names of ALEPPO BOUTON, BOIL, or EVIL, DELHI BOIL, and BISKRA BOUTON, certain diseases resembling one another have from time to time been described by writers.

---

* Archives Générales de Médecine, 1854.

† Affections Génériques de la Peau, vol. ii. p. 319. Paris, 1865.

The first of these is found at Aleppo, Bagdad, and the surrounding country; the second in India; and the third in Algeria and elsewhere along the coast of Africa. They are endemic in these countries. Much confusion has long existed as to their true nature. They have been described as being allied to furuncle, although possessing a much more chronic course. They are characterized at first by the formation of a papule or tubercle, which soon becomes a pustule, finally terminating in ulceration, followed by a cicatrix. According to recent investigations and studies, it is highly probable that these three diseases are identical, but modified by nationality, climate, and other causes.

For an account of the diseases, in detail, I would refer the reader to the recent interesting and valuable writings of Tilbury Fox,* and Edward Geber,† of Vienna, upon the subject. The latter of these gentlemen remained some time in Aleppo for the purpose of studying the disease, and arrived at the conclusion that all of the cases of so-called Aleppo Bouton were modified forms of syphilis, lupus, or scrofula.

ANTHRAX.

Syn. Carbunculus; Carbuncle; *Germ.*, Brandschwär.

ANTHRAX IS A DEEP-SEATED DISEASE, CHARACTERIZED BY A HARD, MORE OR LESS CIRCUMSCRIBED, DARK RED, PAINFUL INFLAMMATION OF THE SKIN AND SUBCUTANEOUS STRUCTURES, VARIABLE AS TO SIZE, TERMINATING IN A SLOUGH.

Symptoms.—The disease is usually ushered in with a chill, fever, and symptoms of general disturbance. The skin is felt to be hot and painful, and there is seen to form a hard, brawny, more or less circumscribed, flat, diffuse swelling, reddish or bluish in color, extending deep into the subcutaneous tissues. It is very painful, and is accompanied with a burning sensation, especially during the first week. Within a fortnight it will usually have arrived at its height, and then

* Loc. cit., p. 241. Also "On Certain Endemic Skin and other Diseases of India and Hot Climates Generally," by Tilbury Fox, M.D., and T. Farquhar, M.D. London, 1876.

† Vierteljahresschrift für Derm. und Syph., Viertes Heft, 1874.

consists of a remarkably deep-seated inflammation, characterized by induration, and a dark or livid red color of the skin. The tissues now begin to soften, and the skin becomes gangrenous, breaking down at numerous points, forming perforations, through which centres of suppuration may be noticed, either as whitish fibrous plugs, *cores*, or as cavities, from which a yellowish, sanious fluid oozes forth. The surface now has a cribriform appearance; it is perforated like a sieve. The whole mass of tissue results in a slough, which comes away as soon as detached; this process takes place either at once or by degrees, pieces being cast off from day to day. The slough having been discharged, a large, open, deep ulcer, with everted edges and uneven base, is seen to exist, which granulates and fills up slowly, leaving, finally, a more or less pigmented, permanent cicatrix.

The course which carbuncles pursue varies according to the age of the patient, vitality of the part, recuperative power, and other circumstances. Their duration will depend upon their size; when severe they last from six to eight weeks. Anthrax is usually single. Its favorite seats are upon the back of the neck, shoulders, back, and buttocks; the head and face are also attacked. It is a very serious disease, and when extensive, especially in the elderly, may terminate fatally. Boils are very apt to appear about the borders of carbuncle, either singly or in groups.

Etiology.—The causes of anthrax are obscure. They are probably of a nature similar to those which give rise to furuncle. The disease, however, is commonly noted to occur in those who are broken down in general health, whatever be the cause of this condition. It is noted to attack the abstemious as well as the intemperate. It is usually encountered in middle and old age, and is more often observed in men than in women.

Pathology.—The pathological anatomy of carbuncle is similar to that of furuncle. The disease has been aptly likened to a group of furuncles; but, as a process, it is much more destructive than the boil. Death of tissue is limited to one point in furuncle; in anthrax it is diffuse, numerous points being simultaneously attacked, the whole surface invaded

terminating in gangrene and a huge slough. The process is a deeper one than in furuncle, very frequently extending down to the fasciæ and muscles. The tissue of a carbuncle before the slough has formed is quite hard and firm to the touch. After the slough has been cast off, the edges of the ulcer are likewise noted to be indurated and everted.

Diagnosis.—The disease will be readily distinguished from furuncle by its size, flatness, course, multiple points of suppuration, and the character of the slough. It may be mistaken in its early stage for erysipelas; later, however, this error would be dissipated by the presence of the pain, slough, and other symptoms.

Treatment.—The treatment should be both constitutional and local; the former will depend upon the nature of the case under consideration. One case, for example, calls for stimulation; another will do well without it. The treatment should be conducted upon general principles. Supporting measures are, however, demanded in the majority of cases, when the most nourishing diet, together with milk-punch, is to be freely administered. Tincture of the chloride of iron and quinine are the two remedies from which most benefit is to be looked for. Anodynes, especially opium, are useful, and are to be prescribed in full doses in the early stage, for the purpose of insuring rest at night. Hygiene is quite as important as medicine. The patient should be allowed abundance of fresh air, and also exercise, when the region attacked will permit of it. All measures calculated to improve the general condition should be instituted and insisted upon.

Local treatment is also of importance. Early in the course of the disease, towards the third day, crucial incisions, as recommended by many surgeons, may in some cases be made with advantage; when the carbuncle is very hard and painful this procedure will at times afford great relief. On the other hand, the majority of cases do equally well without cutting.*

* In corroboration of this view, see an admirable clinical lecture on the treatment of carbuncle, by Sir James Paget. "Clinical Lectures and Essays," London, 1875.

Strict attention to cleanliness is most important. Various dressings have been recommended. Hebra speaks in favor of cold applications (cloths wrung out in ice-water or ice-bags) in the early stage, stating that, as a rule, more relief is to be obtained from this source than from poultices. Warm fomentations are, however, to be employed as soon as suppuration has begun; they tend to relieve the tension of the tissues, and hasten the discharge of the slough. The poultices may be made of flaxseed or linseed meal; they should be changed frequently. The parts should be kept scrupulously clean, the discharge being removed as soon as it makes its appearance on the surface. The slough should be carefully picked out with the forceps as soon as detached, and the ulcer washed with carbolic acid and water, a few minims to the ounce. The ulcer which remains is to be treated in the manner of a simple ulcer.

Prognosis.—This should be guardedly expressed. In the early stage of the disease it is impossible to state to what extent the carbuncle will spread; it may be two or three or six or ten inches in diameter. A fatal termination is liable to take place, especially in elderly people who are broken down in health; at the same time the mortality, taking cases as they are consecutively met with, is not so great as is commonly supposed.

In connection with the subject of phlegmonous inflammations are to be mentioned several diseases affecting the skin and deeper tissues, which are produced through infection with animal poisons.*

Poisoned Wounds.—Wounds of this character are produced by numerous insects as well as by animals. The symptoms may be local or constitutional, but are commonly the former. A large number of small insects, as certain kinds of midges and flies, the mosquito,† flea, and bed-bug, cause lesions upon the skin, which vary in kind and degree accord-

* For a complete description of these diseases the reader is referred to Prof. Gross's System of Surgery, Philadelphia, 1872.

† See a paper describing the appearances caused by mosquito poisoning, by Dr. White, Boston Med. and Surg. Jour., vol. lxxxv., No. 19.

ing to the susceptibility of the individual. The bites of these insects at times give rise to appearances resembling urticaria and purpura. Bees and wasps not infrequently occasion considerable cutaneous disturbance by their stings. The bites of many insects and spiders, as, for example, the scorpion, and reptiles, met with in hot climates, are extremely poisonous, and cause various lesions of a more or less inflammatory character.

Dissection Wounds.—The symptoms resulting from inoculation through contact with dead bodies are various; they may be local, confined to the point of inoculation, or they may be general, producing severe constitutional disturbance. Usually the trouble is at the seat of a former abrasion of the skin, as, for example, upon the hand, which commences by the formation of a small vesicle or pustule upon a hard, inflammatory base. There is at first more or less burning or itching, which is followed by pain, usually extending up the arm to the axilla, lymphangitis, and constitutional symptoms. The pustule soon breaks and shows an ulcer, variable as to size and character. In other cases the disease is strictly local, the lesion being more or less indurated, circumscribed, and painful. The epidermis becomes thick and fissured; the sore secretes more or less fluid, resulting in a crust; papillary growth takes place, and the wound assumes a warty, hard, indolent character, which may last for months.

Pustula Maligna.—Malignant pustule, called by the French "charbon," presents features similar to those seen in dissection wounds of a malignant type. The disease is due to the inoculation of a peculiar, virulent poison generated in cattle suffering from a disorder known by the name of murrain or charbon. After inoculation, which usually occurs about the hands of those who have to deal with cattle and hides, the period of incubation is very brief, often only a few hours, when the part is attacked with pain, burning, and itching, followed by the formation of a vesicle or pustule, with an extensive, hard areola; the pustule increases to the size of a coin, and soon breaks into an unhealthy discharging ulcer. The constitutional symptoms are usually very severe; the patient not infrequently succumbs.

EQUINIA, called also GLANDERS and FARCY, may be defined as a malignant, contagious disease, derived from the horse, manifesting itself by grave constitutional symptoms, inflammation of the nasal and respiratory passages, and a deep-seated, pustular, hemorrhagic, ulcerative form of eruption.* After inoculation has occurred, there is a period of incubation, varying from a few days to a week, when marked symptoms of general disturbance, prostration, and rheumatic pains manifest themselves, followed by a peculiar eruption composed of pustules, similar in form to those of vaccinia, containing a thick, yellowish product mingled with blood. At times the eruption is of a tubercular or vegetating nature ("farcy buds"); these rapidly disintegrate and result in extensive ulcers, accompanied by hemorrhage and gangrene. The lymphatics become inflamed, erysipelatous patches and bullæ form here and there, which break down into suppurating and bleeding ulcers. Hard and painful tumors, of various sizes, also appear, which rapidly soften into deep abscesses. The skin over the whole body is seen to be œdematous, swollen, and ecchymotic.

The nasal passages and the respiratory tract are affected in a most virulent manner. A thick, yellowish, bloody secretion flows from the nostrils; the mouth and throat become inflamed in patches; the glands enlarge; ulceration and gangrene of the mucous surfaces take place as upon the skin, and the patient succumbs. It is said that the two sets of symptoms, those of the mucous membrane and those of the skin, may or may not occur in the same subject.

The disease always originates in the horse. It is highly contagious, and may be contracted either by means of direct contact or through the medium of the air. The disease is rare. No specific treatment has been recommended.

DERMATITIS.

Under this term, signifying simply inflammation of the skin, without reference to its cause or clinical features, I

* The author is indebted chiefly to the writings of Elliotson (Medico-Chir. Trans., London, vol. xvi., 1830) and Bollinger (Ziemssen's Cyclopædia of Practical Medicine, vol. iii.) for his knowledge of the disease.

have grouped a number of inflammatory conditions similar as to their pathology, produced by external agencies, as, for example, heat, cold, cutaneous irritants, caustics, etc. Affections of this character are of every-day occurrence, and, as they happen to be superficial or deep-seated, fall into the domain of surgery proper or of dermatology.

The lesions met with in dermatitis vary according to the nature of the cause, the intensity of its action, the susceptibility of the skin of the individual, and other circumstances. In the first stage there exists erythema, of various grades, merely, which may remain as erythema or may pass into other pathological conditions, as vesicles, pustules, blebs, or gangrene.

The usual clinical signs of inflammation—redness, heat, swelling, pain, or itching—are all present in a more or less marked degree. The affection may be either diffused, as, for example, in dermatitis from poisons, or circumscribed, as in traumatic dermatitis.

The forms of dermatitis most frequently encountered may be referred to under the heads of the causes which produce them.

Dermatitis Traumatica.—Here are found all those active or passive inflammatory states which exist as the result of direct violence to the skin; they include contusions and other injuries of a similar character. The irritation to the surface arising from ill-fitting garments, shoes, and other articles of wear, may also occasion hyperæmia and exudation. The various conditions referred to in considering the simple erythemata may, under adverse circumstances, terminate in inflammation, varying as to degree. As stated in speaking of erythema simplex, the dividing line between hyperæmia and exudation cannot be drawn sharply; the former frequently borders on the latter without the process becoming inflammation in so decided a degree as to be worthy of this name.

Excoriations constitute to the dermatologist one of the most important varieties of traumatic dermatitis. They are superficial losses of substance of the epidermis and corium, accompanied by more or less inflammation, the result of

scratching on the part of the patient. These lesions have been already considered (see p. 48). Excoriations of a marked inflammatory character are observed in connection with scabies, and phtheiriasis of the body, where the skin is lacerated extensively and the lesions are followed by considerable exudation, thickening, and pigmentation.

Dermatitis Venenata.—Under this head are included numerous inflammatory conditions of the skin, resulting from contact with substances which act deleteriously upon this organ. The inflammation is of all grades. According to the virulence or concentration of the poison and the susceptibility of the skin, will the lesions be of an erythematous, vesicular, pustular, or bullous character. In the vegetable kingdom certain plants are known to possess properties of a poisonous or irritant nature when brought in contact with the skin; among these rhus venenata, rhus toxicodendron (commonly known as, respectively, *poisonous sumach* or *dog-wood*, and *poison ivy* or *oak*), mezereum, and arnica may be mentioned as being productive of most mischief. The rhus family exert a particularly deleterious influence upon the skin.* Contact, or, in some cases, proximity to the plants even, is sufficient to cause the affection. The poison is an exceedingly volatile acid,—toxicodendric acid,—which was discovered in the toxicodendron by Prof. Maisch, of this city.

All persons, however, are not equally susceptible to the influence of the acid. Some are not affected at all, being able to handle the plants with impunity; others suffer but slightly, and after contact only; while not a few are attacked by a violent inflammation of the skin, varying in degree from an erythematous condition to vesiculation, accompanied with swelling, heat, and serious disturbance. Individuals are met with who are so susceptible as to be affected by being in the neighborhood merely of the plants. The poison is readily conveyed by means of the hands, the parts usually first attacked, to other portions of the body, and it is in this

* The subject has received careful study at the hands of Dr. White, of Boston. See a valuable article in the New York Medical Journal, March, 1873.

manner that the eruption spreads. The face and genitalia, parts liable to be more or less handled, are very frequently seen to be the seat of the disease. The poison, as a rule, acts quickly, a few hours not rarely being sufficient to cause symptoms of cutaneous derangement; in other cases several days may elapse before marked symptoms develop themselves.

The eruption may be either of an erythematous or of a vesicular character, usually the latter. In typical examples the vesicles form rapidly; are remarkable for their irregular distribution; vary in size from pin-points to pin-heads; and are seated upon a highly inflamed, œdematous surface. The vesicles may pass into pustules, or they may become blebs, through coalition. When the eruption is at its height, swelling, œdema, heat, and itching are all prominent symptoms. The hands, arms, face, and genitalia in the male are all usually involved, and are attended by much disfigurement. At times the greater part of the surface becomes the seat of disease, showing itself in the form of scattered patches; as a rule, the lesions in these cases consist of a mixture of erythema and vesicles. The disease has an acute course, the vesicles rupturing spontaneously or from violence, the fluid drying into yellowish crusts. The process may continue from one to six weeks, according to the severity of the attack, and other circumstances, as, for example, treatment. Under proper local treatment the majority of cases recover in the course of a fortnight.

The anatomical changes which take place are in all probability identical with those which have been noted in connection with eruptions produced by croton oil (see p. 172). The process is an acute, simple inflammation of the skin, inclining always to spontaneous recovery. Attacking, however, individuals who are predisposed to eczema, as must not infrequently happen, considering the extent to which eczema exists in every community, the course of the eruption may become complicated and take on the characters of a more or less chronic eczema. It is under these circumstances only, it seems to me, that true eczema may be said to follow the eruption.

The treatment should consist of soothing, mildly astrin-

gent lotions, followed in the later stages by the use of a bland ointment or a starch dusting powder. Dilute lead water is a popular and useful remedy. Black wash, employed as a lotion for a half hour at a time, every three or four hours, as recommended by Dr. White, is a very serviceable application. Vegetable astringents, as, for example, decoction of white-oak bark, are also useful. Towards the close of the process, a wash of corrosive sublimate, one grain to the ounce of water, may be employed, as in the case of eczema or scabies of the hands.

Of a similar nature is the inflammation of the skin produced by the poisonous aniline and coralline dyes, with which undergarments are at times colored. Undershirts, drawers, and socks dyed with these substances not infrequently cause hyperæmia and inflammation of the skin, especially when worn in warm weather and before having been washed. I have met with several cases in women, occurring about the feet and legs, where the dye-stuff was found to be in the lining of the shoes, the poison having penetrated through the stockings.

Arnica also acts injuriously upon the skin. The tincture of arnica, a popular though dangerous remedy for bruises, wounds, and various other affections of the skin, not infrequently causes symptoms resembling those produced by the rhus plants.

Mustard and mezereon are also capable of producing mischief upon the skin; when applied carelessly the result may be similar to that of the irritants just referred to. Croton oil, rubbed into the skin, produces a minute vesicular and pustular eruption, accompanied by œdema, swelling, pain, and itching; its severity will vary with the amount of oil and friction used.

Mercurial ointment, employed injudiciously in the form of inunctions, also occasions at times an eruption similar to that of croton oil; this happens seldom, however, and only in cases where the skin is extremely susceptible or where the substance is applied indiscreetly.

The deleterious effects following the application of strong

acids, as nitric acid, or alkalies and other caustics, are so well known as not to require more than mention. Not merely inflammation, vesicles, and bullæ, but even gangrene of the skin, may take place from the use of these preparations.

The various irritants which have been enumerated are employed occasionally, especially by hysterical girls, for the purpose of simulating disease, as, for example, nitric acid for pemphigus, mustard plasters for erythema, etc.*

Dermatitis Calorica.—Both heat and cold call forth inflammatory symptoms, in the form of burns and frost-bites. Burns, whether resulting from artificial heat or from the rays of the sun, give rise to the same group of symptoms as those produced by the causes already referred to. According to the extent of the burn will the skin present an erythematous, vesicular, bullous, or gangrenous condition.

Similar lesions, although usually of a much less marked character, are observed in connection with frost-bite.

---

* In this connection, see an interesting paper by the late Mr. Startin, of London, on Feigned Diseases of the Skin. British Medical Journal, January 8, 1870.

CLASS IV.

HEMORRHAGES.

Hemorrhages into the skin assume certain external appearances, which are designated, according to their form and size, as petechiæ, vibices, ecchymoses, and ecchymomata. These may be defined as follows:

Petechiæ are roundish or oval in form, and vary in size from a pin-point to a finger-nail.

Vibices are long, narrow, streak-like lesions, varying in size from a few lines to an inch or more.

Ecchymoses are large, indefinitely sized, roundish or irregularly-shaped patches.

Ecchymomata consist of extensive extravasations, which appear in the form of tumors.

Cutaneous hemorrhages may occur either as the result of external injury, in which case they are termed idiopathic, or as a symptom of some internal disease, when they are designated symptomatic.

Idiopathic Hemorrhage.—To this category belong all those conditions which are produced by wounds, contusions, and other forms of direct violence to the integument, and by mechanical vascular disturbances, as in varicosities. In these cases the vessels are ruptured and the blood extravasated in greater or less quantity into not only the skin but also the deeper structures. Under this head are to be placed the minute, circumscribed hemorrhages produced by the bites of various insects, among which the pediculus, flea, and bed-bug may be mentioned as giving rise to the most mischief.

Symptomatic Hemorrhage.—The hemorrhage here takes place spontaneously, showing itself as apparently the only disease, as, for example, in purpura simplex; or, as a symptom in the course of certain severe constitutional diseases, as in variola and typhus fever; or, finally, as a secondary symptom in other diseases of the skin, as in pemphigus, ecthyma, and erythema nodosum.

The general characters of cutaneous hemorrhage have been already stated in the chapter upon the pathology of the skin.

PURPURA.

Syn. Hemorrhœa Petechialis; *Germ.*, Purpura; Blutfleckenkrankheit; *Fr.*, Purpura.

Purpura consists in the spontaneous development of variously sized and shaped, non-elevated or slightly raised, smooth, reddish, hemorrhagic patches, characterized by not disappearing under pressure.

Symptoms.—Three varieties are met with. These differ in the premonitory symptoms which precede the cutaneous manifestation, in the amount of constitutional disturbance attending the disease, in the extent of the hemorrhage, and in the etiology. The external forms of the lesions, their size, shape, number, and color, are likewise found to be different.

Purpura Simplex.—This variety of the disease rarely exhibits symptoms of systemic disturbance. Frequently the spots are the only manifestations of disease; at times they give rise to so little inconvenience that their presence may escape detection on the part of the patient. Occasionally, however, patients complain of feeling unwell, of loss of appetite, and of fatigue on exertion, for some days before the cutaneous lesions appear. They often make their appearance suddenly, in the course of a night, in the form of bright-reddish, claret-colored, or purplish, circumscribed, round or irregularly-shaped, hemorrhagic spots. They vary in size from a pin-point to a pea or bean. They usually occur in numbers, their common seat being upon the lower extremities; other regions, however, are also involved. They exhibit a tendency to appear in a scattered manner, invading

a considerable amount of surface, without regularity of distribution. They are, as a rule, unaccompanied by subjective symptoms. At times, where there is a disposition in the skin to the ready development of wheals, these lesions may show themselves in connection with the hemorrhage, constituting PURPURA URTICANS, in which case more or less itching will be present. The disease is more frequently observed in the old than in the young. Its duration may vary from a fortnight to several months. The cutaneous lesions are apt to relapse, in the form of crops, throughout the course of the disease. The causes are obscure; it is noted to occur in those who are apparently well nourished as well as in those who are in a debilitated state.

PURPURA RHEUMATICA—PELIOSIS RHEUMATICA.—It is ushered in with more or less fever, lassitude, loss of appetite, marked depression of spirits, together with severe rheumatic pains throughout the body, more particularly about the joints of the lower extremities. In the course of a few days or a week, the eruption suddenly makes its appearance over a part or the whole of the body, the lesions being most distinct over the arms, thighs, and legs. They consist of more or less well-defined hemorrhagic spots, pinkish, reddish, or purplish in color, varying in size from a split pea to a finger-nail. They are either slightly raised or on a level with the surrounding skin, and are unattended by subjective symptoms; a general soreness, however, is apt to be felt over the whole integument. The color of the eruption undergoes marked changes from time to time, passing into a variety of yellowish and greenish hues, until finally, with the reabsorption of the blood, it gradually fades away.

The disease may last for a few weeks or for months, in which case new hemorrhagic spots appear, in the form of relapses. The constitutional symptoms, consisting of depression, loss of appetite and strength, weariness, and allied feelings, are apt to remain throughout the attack; they are always striking, and are usually alarming to the patient. The severe rheumatic pains which precede the hemorrhage are apt to abate very materially upon the appearance of the eruption. The disease is encountered in both men and

women, more often in the latter, and ordinarily occurs during middle life. In certain cases it is associated with erythema multiforme. No cause can be assigned for the disease.

The diagnosis is at times difficult, especially in those cases in which the lesions happen to be imperfectly developed; the eruption may, under these circumstances, bear a close resemblance to the macular syphiloderm.* Here the premonitory symptoms, together with the absence of all itching about the eruption, also point towards syphilis. Upon close inspection, however, the hemorrhagic character of the lesion may always be detected. If seen before the appearance of the eruption, the disease may readily be mistaken for rheumatism.

Purpura Hemorrhagica—Land Scurvy—Morbus Maculosus Werlhoffii.—This form usually begins with premonitory symptoms of a decided character, consisting of marked debility, loss of appetite, languor, headache, and feelings of general distress. The spots first make their appearance upon the limbs, extending thence rapidly to the trunk and upper extremities. Their advent is commonly sudden. They are usually in great numbers. In size they vary from a small coin to the palm of the hand; not infrequently two or more coalesce and form large, irregularly-shaped patches. A variety of sizes and shapes are usually encountered. Simultaneously with the cutaneous lesions, or later, a general hemorrhage from other portions of the body, particularly the mouth, gums, nostrils, bowels, and bladder, commonly takes place. This may be either slight or very violent in its character, large quantities of blood not infrequently being discharged. The constitutional symptoms of depression and debility are apt to continue as long as there is tendency to hemorrhage.

The course and duration of the disease are variable; it may continue for days and weeks in the form of relapses, or it

---

* See a paper by the author, in the Phila. Med. Times, vol. iii. p. 545, 1873. For a report of cases of this form of purpura, see an interesting article by Dr. Kinnicutt, of New York; Archives of Dermatology, vol. i. p. 193.

may terminate completely within a week or a fortnight. It is a serious disease, and may end fatally. The hemorrhage may cease suddenly or by degrees. It is encountered in both children and adults, although more frequent in the latter. It occurs in the strong and properly cared-for as well as in the weakly and improperly fed.

Purpura hemorrhagica differs from scurvy, the disorder to which it bears most resemblance, in important particulars. Purpura is commonly observed in those who have not been subject to the peculiar influences which give rise to scurvy, namely, bad hygiene, improper diet, and the want of vegetable food in particular. In purpura the premonitory symptoms are not always of a distinctive character, and may at times even be altogether absent; in scurvy they are invariably present, and constitute quite a pathognomonic group, consisting of absolute weakness and general debility, impaired circulation, tumefaction of the gums, with bleeding and looseness of the teeth. Purpura is apt to announce its presence suddenly; scurvy always slowly.

Pathology.—An alteration of the blood in purpura in all probability exists, although concerning the nature of this change nothing definite can be stated. The fluid is quite suddenly extravasated into the cutaneous tissues, and finds its way into the various layers and structures; at one time having its chief seat in the tissue of the corium itself or subcutaneous connective tissue, at another time about the glands and follicles; it may be superficial or deep. The blood is usually dark in color, and does not incline to clot. According to the amount of blood extravasated and the permeability of the tissues, will the spots be small or large, circumscribed or diffused, roundish or irregular in shape, and otherwise peculiar. The process is a simple one, unattended by symptoms of inflammation or by marked subjective symptoms; very frequently it takes place unawares to the patient.

The blood once out of the vessels, acts as a foreign body in whatever structure of the skin it may chance to be, and can only be removed by resorption. The process is a slow and gradual one, the fluid, and more particularly its coloring

matter, undergoing various changes, as seen in the variety of colors—yellow, green, blue, purple, etc.—which the spots from time to time assume in the course of their decline. Sooner or later, in the course of weeks or months, the tissues gradually return to their normal state.

Treatment.—The plan of treatment in purpura must be adapted to the apparent requirements of the case. Inasmuch as the causes producing the disease often appear to be different in their nature, so will the general treatment call for more or less modification. The diet should always receive careful attention, and should consist of the most nutritious articles, with as much variety as possible. If the hemorrhage be at all extensive, rest in the horizontal position is of the utmost importance; if slight, as often is the case in purpura simplex, it is not of such importance.

In purpura simplex, the preparations of iron, quinine, and the mineral acids, together with frictions and cold baths, are generally beneficial. Purpura rheumatica calls for particular attention to hygiene and diet; abundance of fresh air, change of occupation, the best of food, including stimulants and malt liquor, and regulation of the important functions of the economy, are to be prescribed to suit the demands of the case.

Purpura hemorrhagica, usually an alarming and at times a very serious or even fatal disorder, calls for prompt treatment. Rest in bed is to be enjoined upon the patient. Quinine, iron in large and often-repeated doses, and the mineral acids, are the remedies usually found to be of the most benefit. Ergot has recently been employed with good result. Cases are reported by Lane* and Minich,† in which hypodermic injections of one grain of ergotin promptly relieved the disorder. Oil of turpentine, and astringents, as the acetate of lead with opium, may also be mentioned as remedies enjoying reputation in the treatment of this form of purpura.

The external treatment should consist of ablutions with

---

* British Medical Journal, Sept. 5, 1874.

† Philadelphia Medical Times, May 8, 1875.

astringents in solution, as alum, tannic acid, vinegar, and the like. Ice-water, applied frequently to the parts, is perhaps one of the best local remedies; ice itself may also be used. Enemata of ice-water are useful where there is hemorrhage from the bowels. Pieces of ice may also be taken into the mouth, and allowed to enter the stomach whole, in cases of hemorrhage from the alimentary canal.

Prognosis.—This must vary not only with the variety of the disease, but also with the case. In purpura simplex the prognosis is always favorable as to ultimate recovery, although restoration to health may be slow. The same may be said of purpura rheumatica, although this form is apt to be stubborn, and to prolong its course indefinitely by frequent relapses. In purpura hemorrhagica the prognosis should always be extremely guarded, for the disease is not only a serious one, but treacherous as well; it is impossible to predict what course it will pursue.

Hæmatidrosis.—This disease, known also by the names hæmidrosis, ephidrosis cruenta, and bloody sweat, consists in the appearance at the outlets of the excretory ducts of the sweat glands of a reddish fluid containing blood. It is usually in small quantity and localized, and oozes forth upon the surface of the skin without giving rise to any lesion of the epidermis.

It is to be considered as a cutaneous hemorrhage, which takes place about the sweat glands and empties itself through the sweat ducts. It is caused by rupture of the capillaries of the sudoriparous glands.

It is a very rare disorder. An exceedingly interesting case has recently been reported by Dr. Hart.* The affection has been observed most frequently in young women whose menstruation was imperfect, and in these instances is to be regarded as vicarious menstruation. The exciting causes which may produce it are terror, anger, and unusual nervous strain. The fluid poured out is noted to consist largely of blood. The treatment is that of purpura.

---

* Richmond and Louisville Med. Jour., Jan. 1875, p. 98.

CLASS V.

HYPERTROPHIES.

A NUMBER of diseases naturally group themselves into this class. They are characterized by an increase of the elements of the normal tissues of the skin. The various structures which constitute the integument are all subject to hypertrophy, the process either confining itself to one tissue or attacking several or all of the tissues simultaneously. The diseases may have their seat exclusively in the epidermis, as in chloasma and callosity, or they may involve both epidermis and papillary layer, as in ichthyosis and wart. In other cases the corium is the chief seat of the process, as, for example, in elephantiasis Arabum. The hair and nail also suffer.

The hypertrophies are, with several exceptions, characterized by the absence of inflammatory symptoms. In the majority of instances they give rise to no serious inconvenience, and in these cases are to be viewed in the light of deformities. Their course is slow. They may continue years or a lifetime. They may be congenital or acquired; the greater number are acquired. The pathological features of hypertrophy have been already referred to in the consideration of the general pathology of the skin.

LENTIGO.

Syn. Freckle; *Germ.*, Summersprosse; *Fr.*, Lentigo.

LENTIGO CONSISTS IN A PIGMENT DEPOSIT, CHARACTERIZED BY SMALL, PIN-HEAD OR PEA SIZED, YELLOWISH OR YELLOWISH-BROWN SPOTS, OCCURRING FOR THE MOST PART ABOUT THE FACE AND THE BACKS OF THE HANDS.

Symptoms.—The affection varies exceedingly in the degree

of its development, consisting at times of only a few scattered spots; commonly, however, they are present in large numbers. The lesions are usually small, varying in size from a pin-head to a split pea. They are roundish, or irregularly shaped; at times their outline is angular. They are either isolated, in which case they are often conspicuous, or they are aggregated and incline to coalesce; they assume no regularity of distribution, but show themselves symmetrically. Their color varies from pale yellow to yellowish brown. They always have a decidedly dirty look. When in great numbers and crowded together, this aspect is very marked. Their common seat is the face, especially over the cheeks; they appear also very frequently upon the backs of the hands and arms. Other regions may also be attacked, more often, perhaps, than is ordinarily supposed. They are unattended by itching or other subjective symptom.

Persons of all ages, from childhood to old age, are liable to them; they are not seen, however, in very young children; rarely before the third year. They are common to both sexes. They usually manifest themselves in those of light complexion, and indeed are rarely absent in red-haired subjects; but they are also met with in those with dark complexions. Their course is chronic, lasting for years or a lifetime. They ordinarily make their appearance in the summer season, very often quite suddenly, and continuing through the season fade somewhat away, but not completely, with cold weather, to return the following season. As the individual advances in years they are apt to disappear and remain away permanently.

Etiology.—The causes which produce them are by no means understood. It is well known that they are always more marked during the summer season, and especially after exposure to the rays of the sun; but exactly how much influence this luminary possesses in calling them forth has not been as yet satisfactorily determined. Hebra has particularly called attention to the fact that they not infrequently appear upon parts of the body which are rarely, if ever, exposed to the light or sun; as, for example, the back,

buttocks, and penis.* It may be stated, then, that other causes, of an internal nature, are to be regarded as giving rise to the affection; the sun, in the majority of cases, may be considered as the exciting cause.

Pathology.—In anatomical structure the freckle is found to consist of a circumscribed, increased amount of normal pigment. It differs from chloasma only in the peculiar form and size of the lesion.

Treatment.—The remedies which are used for removing these blemishes are the same as those employed in the treatment of the more serious disfigurement chloasma, to be referred to presently.

CHLOASMA.

CHLOASMA IS A PIGMENTARY AFFECTION, CONSISTING OF VARIOUSLY SIZED AND SHAPED, MORE OR LESS DEFINED, SMOOTH PATCHES, OR OF A DISCOLORATION, YELLOWISH, BROWNISH OR BLACKISH IN COLOR, OCCURRING FOR THE MOST PART ABOUT THE FACE AND TRUNK.

Symptoms.—The surface of the skin is observed to be unaltered in structure, the affection being one simply of coloration. The patches may be of any size, from a coin to the hand or larger; they may likewise be of any shape, but are ordinarily roundish or oval, and usually possess a tolerably sharp line of demarcation. They have a yellowish or brownish, muddy, dirty color; they may even be blackish (MELASMA, MELANODERMA). Chloasma may also show itself over the whole surface in the form of a universal discoloration, variable as to color; this is observed at times in the course of certain diseases of internal organs.

The chloasmata may be divided into those which are *idiopathic* and those which are *symptomatic*. Under the first head are to be included all those forms of pigmentation acquired through external agencies, among which may be mentioned the condition resulting from constant and long-continued scratching, which is practised in the course of certain diseases of an itching character, as in eczema and phtheiriasis.

* I have quite recently had the opportunity of seeing a case in which they occurred upon these regions. See also Hebra's Atlas of Skin Diseases, Lieferung viii. Tafel v.

Chemicals and various medicinal substances, as, for example, blisters, also produce more or less pigmentary deposit. Heat, especially in the form of the rays of the sun, is a well-known cause of discoloration. When the action of these agents is kept up, the result is apt to be quite lasting.

Belonging to the symptomatic group, we find the disorder known as chloasma uterinum, as well as those discolorations which occur in connection with certain general diseases; in these latter cases the pigmentation is apt to be diffused over the whole surface. The peculiar bronzing of the skin found in Addison's Disease, the abnormal hue of the skin in carcinoma and in certain other grave disorders, may be referred to as striking instances.

Chloasma Uterinum.—This variety consists in the presence of one or several patches of pigment deposit, appearing usually about the forehead; they are also seen upon other parts of the face, and upon the trunk about the region of the nipple and abdomen. The condition is ordinarily observed in the form of a more or less continuous patch, involving the whole forehead, beginning just below the roots of the hair and terminating above the eyebrows, extending transversely from temple to temple. The patch may have a distinct line of limitation, or may fade imperceptibly into the normally-colored skin. Occasionally the whole face is occupied by a diffused, blotchy discoloration, resembling a mask. The color of this form of chloasma varies from dirty yellow to brown. There is never any desquamation; the surface is always smooth. It is seen from the period of puberty to middle age, and is caused, in the great majority of cases, by changes, physiological and pathological, which take place in connection with the uterus. Pregnancy is one of the commonly recognized causes; although other disturbances of the uterine function may also occasion it. It appears in single as well as in married women; it is, however, of comparative rarity in the single, and in these cases is almost invariably associated with either dysmenorrhœa, chlorosis, anæmia, or hysteria. In single women it is usually encountered between the ages of thirty and forty. It does not show itself after the climacteric period in either the single or the married.

Etiology.—The causes which give rise to chloasma are numerous, and very different in their nature; they are to be considered in connection with the respective varieties of the disorder, which are named from an etiological standpoint. The causes of the more important varieties have been already referred to.

Pathology.—The affection has its seat in the mucous layer of the epidermis. It consists in an increased deposit of normal pigment, which continues to be deposited so long as the cause which originated it is present; after this has been removed the pigment is reabsorbed, and the part gradually assumes its natural color.

Diagnosis.—It is liable to be confounded with tinea versicolor, on account of the similarity in the color of the patches; beyond this point the two diseases have nothing in common. The patches of tinea versicolor are usually more numerous than those of chloasma, and always occupy the trunk; this is a region seldom invaded by chloasma, except in the form of a general coloration. The face is the common seat of chloasma; tinea versicolor is never encountered here. The characters of the patches are very different, and if carefully examined they cannot be mistaken for each other. Those of chloasma are always smooth, free of scale, and present no alteration in the texture of the horny layer of the epidermis; those of tinea versicolor are always more or less furfuraceous, which condition can be readily demonstrated by gently scraping the skin with the finger-nail. Chloasma having attained a certain size rarely extends itself; tinea versicolor grows perceptibly, and often rapidly, until a large area is covered. Chloasma is never attended by subjective symptoms; tinea versicolor usually itches; at times it itches to an annoying extent.

Treatment.—Owing to the disfigurement which lentigo and, more especially, chloasma occasion, treatment is at times called for to relieve the worriment of the patient. Attention should be first directed to the probable or possible cause of the trouble, which in the case of chloasma may frequently be determined. The suitable remedies, depending upon the condition, are then to be prescribed and persevered in.

Decided temporary benefit may be obtained from the use of external remedies, which are applied with a view of acting directly upon the epidermis, and thus destroying the accumulated pigment. Among the various remedies which have been employed for this purpose, corrosive chloride of mercury, ammoniated mercury, subnitrate of bismuth, and potash soap may be mentioned. The corrosive sublimate is the best, and may be used in the form of a lotion with water, almond emulsion, or alcohol; its strength should vary from a quarter grain to five grains to the ounce, according to the susceptibility of the skin, the extent of the affection, the effect produced, and other circumstances. I have obtained better results from weak than from strong preparations. A half grain or a grain to the ounce will in most cases be found sufficiently strong. A lotion containing a half grain of corrosive sublimate, a half drachm of tincture of benzoin, and two ounces of almond emulsion is a desirable formula. Hardy speaks well of the following:

℞ Hydrargyri Chloridi Corrosivi, gr. viiss;
Zinci Sulphatis, ʒss;
Plumbi Acetatis, ʒss;
Aquæ, fℨiv.
M.—Sig. Lotion. Apply morning and evening.

For the rapid removal of pigment patches the following method, suggested by Hebra, may be employed. A solution of corrosive sublimate, five grains to the ounce of alcohol or water, is applied continuously to the patch by means of compresses saturated with the fluid. The cloths being once placed upon the skin are to be kept moist by the addition of the fluid from time to time, and are to be retained in position for about four hours, when the skin will be found to be blistered. The roof of the blister is to be carefully removed and the surface dressed with starch powder. The newly-formed epidermis will be devoid of pigment. The relief, however, is not apt to be permanent, the discoloration usually returning in a variable time.

Ointments are also employed with advantage. Sulphate of zinc, from twenty to forty grains to the ounce of simple ointment, may be used in this manner; also the ointment of

the nitrate of mercury, from one to two drachms to the ounce of simple ointment. An ointment composed of two drachms each of ammoniated mercury and subnitrate of bismuth to half an ounce of simple ointment is favorably spoken of by Neumann and others; my experience with it has not been very satisfactory.

NÆVUS PIGMENTOSUS.

Syn. Nævus Spilus; Pigmentary Mole; *Germ.*, Pigmentmal; Fleckenmal; *Fr.*, Nævus Pigmentaire.

Pigmentary nævus may consist simply of a circumscribed deposit of pigment in the skin, without hypertrophy of the connective-tissue elements or of the hairy system; or, in addition to the excess of pigment there may be hypertrophy of all the cutaneous structures, especially the hair.

Nævi vary greatly as to size and shape; they may be small, the size of a split-pea or bean, or large, covering a considerable surface. In shape they are usually roundish or oval; they may, however, be irregular in outline. They are more or less deeply pigmented, varying in color from yellow to brown and black. They are flat, on a level with the surrounding skin, or more or less raised; their surface is either smooth or uneven and furrowed. Occasionally it is rough and warty, when the growth is called NÆVUS VERRUCOSUS.

They may or may not possess a growth of hair; very frequently they are without hair, while in other cases they exhibit an abundant growth of hair, which may be either of the nature of lanugo or short and bristly. When the nævus is hairy, it is termed NÆVUS PILOSUS.

Pigmentary nævi may be single or multiple. They occur upon various parts of the body, but are chiefly encountered upon the trunk, and more particularly the face, neck, and back. They are met with in both sexes. They may be congenital or acquired; they are usually acquired. According to Hebra, congenital pigmentary moles, *i.e.*, existing at the time of birth, are of rare occurrence. The small, flat, and smooth pigmentary nævi without hair, seen so commonly upon the trunk, are almost invariably acquired during the life of the individual. Having attained a certain size, which seldom

exceeds that of a coffee grain, to which they frequently bear a resemblance in both shape and color, they do not incline to grow larger, but remain for a long time without undergoing change; at times, it is said, they fade in color. On the other hand, the larger, raised, uneven and hairy nævi are usually congenital; they are permanent growths, and may increase in size.

In regard to the deposit of pigment, the results of my examinations agree with those of Simon.* The coloring matter, consisting of pigment cells and granules, has its seat in the deeper strata of the mucous layer of the epidermis, and is seen to be accumulated in quantity between the papillæ, as in the case of the skin of the negro.

Pigmentary moles may, unless extensive, be removed by means of the knife or with caustics; when they are small and flat, they may be successfully operated upon with a solution of caustic potassa.

CALLOSITAS.

Syn. Tyloma; Tylosis; Callus; Callosity.

CALLOSITAS CONSISTS IN THE FORMATION OF A HARD, THICKENED, HORNY PATCH OF SKIN, VARIABLE AS TO SIZE AND SHAPE, WHITISH OR YELLOWISH IN COLOR, UNATTENDED BY PAIN, OCCURRING FOR THE MOST PART ABOUT THE HANDS AND FEET.

Symptoms.—The skin is seen to be greatly increased in thickness, and to present a firm, dense, more or less circumscribed structure. The degree of hardness varies considerably, although usually it may be likened to that of horn. The patches are commonly the size of a coin, are apt to be roundish in shape, and possess a variable amount of elevation above the surrounding skin. In color they are yellowish, grayish, or whitish; this, however, is always influenced by the amount of friction to which the part is subjected, and the occupation of the patient.

Callosities usually have their seat upon the palms, fingers, soles, and toes, and more particularly about parts exposed to

* Die Hautkrankheiten durch anatomische Untersuchungen erläutert. Berlin, 1851, p. 254.

pressure. They are frequently encountered upon the hands of mechanics and others who use tools; shoemakers, smiths of various kinds, and carpenters are particularly subject to them. They are seen also upon the fingers of violin and harp players. Upon the feet they occur for the most part about the soles, particularly about the ball of the great toe and upon the side of the little toe. These formations may remain unchanged for a long time, or they may undergo spontaneous involution as soon as the cause has been removed. Their course will depend upon their cause and its continuance. Their development is always a gradual one. Inflammation, occasionally terminating in an abscess, may now and then accompany them; this condition, however, is to be regarded as the result of long-continued and excessive friction or pressure.

Etiology.—They are, in the great majority of instances, caused by external influences; at times, however, they appear to be developed independently of any exciting or external cause. Usually they will be found to depend upon the continued application of pressure or friction, as in the case of the hand of the mechanic, the result of his tools; or, if upon the foot, they will be noticed to result from the wearing of ill-fitting shoes, or simply from unusual walking. They are commoner in men than in women, and may occur at any age, although they are more often encountered in middle and old age.

Pathology.—The patch of callus is a simple structure, made up of numerous layers of epidermis, which have accumulated one upon the other. A transverse section, according to Simon,* shows it to be a hypertrophy of the horny layer only, the mucous layer as well as the corium remaining normal. The cells of the epidermis become so closely packed as often to simulate horn substance.

Treatment.—When the callosity is a source of inconvenience it may be best removed by means of the knife. The part should be well soaked for some time in warm water, when it will become more or less softened, and will permit of being

* Loc. cit., p. 29.

pared or scraped off, layer by layer, with a sharp knife. The process is to be repeated from time to time. In some cases a poultice will serve to macerate the outer layers more effectually than water. Caustic potash solution in varying strength, suitable to the part to be attacked, will also prove serviceable; it is, however, always to be employed cautiously, lest it work its way down and destroy the papillary layer, an accident to be avoided.

Where the formation is the result of the occupation it is not advisable to remove it; not infrequently it ceases after a time to be produced, and in this event disappears spontaneously.

CLAVUS.

Syn. Corn; *Germ.*, Leichdorn; Hühnerauge; *Fr.*, Cor.

CLAVUS IS A SMALL, CIRCUMSCRIBED, USUALLY FLAT, DEEP-SEATED, MORE OR LESS HORNY FORMATION, PAINFUL UPON PRESSURE, SITUATED FOR THE MOST PART ABOUT THE TOES.

A corn usually presents the general outward appearance of a callosity; it is made up exteriorly of thickened skin, is polished upon its surface, and has a hard, horny feel. On the other hand, it may be soft, possessing features similar to those of the wart. It is always rounded and more or less circumscribed; in size it varies somewhat, but is usually as large as a split pea. It is painful upon pressure, and very frequently is accompanied by shooting sensations independently of pressure. If the cause which has occasioned the corn be kept up, inflammatory symptoms may develop.

The common seat for corns is upon the outer surfaces of the little toes; they also occur between the toes, and upon the soles of the feet. Existing between two toes, the corn is accompanied by more or less maceration, and appears as a soft, spongy formation, which receives the name of *soft corn* in contradistinction to the *hard corn*. One, two, or a number of corns may be present, in which case they interfere greatly with walking or even standing.

Etiology.—They are the result either of continued pressure or friction, and in the vast majority of cases may be referred to improperly-fitting and tight shoes.

Pathology.—The corn is made up of a circumscribed, excessive development of the epidermis, of the same character as that observed in callosity, and of a central portion or core. The latter extends quite deeply into the tissues, in the form of an inverted cone, the base being directed outwards, and appearing upon the surface as a round spot. It consists of a whitish, opaque, firm, tenacious body, with its apex resting upon the papillary layer of the corium. In structure it is composed of epidermic cells, arranged in concentric laminæ. One or more cores may exist. The corium beneath may be either atrophied or hypertrophied. The pain attending corns is produced by the core pressing upon the true skin, causing more or less irritation of the nerve filaments of the papillæ.

Treatment.—If the cause be removed, the treatment of corns is sufficiently simple. On the other hand, if improperly-fitting shoes and other causes be persisted in, much delay and difficulty may be experienced in relieving the condition. If the patient is obliged to walk much, the corn should be protected by a piece of cut felt. The foot should be frequently soaked in warm water, after which the outer layers will be macerated, and may then be removed by scraping or picking with a pointed knife. A bread and milk poultice, applied to the part by a bandage before retiring, and kept on all night, will relieve the corn as effectually as any of the more noted nostrums. This treatment, repeated for several nights in succession, will usually soften the growth to such an extent that it may readily be extracted from its bed without pain.

Various plasters are recommended, most of which consist of resin, galbanum, or pitch plasters, together with acetic acid, subacetate of copper, chloride of ammonium, carbonate of potassium, and like substances. Nitrate of silver, in solid stick form, may often be used with advantage after the corn has been sufficiently softened; it will also be found useful in soft corns occurring between the toes. A coating of flexible collodion may be employed with benefit in painful soft corns. Potassa with water or alcohol, a drachm to the ounce, may be applied where the epidermis is hard and

thick; the application should be made with care, and only to the part to be acted upon.

CORNU CUTANEUM.

Syn. Cornu Humanum; Cutaneous Horn; Horny Excrescence; Horny Tumor; *Germ.*, Hauthorn; *Fr.*, Production Cornée; Corne de la Peau.

CORNU CUTANEUM IS CHARACTERIZED BY THE DEVELOPMENT OF A TRUE HORNY FORMATION ARISING FROM THE SKIN, VARIABLE AS TO SIZE AND SHAPE.

Symptoms.—When fully developed the excrescence is seen to be a veritable horn, differing but slightly, if at all, from that found normally upon the lower animals. It is a solid, hard, dry formation, and is observed to have a more or less laminated, wrinkled, roughened, uneven surface.

In form cutaneous horns are usually elongated and roundish, or conical; occasionally they assume a flattened form, when they are but little elevated above the surrounding skin. They vary exceedingly as to shape, but are apt to be crooked, twisted, and bent; they are rarely straight. They terminate either pointedly or with a blunt end. Their color is usually grayish; it may also be either yellowish, brownish, or blackish.

They grow to all sizes, varying from a few lines to many inches; their diameter is always greater at the base than at the free extremity. They possess a concave or flattened base, which rests directly upon the skin, from which they spring abruptly. The tissues about their bases may be either normal or somewhat raised; at times there is an areola and a certain amount of inflammation, which may be followed by suppuration.

Horns are usually solitary; occasionally, however, they are multiple. They may appear upon any region of the integument, but are more common about the face and scalp. They seldom make their appearance before the age of forty or fifty; they have, however, been met with in the young. As a rule, they are unattended by pain; if knocked or disturbed they may subsequently be accompanied by considerable uneasiness and pain about their bases. Their course is slow, growing with variable rapidity until they arrive at

a certain size, when they not infrequently become loose and drop off, leaving an open, ulcerating base. When this takes place they are very liable to be reproduced.

Etiology.—The causes are not satisfactorily determined. The affection is a rare one. A number of reported cases have been collected by Lebert,* Wilson,† Bergh,‡ and Damon.§ An interesting case, with photograph, has been reported by Dr. W. H. Pancoast, of this city.‖

Pathology.—According to Lebert,¶ cutaneous horns spring from the deeper strata of the mucous layer of the epidermis, and consist in a hyperplastic growth of these cells. Inasmuch as this layer is present not only immediately above the papillæ of the corium, but also as a lining membrane in the follicles and glands, it will be seen that the disease may start in these latter structures quite as readily as from the free surface of the epidermis. Microscopic examinations, by the same observer, show longitudinal sections to be made up of a mass of "small columns, rods, or palisades lying close to one another, and so intimately united by a connecting substance as to appear blended into a homogeneous mass. The individual columns have a striped, shreddy appearance, and are made up entirely of epidermic cells arranged upon one another in an imbricated manner." Transverse sections show roundish spaces, concentrically stratified, between the layers of which exist irregularly-placed epidermic cells, which are to be viewed as the connecting substance referred to in considering the longitudinal sections. The cells, as might be expected, are for the most part without nuclei; they always belong to the epidermic variety. Both Lebert and Virchow have demonstrated the presence of bloodvessels in the bases of horns. The character of the cutaneous base from which the excrescence proceeds is found to vary.

---

* Ueber Keratose oder die durch Bildung von Hornsubstanz erzeugten Krankheiten und ihre Behandlung. Breslau, 1864.

† Medico-Chirurgical Transactions, 1844, vol. xxvii. p. 52.

‡ Archiv für Derm. und Syph., II. Heft, p. 185, 1873.

§ Structural Lesions of the Skin. Philadelphia, 1869.

‖ Photographic Review of Medicine and Surgery, vol. i. No. 1, 1870.

¶ Loc. cit., p. 76.

Treatment.—After the horn has been detached from the skin, it is a very necessary part of the treatment to destroy the base by means of some caustic, for which purpose chloride of zinc or caustic potash may be used. If there be a tendency to reproduction, the operation should be repeated.

VERRUCA.

Syn. Wart; *Germ.*, Warze; *Fr.*, Verrue.

VERRUCA IS A HARD OR SOFT, ROUNDED, FLAT, OR ACUMINATED, CIRCUMSCRIBED, PAPILLARY FORMATION, VARIABLE AS TO SIZE.

Symptoms.—Warts present themselves in a number of forms. They are so different as to require separate descriptions.

VERRUCA VULGARIS.—This is the ordinary wart, commonly met with on the hands. It consists of a small, circumscribed, usually split-pea sized and shaped, elevated growth, with a broad base, seated securely upon the skin. It is quite firm in consistence, and very often hard, with a horny exterior. The surface is observed to be either smooth or rough, and to be studded with a number of minute elevations,—hypertrophied papillæ. These may be so irregularly developed as to give it a divided or lobulated appearance. The color is either that of the surrounding skin or darker; at times it is yellowish, brownish, or blackish.

One, several, or great numbers of these warts may exist; they are apt to appear in groups, and very commonly are in such close proximity as to touch and press upon one another. Their usual seat is about the hands, especially the fingers; they may, however, show themselves upon any region.

VERRUCA PLANA.—This differs from the above-mentioned variety in being perfectly flat and broad in form. They are usually the size of a small finger-nail, and are but slightly elevated above the level of the surrounding skin. They occur either singly or in numbers, and are seen most frequently upon the back, especially in elderly people, when they are apt to be brownish in color, and are observed to be more or less sebaceous in character.

VERRUCA FILIFORMIS.—This variety assumes the shape of a

small, thin, conical, or thread-like formation, usually about an eighth of an inch in length. These little growths may appear either singly or in groups; rarely, however, in numbers. They are chiefly encountered on the face, on the eyelids, and on the neck.

Verruca Digitata.—The formation here, as in the case of the flat wart already referred to, consists of a slightly elevated, broad excrescence, varying in size from a split pea to a large finger-nail, and marked by a number of digitations coming out from its border; these are often greatly developed, and give to the growth an appearance resembling a crab. This form is commonly seen upon the scalp; they are often present in great numbers.

Verruca Acuminata.*—This variety consists of one or more groups of acuminated or irregularly-shaped elevations, usually so closely packed together as to form a more or less solid mass of vegetations. The individual prominences vary considerably as to form; they tend to be pointed or tufted, but they may also be club-shaped, and in some cases exist as thick, short, fleshy excrescences, giving the growth the appearance of granulation tissue. They may be either sessile or pedunculated. In color they are pinkish or reddish; at times they are bright red, in other cases purplish, the shade depending upon the degree of vascularity, and the region in which they happen to exist. They occur for the most part about the genitalia of either sex, more particularly about the penis and labia. Upon the penis they usually spring from the glans and the inner surface of the prepuce; upon the female they are apt to start from the inner surfaces of the labia and from the vagina. They are also encountered about the anus, mouth, axillæ, umbilicus, and toes. According to the region in which they are present, will they be dry or moist; about the genitalia, a yellowish, puriform secretion usually covers their surface, due to friction and maceration, which, owing to the heat of the parts, rapidly decomposes,

---

* Termed also Pointed Wart, Moist Wart, Fig Wart, Pointed Condyloma, Cauliflower Excrescence, Verruca Elevata, Venereal Wart; *Germ.*, Spitze Condylom; *Fr.*, Végétation Dermique.

producing a highly offensive substance. Crusts, made up of secretion and blood, are also not infrequently present. The odor from these condylomata is usually of a remarkably penetrating and disgusting character.

They may attain a large size; not uncommonly they grow as large as a hen's egg, and at times to the size of a fist. According as they happen to be arranged and distributed, they present different appearances; they have been aptly compared to a head of cauliflower, to a cock's-comb, to fungi, to raspberries and other forms of vegetation.

Their development is rapid; very frequently they attain considerable size in the course of a few weeks. They always appear as a vigorous and luxuriant growth, tending to increase in size and to multiply; without interference they may assume large proportions and continue for an indefinite period. They are met with in both men and women, and are usually encountered in young people.

Etiology.—The causes which give rise to warts are obscure. The various influences which are popularly assigned as causes, most of which are widely different in their nature, are, it need scarcely be stated, incapable of producing the disease. They occur in both sexes, and are more common in the young than in the old; they are frequently encountered in children.

In regard to the acuminated variety, or pointed condylomata, it is well known that they are often caused by the irritating secretions of venereal disease, more especially gonorrhœa. They are never a manifestation of constitutional syphilis.

Pathology.—The anatomy of warts differs somewhat according to the variety, but in all forms there exists, as a basis, a connective-tissue growth, from which papillary hypertrophy, to a greater or less extent, takes place. The interior of the formation is always supplied by one or more vascular loops, from which the structure obtains its vitality. In the common, hemispherical wart, the papillæ become greatly thickened and elongated, and are covered with a hypertrophic layer of epidermis, which gives it the hard, horny exterior.

The pointed warts, or condylomata, are exceedingly vas-

cular, and are made up chiefly of connective-tissue elements, which form a mass of firm consistence. The papillæ are enormously hypertrophied and are covered with an exuberant and extensive mucous layer, the cells of which are highly developed. The horny layer is seldom formed to any extent; this is found to vary, however, according to the locality in which the growth occurs.

Treatment.—Local remedies alone are of value in removing these growths. Excision, by means of the knife or scissors, in many instances affords the most satisfactory results, the operation, as to the manner of cutting, varying somewhat with the form of wart under consideration. Many of the smaller formations are best removed by a pair of curved scissors, their bases being touched with the nitrate of silver stick. The ligature and the galvano-caustic wire may be advantageously employed where the growth is of some size and liable to be attended with hemorrhage, as in cases of pointed warts about the genitalia. Acuminated warts of venereal origin may be successfully treated by washing the parts with the liquor sodæ chlorinatæ, and afterwards dusting with calomel; or, with nitric or chromic acid.

Warts may also be treated very satisfactorily by the application of various caustics, among which potassa, nitrate of silver, acid nitrate of mercury, chloride of zinc, nitric acid, chromic acid, hydrochloric acid, and acetic acid may be especially mentioned. Caustic potash, nitrate of silver, and chromic acid, in solution, will be found the most useful; in the case of the two latter substances, repeated applications will often be required. In selecting a remedy, the variety and size of the growth, as well as the locality in which it occurs, should be considered. The strength of the solution is to be regulated according to the nature and exterior covering of the wart. In making the application of fluid substances, care should be exercised to protect the adjacent healthy skin; a layer of soft wax placed immediately around the growth will prevent the caustic from attacking the sound skin.

Prognosis.—This is always favorable. If properly destroyed, they show no tendency to recur. Where they are very

numerous or of great size, it is advisable not to undertake the removal of the whole mass at one time. Hemorrhage should always be guarded against.

Papilloma Cutis.—Under this head may be placed those cases which have been described with various names by Beigel,* Bergh,† Roser,‡ Weil,‖ Charpy,§ and Gerhardt.¶ The true papilloma of the skin, of which Weil's case may be taken as an example, is an inflammatory formation or tumor, variable as to size, made up of a growth very similar to that of the acuminated wart, or condyloma. It consists of a flat or raised, cauliflower excrescence, inflammatory in character, reddish or bluish in color, showing great hypertrophy of the papillæ. Fissures and sinuses are apt to be present, which secrete a yellowish, puriform fluid. The course of the tumor is usually rapid, as in the case of the acuminated wart. The formation may appear upon any region of the body, and at any time of life; it is of a benign nature, and is not due to syphilis.

ICHTHYOSIS.

Syn. Xeroderma; Xeroderma Ichthyoides; Ichthyosis Vera; Ichthyosis Congenita; Fish-skin Disease; *Germ.*, Fischschuppenausschlag; *Fr.*, Ichthyose.

Ichthyosis is a congenital, chronic, hypertrophic disease, usually occupying the whole surface, characterized by dryness and harshness of the skin, the formation of scales, and a variable amount of papillary growth.

Symptoms.—Two varieties of the disease are encountered;

* Papilloma Area-Elevatum. Virchow's Archiv, Bd. xlvi. Heft 3 u. 4, 1869. Abstract in Amer. Jour. of Syph. and Derm., vol. i. p. 82, 1870.

† Pessema. Archiv für Derm. und Syph., 4 Heft, p. 578, 1870. Abstract in Phila. Med. Times, vol. ii. p. 247, 1871–2.

‡ Das entzündliche Hautpapillom. Archiv der Heilkunde, 1866, p. 87.

‖ Das entzündliche Hautpapillom. Vierteljahresschrift für Derm. und Syph. Erstes Heft, p. 37, 1874. (With chromolithograph.)

§ Lichen Hypertrophique. Annales de Dermatologie et de Syphiligraphie, No. 1, 1872–73. Translated in the Amer. Jour. of Syph. and Derm., vol. iv. p. 277.

¶ Jahrbuch für Kinderheilkunde, N. F., iv. Abstract in the Amer. Jour. of the Med. Sciences, Jan. 1872.

they are named ichthyosis simplex and hystrix. They may occur independent of each other or together. Ichthyosis varies exceedingly in the degree of its development. In one individual it amounts to but a slight inconvenience; in another it manifests itself in so pronounced a manner as to be the source of great discomfort and serious deformity.

Ichthyosis Simplex.—This is the variety usually met with. When simple dryness and harshness only of the skin exist, with more or less furfuraceous exfoliation, but without the formation of plate-like scales, the condition is termed xeroderma; this constitutes the least marked and the mildest type of the affection, and is of not infrequent occurrence.

As ordinarily encountered, ichthyosis consists of an altered state of the skin, characterized by a harsh, dry condition of the whole surface, accompanied by the production of variously sized and shaped, reticulated, fish-like scales. These are either small, thin, and furfuraceous, like bran, or they are large and thick, resembling fish scales, and are shaped after the normal lines and furrows of the part on which they happen to exist. Upon the extremities they usually form square, diamond-shaped or polygonal plates, separated from one another by deep furrows or lines, which extend down to the normal skin. The amount of scaling present will depend upon the age of the patient, the severity of the disease, and the external treatment, as, for example, bathing, to which the skin has been subjected. If the scales be not removed from time to time, they tend frequently to accumulate into laminæ of considerable thickness. In color they are usually whitish, grayish, or yellowish, and very often have a silvery, glistening look; in other cases they are more or less of a yellowish olive-green; while more rarely they are dark olive-green or blackish. Even in those cases where the affection is but slightly developed, the skin usually possesses a dirty, yellowish tint, as though it had not been recently washed.

Ichthyosis Hystrix.—This variety varies greatly as to the extent of its development; it may exist in the form of one or more localized patches, or as a more diffused disease, involving the greater portion of the surface in a broken, unevenly

distributed manner. It is characterized by irregularly-sized and shaped, ill-defined, rough, harsh, yellowish, brownish, or greenish patches, which are made up of enormously hypertrophied, hard, more or less horny papillæ. These patches, or areas of disease, may occur upon any part of the body. I have seen them upon the arms as solid, warty patches; upon the back in the form of elongated, linear patches; about the folds of the axillæ, around the neck, around the umbilicus, and upon other regions. Several or a number of regions are apt to be the seat of disease in the same patient; in other cases these growths appear upon, for example, an arm or the back only. They are usually very irregular in shape, adapting themselves in outline to the region upon which they exist. They may constitute roughened, corrugated, papillary growths, or they may result in uneven, hard, horny, blunt or pointed, spinous, warty formations. In the latter case the elevations may reach several lines or more, and stand out from the skin like quills upon the back of a porcupine,—hence the name hystrix. Like ichthyosis simplex, this variety varies materially according to the age of the individual in whom it is seen; the older the patient the more highly developed will it usually be. Its features become more pronounced as adult age is approached.

Ichthyosis is a disease which usually involves the whole surface, more or less generally, although it always manifests itself more markedly in certain regions; these are the lower extremities, from the hips down to the ankles, and the arms and forearms. The knees and elbows are in almost all cases the seat of considerable wrinkling, thickening, roughness, and scaliness. On the other hand, the flexures of the elbows and knees, as well as the axillæ and the groins, seldom show the disease at all. The difference between the outer surfaces of the joints and the flexures is always striking.

At times certain regions of the body are affected to the comparative freedom of other parts; this is especially the case in ichthyosis hystrix, where irregularly distributed areas of papillary hypertrophy exist here and there in the form of patches. The scalp and face rarely exhibit the disease in a

marked degree. The scalp and hair, however, are usually dry, and the latter is more or less harsh and brittle.

The skin of the hands and feet is always dry and wrinkled, the natural lines of motion being deeply furrowed. The hands and feet have a dry, withered feel, and are usually cold. The soles of the feet show marked epidermic thickening and callosities. The backs of the feet and ankles occasionally develop thick, bulky masses of scales, which assume the form of small polygonal or quadrangular plates, resembling in both appearance and conformation the skin of the alligator. These epidermic plates are at times dark greenish or blackish in color (ICHTHYOSIS NIGRICANS). A marked case of this kind, in a young woman, has recently presented itself to my notice.

Ichthyosis is always very much worse in winter than in summer. In the majority of cases it is only at this season of the year that the affection gives rise to inconvenience. It usually disappears more or less completely during the spring and summer. Even those instances in which there is marked papillary hypertrophy, are greatly influenced and modified by warm weather.

Ichthyotic persons are noted to perspire but very slightly. Sensible perspiration usually takes place only from certain localities, as the axillæ, face, palms, and soles. The increased activity of the sweat glands in summer, and the effect of this secretion upon the epidermis, produce the most beneficial results, relieving the patient of his disease almost entirely for the time.

The course of ichthyosis is essentially chronic. It continues throughout life, varying in its severity with the seasons. The subjective symptoms are of little importance. At times there is slight itching, which usually comes on when the skin is exposed to the air, as when the clothing is removed at night; it may be quite annoying. The symptom is not a constant one. Patients, I have noted, not infrequently complain of it in the spring of the year.

Etiology.—While not congenital in the strict sense of the term, the affection is nevertheless to be regarded as one which is born with the individual; it, however, does not

ordinarily manifest itself until after the first or second year of life. As a rule, ichthyotic subjects come into the world with smooth skins, and retain them without sign of deformity until perhaps months or one or two years have passed, when they begin to show symptoms of the disease. At first it is very slight, but year by year it becomes more marked until adult age is reached, when it ceases to increase in intensity, remaining in about this condition through life.

It is hereditary in some cases, but not in all. Instances very often present themselves in which one or the other parent is similarly affected; other cases, according to my experience, not infrequently occur in which neither parents nor grandparents are found to have any trace of the disease. One child only out of a large family may be affected; in other cases more than one may show signs of it. The parents of ichthyotic children are usually healthy and without constitutional vice. The subjects themselves of ichthyosis commonly enjoy the best of general health. The condition, then, is to be considered in the light of a simple deformity, similar from an etiological point of view to nævi, albinism, and other like structural defects. It occurs in both sexes, is common to all races, and is found in all spheres of society.

Pathology.—The changes which exist in ichthyotic skin will be found to differ materially as one form or another of the disease is examined. Thus, slight ichthyosis—xeroderma—offers an altogether different picture from the severer type hystrix. The disease, however, may be said to consist in an excessive proliferation of the cells of the epidermis, together with more or less hypertrophy of the papillæ of the corium. In a section of ichthyosis of ordinary development the horny layer will be observed to be enormously increased in thickness, to be very dry and of a yellowish color; the mucous layer will also be seen to be greatly augmented by new cells.

The papillæ are longer than normal, and are infiltrated with cells; the vessels are also enlarged. According to Neumann, the sebaceous glands are unrecognizable. Kohn*

* Archiv für Derm. und Syph., III. Heft, p. 418, 1869.

found, in a typical case of ichthyosis hystrix, that the disease began in the vascular layer of corium, as proved by the existence of the so-called exudation cells. The papillæ were conically elongated, and widened about their bases, the enlargement taking place by means of a growth of new connective tissue. The mucous and horny layers were largely increased, and were found to be made up of a number of laminæ.

Diagnosis.—The features of the disease are of so peculiar a character that but little difficulty is experienced in arriving at the diagnosis. The harsh, dry, wrinkled skin, the hypertrophic epidermis, the enlarged papillæ, the thin, yellowish scales, the deep furrows and lines, especially about the joints, the diffused distribution of the affection, and the regions particularly affected, all point to ichthyosis, and only this disease. Added to these objective symptoms, the history, in the case of an adult, will aid in establishing the diagnosis. It will be distinguished from the inflammatory disorders which tend—as, for example, eczema—to terminate in desquamation, by the absence of any history of inflammation.

Treatment.—External treatment is alone found to be of service. Various internal remedies, including iron, arsenic, cod-liver oil, and iodide of potassium, have from time to time been employed, but all without benefit. Local therapeutics, however, exert a favorable influence upon the affection, and, at the present day, constitute the method of coping with this disagreeable trouble. Of the several remedies used, water is to be mentioned as being the most valuable; it is used in the form of baths, either simple or medicated. Its action upon the skin is a mechanical one, macerating the accumulated masses of epithelial matter and exposing young layers of epidermis, which are found to be comparatively soft and pliable. The relief thus obtained is temporary, but, nevertheless, affords the patient ease and comfort for some time, and, when persevered in, may so modify the skin as to retard the hypertrophy. It may be stated, then, that the more frequently the ichthyotic patient bathes, and the longer he is able to remain in the water, the less will the deformity show itself. Vapor baths are

particularly serviceable; also alkaline baths, containing from two to eight ounces of the bicarbonate of sodium to the bath.

Soap, more especially soft soap, is an invaluable remedy; it may be used either in connection with the bath, or alone, as a discutient, when it may be applied according to the following directions. A sufficient quantity is to be rubbed into the skin twice daily, for four or six days, during which period the patient is to refrain from bathing. A bath is first to be taken four or five days after the last rubbing, when, in fact, the epidermis has begun to peel off; afterwards inunction with a simple ointment is to be applied, in order to prevent fissuring of the new skin. It matters little as to the kind of oil or ointment used, provided it is not stimulating; oil of sweet almond, olive oil, benzoated simple ointment, glycerine, either pure or diluted with water, and vaseline, will be found the most valuable substances. I prefer the two latter.

For the treatment of the hystrix variety, in addition to the general plan just described, it will be necessary to employ caustic applications, or at times even the knife, for the purpose of removing the horny patches of hypertrophy.

Prognosis.—This is unfavorable as regards permanent relief. Much, however, can be done to alleviate the condition by advice and appropriate external treatment, but experience teaches that here the value of therapeutics ceases. The deformity, for it is to be looked upon in this light, continues throughout life, its course changing but slightly, if at all, after adult age has been reached. The patient should always be made fully acquainted with the nature of the trouble.

LICHEN PILARIS.

Syn. Pityriasis Pilaris.

LICHEN PILARIS IS A HYPERTROPHIC AFFECTION, CHARACTERIZED BY THE FORMATION OF PIN-HEAD SIZED, CONICAL, WHITISH, SOLID, EPIDERMIC ELEVATIONS SEATED ABOUT THE APERTURES OF THE HAIR FOLLICLES.

Symptoms.—The disease consists essentially of an accumulation of epidermis about the openings of the hair follicles. The epithelial cells collect and heap up around the hairs,

forming more or less conical elevations or papules. The lesions are pin-head in size, and are made up of epithelial structure and sebaceous matter, containing in their centre a convoluted or twisted hair. Each elevation is pierced by a hair, around which the accumulation of epidermis takes place concentrically, in the form of laminæ. The hairs are either contained within the formation, and are not to be seen, or they protrude through the apex; very frequently they are broken off short at the surface, and give the papule a dark, central point. The elevations are raised, are whitish or grayish in color, and are seated upon skin which is normally colored or reddish.

The skin is always dry, rough, scaly, and harsh, as in ichthyosis; passing the hand over the surface the elevations may be readily detected as minute, pointed asperities, feeling at times like a fine nutmeg grater.

The usual seat of the affection is the extremities, and more particularly the extensor surfaces. It is ordinarily encountered about the thighs, and upon the arms and forearms. It is also met with on the trunk. It occurs for the most part in young persons of either sex, and especially in those who are in the habit of not bathing; I have, however, also observed it, not infrequently, in those who used water freely. It varies greatly in the extent of its development; very often it is present as so slight a disorder as to escape notice. As a rule, it is unaccompanied by itching. Its course is chronic; it may continue for years. Very often it is associated with ichthyosis.

Diagnosis.—Lichen pilaris is to be distinguished from cutis anserina (goose-flesh), which it may resemble, by the permanence of the lesions. In goose-flesh the disorder is acute, passing away with the exciting cause; as, for example, cold or nervous excitement. The affection may also be mistaken for the miliary papular syphiloderm in its desquamating stage, to which it not infrequently bears a close likeness. In the syphiloderm, however, the lesions group, and are more solid, deeper seated, and less scaly in structure. Lichen pilaris is also to be diagnosed from lichen scrofulosus, in which disease the papules are firmer and less scaly, and, moreover,

incline to group. The disorder under consideration may also be confounded with pruritus hiemalis.

Treatment.—The treatment consists of repeated warm or vapor baths, with the free use of sapo viridis, or other strong soap; alkaline baths are also of service. In obstinate cases oily and fatty preparations, as, for example, glycerine and vaseline, may be employed with great benefit, as in ichthyosis.

SCLERODERMA.

Syn. Sclerema; Scleriasis; Scleroma Adultorum; Sclerostenosis; Cutis Tensa Chronica; Dermatosclerosis; *Germ.*, Hautsclerem; *Fr.*, Sclérème des Adultes; Sclérodermie.

SCLERODERMA IS A CHRONIC DISEASE, CHARACTERIZED BY A DIFFUSE, HARDENED, NEITHER RAISED NOR DEPRESSED, MORE OR LESS PIGMENTED, HIDE-BOUND CONDITION OF THE SKIN, UNATTENDED BY SUBJECTIVE SYMPTOMS OR ALTERATION OF SENSIBILITY.

Symptoms.—The disease commences by an apparently simple hardening of the integument, which is usually observed to increase gradually in intensity until the part becomes almost as hard as wood or stone. It also commonly progresses in extent until a considerable amount of surface is involved. The process is accompanied neither by constitutional disturbance nor by local symptoms of an inflammatory nature. When the affection has become fully developed the skin and subcutaneous tissues are found to be immovable; they are absolutely hard to the touch. The skin is firm, fixed, and solid, as though frozen. The condition is a striking one, and has been variously described by writers as being like "leather," or "frozen without the sensation of cold," "hard as a board," "hide-bound," and "petrified."

There is neither elevation nor depression of the skin, the parts affected being upon a level with the surrounding integument. No line of demarcation exists about the disease; the transition into the healthy tissues is a gradual and imperceptible one. The color of the skin varies considerably, there being present always more or less pigmentation; it is usually yellowish or brownish, and often has a waxy appearance.

The disease is apt to occupy large portions of the body, as,

for example, the greater part of one or both limbs, the trunk, or even the whole surface. It may attack any region; very frequently it commences upon the back of the neck and spreads down the back. The limbs, both upper and lower extremities, are often the seat of the affection; the face likewise at times suffers. When upon the limbs it is usually symmetrical. The temperature as well as the sensibility of the surface remains unaltered throughout the disease. Both the sebaceous and sudoriparous glandular systems are likewise unaffected.

The subjective symptoms are negative, no itching or pain being at any time present. This remark of course does not apply to those cases where the joints and natural folds of the skin are involved; here there is always more or less pain on motion.

The course of the disease is chronic; it continues through a period of years or a lifetime. In certain cases, rarely, however, recovery takes place spontaneously. Other cutaneous diseases have been observed to appear upon sclerodermic patches, for example, eczema and acne.

Etiology.—The causes are very obscure. It may occur at any period of life, but is more common at middle age. It has been encountered more frequently in women than in men. The general health is usually found to be good. Rheumatism, in some cases, has been noted to have preceded the attack. It is a rare disease.*

Pathology.—The anatomy of scleroderma has been carefully studied by Förster,† Auspitz,‡ Arning,§ Neumann,‖ Kaposi,¶ and others, with varying results. The following,

* Cases have recently been reported by Arnold, Amer. Jour. of the Med. Sci., July, 1869; Day, Amer. Jour. of the Med. Sci., April, 1870; Piffard, New York Med. Gaz., June 24, 1871; Van Harlingen (with an exhaustive bibliography), Amer. Jour. of Syph. and Derm., Oct. 1873; and White, Archives of Dermatology, July, 1875.

† Würzburger Med. Zeitschrift, 1861, B. ii. p. 294.

‡ Wiener Med. Wochenschrift, 1863; quoted in Neumann's work, 3d edition (German) p. 354.

§ Würzburger Med. Zeitschrift, 1861, vol. ii. p. 186.

‖ Loc. cit., 3d edition (German), p. 354.

¶ Loc. cit., vol. iii. p. 119.

however, will represent the changes usually found. The epidermis remains unaltered in structure, but contains a deposit of pigment in the lower layers of the rete. The papillæ are normal in size. Both the corium and the subcutaneous tissue are seen to be the seat of the disease. They are found to be infiltrated, greatly thickened, and to contain a marked increase in the connective tissue and elastic fibres. In the subcutaneous tissue, the fat cells are scanty and are surrounded by dense bundles of connective tissue. The whole cutaneous tissue is thus converted into a compact mass, made up of densely-packed fibres more or less interlaced and bound together. Concerning the vessels, which unquestionably play an important part in the pathology of this disease, Kaposi states that he found them "diminished in calibre, and closely surrounded by connective tissue. In spots here and there, and in large tracts, the connective tissue surrounding both sides of a vessel appeared pushed aside from its walls by small, nucleated (lymph) cells closely heaped on one another. By these cell-masses, the vessel was increased to five or six times its normal breadth, as if enclosed in a cell-sheath. The accumulation of cells was distinctly limited, laterally, by a continuous fibrous border. One may say that the cells were accumulated in the perivascular lymph-space (adventitious space)."

In summing up the facts bearing upon the nature of scleroderma, the same observer is of the opinion that the disease consists in a diffused thickening and stasis of lymph in the cutis, a view which, in consideration of the clinical as well as pathological features, appears to me to be highly plausible. Kaposi further adds in explanation, "in consequence of the thickening of the lymph, which results, not from local conditions, but from a generally abnormal state of the nutritive processes, this stagnates in the interstices of the tissue, which, according to the views as to the commencement of the lymph-passages, are considered to be lymph-spaces. Hence the early, but already firm, rigid infiltration of the cutis. Should the flow of the lymph again become free, then, also, the infiltration disappears completely, and the cutis returns to its normal condition. Should the stagnation continue for

a longer time, then, out of the accumulated superfluity of nutrient material, the previously normal connective tissue is formed in excess, becoming denser and denser. The interstices of the tissue become narrower and narrower, and consequently the latter can only be infiltrated by a smaller quantity of fluid. The connective-tissue texture becomes less and less juicy, retracted, and shrunken, like all slightly-juicy connective tissue and cicatrices."

Diagnosis.—Bearing in mind the peculiar characters of the disease, which are in most cases well marked, no trouble should be experienced in determining the diagnosis. The solidified, rigid, hard, more or less pigmented condition of the integument, apparently unaltered in structure, will alone be sufficient to distinguish it from other diseases.

It is not to be confounded with morphœa, an affection to which it bears a resemblance, but from which in reality it differs very materially both clinically and pathologically. It may be stated that, among other differences, in scleroderma the disease is always of a diffused character, while in morphœa it is limited and more or less circumscribed. Absolute hardness of the skin is from the first the most prominent feature of scleroderma; in morphœa there is no marked hardness, except in the late, cicatricial stage. In scleroderma the pathological condition is an hypertrophy; in morphœa it is an atrophy.

Treatment.—Unfortunately, but little can be done to relieve the condition. Various kinds of treatment have from time to time been instituted and carried out, with but unsatisfactory result. Constitutional remedies, such as iron, arsenic, and cod-liver oil, together with the employment of baths and stimulating frictions, in the form of liniments and ointments, offer the most hope of benefit. Galvanization, as recommended by Fieber* and Piffard,† may be employed with the expectation of success.

Prognosis.—The course and termination of the disease will be found to differ in cases. Occasionally the condition un-

---

* Wiener Med. Wochenschrift, Nov. 26, 1870.

† Loc. cit.

dergoes involution to recovery, while in other instances the symptoms remain persistently throughout life. The prognosis, upon the whole, is very unfavorable. Contraction and immobility of the parts may occur, attended by more or less deformity and suffering.

SCLEREMA NEONATORUM.

Syn. Scleroderma Neonatorum; Induratio Telæ Cellulosæ Neonatorum; Algor Progressivus; Sclerema of the Newborn; *Germ.*, Das Sclerem der Neugeborenen; Zellgewebsverhärtung der Neugeborenen; Die Greisenhaftigkeit der Kinder; *Fr.*, Algidité Progressive; Décrépitude Infantile.

SCLEREMA NEONATORUM IS A DISEASE OF INFANCY, APPEARING AT BIRTH OR LATER, CONSISTING OF A DIFFUSED HARDNESS AND STIFFNESS OF THE CUTANEOUS AND SUBCUTANEOUS TISSUES, ACCOMPANIED BY COLDNESS, ŒDEMA, SWELLING, DISCOLORATION, LIVIDITY, AND GENERAL CIRCULATORY DISTURBANCE.

Symptoms.—The disease may be congenital or may appear during early infancy. It usually begins in the lower extremities, and extends upwards, involving the trunk, arms, and face. The skin frequently assumes a glossy, reddish, or purplish hue; in other cases it is yellowish, or even brownish. A mottled aspect, more or less marked, may be present. The integument appears stretched and tense. To the touch it offers a remarkable and striking induration; it is firm, hard, rigid, and incapable of being taken up between the fingers. The amount of hardness varies in places; it is generally most marked about the legs. The surface is found to be cold, especially about the extremities. Upon pressure more or less œdema will be found, together with an infiltrated, thickened condition of the tissues. On account of the rigidity of the parts, motion is interfered with; this is usually seen very strikingly about the face, where the features remain fixed and give a staring, death-like expression to the child. When the disease is generalized, as in a case which recently came under my observation, the skin possesses a strong resemblance to that of a half-frozen corpse, as regards both its appearance and feel. The child is unable to move, takes but little nourishment, respires feebly, and usually sinks and dies in a few days. Very rarely, spontaneous recovery takes place. The disease is often

found associated with pneumonia and other troubles of the respiratory system.

Etiology.—The causes are unusually obscure. It has been observed to occur most frequently in premature children. The capillary circulation is manifestly at fault; but whether this is the primary trouble, or is secondary, and dependent upon the structural change in the tissues, is as yet undetermined.

Pathology.—After death the skin is observed to undergo but little change; the coloring of the skin usually becomes more intense. The induration remains. Upon incision a very large quantity of yellowish, serous fluid is poured forth, after which the structures become softer and resemble ordinary œdematous tissue. The subcutaneous tissue is seen to contain a stiff, firm, stearine-like deposit. Microscopic examinations have been made by Virchow,* Förster,† Löschner,‡ Jenks,§ and others; with somewhat unsatisfactory results. Considerable œdematous infiltration is seen to exist throughout the tissues. The connective tissue of the corium is greatly increased, according to Löschner and Jenks; other observers, however, have not been able to determine this point. The stearine-like deposit is noted to occupy a large tract in the subcutaneous layers.

Diagnosis.—The features of the disease are so well marked as to cause no difficulty in its recognition. The induration, œdema, and peculiar color of the skin, the coldness of the surface, the impaired circulation and respiration, all point unmistakably to this disease. It differs from the sclerodema of adults in the nature of the cutaneous deposit, as well as in its history and course.

Treatment.—This should be directed against the general condition. Cutaneous stimulation, gentle frictions, warmth, and other like measures are to be resorted to and persevered in. The prognosis is very unfavorable.

---

* Die Krankhaften Geschwülste, I. Band, p. 302.

† Path. Anatomie, II. Band, p. 1070, zweite Auflage. Leipzig, 1863.

‡ Prager Vierteljahrschrift, 1868.

‖ Amer. Jour. of Obstet., May, 1871, p. 129.

ELEPHANTIASIS ARABUM.

Syn. Pachydermia; Boucnemia Tropica; Elephant Leg; Barbadoes Leg; Spargosis.

ELEPHANTIASIS ARABUM IS A CHRONIC, HYPERTROPHIC DISEASE OF THE SKIN AND SUBCUTANEOUS CONNECTIVE TISSUE, CHARACTERIZED BY ENLARGEMENT AND DEFORMITY OF THE PART AFFECTED, ACCOMPANIED BY DISCOLORATION, PIGMENTATION, SWELLING, ŒDEMA, THICKENING, INDURATION, AND PAPILLARY GROWTH.

Symptoms.—The affection usually begins by an inflammation of an erysipelatous nature, attended by general febrile symptoms, pain, heat, swelling, and œdema, followed by slight permanent enlargement of the part. During these inflammatory attacks the lymphatics of the region and beyond it may be observed to be inflamed and distended, appearing as reddish or purplish stripes in and beneath the skin. The glands also become swollen and painful; this is particularly noticeable in the glands of the groin when a leg is invaded. Attacks of this description recur from time to time, the limb or region involved being slightly increased in size upon each occasion. After a year or longer, during which period a number of attacks will have taken place, the part will be seen to have attained considerable size; to be chronically swollen and œdematous and to be quite hard; and not only the leg but the skin itself to be generally hypertrophied, as shown by induration, enlarged and prominent papillæ, fissures, and pigmentation. The process rarely ceases until the part has enlarged enormously, and is attended by serious deformity.

The disease appears somewhat differently as one part or another of the body is affected. The common seat of the disease is the lower extremities, especially the legs. One limb only, however, is ordinarily attacked, the disease seldom showing itself symmetrically. The genitalia are the regions next attacked in point of frequency; the penis, scrotum, labia, and clitoris are all liable to be invaded. Other regions are much more rarely assailed, although cases are recorded in which the face, arms, and breasts have been involved.

The leg being the usual seat of the trouble, a brief de-

scription of the appearances as ordinarily seen here will be given. After the affection has existed for some time, and as observed in a quiescent state between the inflammatory attacks, the leg will appear greatly hypertrophied, the enlargement beginning usually just below the knee and extending down to the ankle; the foot is only occasionally involved. The limb is distorted and swollen, the tissues pitting upon pressure and exhibiting marked signs of general thickening and induration. The skin is hypertrophied in all its parts. It may be either smooth or rough; when smooth, eczema is not infrequently present, and is the source of additional trouble. Papillary hypertrophy, in the form of wart-like prominences, varying in size, is apt to develop over the whole limb; it is, however, more commonly present over the region of the foot and the toes. The growths may be either acuminated or flat in form, as in the case of the ordinary wart, and are traversed by the natural lines and furrows of the skin. Fissures, produced by the great distention and subsequent bursting of the integument, are also met with, while the normal folds of the surface are all exaggerated. Maceration of the epidermis, together with accumulations of extraneous matter, occurs about these folds, and gives rise to offensive masses of decomposition. Scales and crusts are apt to be present upon the limb, the latter being formed by the discharge, together with the blood and sebaceous matter, which continually oozes forth from between the wart-like formations. Ulcers are at times developed from varicose veins, which frequently exist. More or less pigmentation, giving the whole limb a reddish, brownish aspect, also takes place.

The amount of pain attending the disease varies considerably; at times it is severe, especially during the inflammatory attacks, while in other cases but little inconvenience and discomfort are experienced. The weight of an affected part, as a limb or the scrotum, is always appreciable, and may be so great as to incapacitate the individual from walking or moving about. Where there is a tendency to eczema, itching is an annoying symptom.

The course of the affection is emphatically chronic.

Etiology.—Elephantiasis Arabum is found in all parts of the world; it is, however, of more frequent occurrence in some countries than in others. It is especially common in tropical climates; Barbadoes, and the other islands of the West Indies, South America, China, Japan, Egypt, and Africa may be mentioned as affording many, as well as striking, examples of the affection. Isolated cases are encountered throughout both Europe and our own country. The largest number of cases are found to occur in low, malarial districts, upon islands, and along the sea-coast.

Climate, it would appear from this statement, must be held accountable for a certain amount of influence in its development. It is, however, highly probable that the want of proper hygienic measures, depraved habits, and bad food play a more prominent part in the production of the disease than climate, for the vitiated condition of the inhabitants of the tropical countries is well known. It has been noted universally that the affection is one confined in a great measure to the poor and improperly cared-for; the well-to-do are seldom attacked. It is met with in both sexes, but is said to be more common in males. It rarely appears before puberty. The disease is neither hereditary nor contagious.

Pathology.—The anatomy of the disease has been carefully studied by Virchow,* Kaposi,† and others. The tissues, when cut into with a knife, are found to be firm, and show a whitish or yellowish surface. The mass appears to be made up of both fibrous and fatty elements. When pressed upon, the sides of the cut tissue give forth a clear, pale-yellow fluid. As the centre of the growth is approached from the exterior, signs of fatty degeneration are encountered.

Under the microscope, the great bulk of the growth is seen to be made up of hypertrophic connective tissue, having its seat, for the most part, in the subcutaneous connective tissue; the corium is observed to be likewise hypertrophied, although proportionately to a much less extent. The mass is composed of bundles of stout fibres, running both parallel

* Die Krankhaften Geschwülste, I. Band, p. 308.

† Loc. cit., vol. iii. p. 140.

and in various directions, as a network, together with smaller fibres and cells with nuclei.

The corium and epidermis vary in thickness and structure according as the surface of the growth is smooth or covered with papillary elevations. These latter are oftentimes very greatly developed, forming condyloma-like growths, and are composed of elongated papillæ, either with or without epidermic covering, according to their situation. The blood-vessels of the diseased tissue are found to be very materially enlarged. The lymphatics are, in like manner, seen to be increased in calibre, and in many instances to be greatly dilated. When the affection has continued for some time, various changes are noted to take place in the deeper parts of the structure, among which may be mentioned fatty degeneration and atrophy of the muscles, and thickening of the bones accompanied by exostoses.

Diagnosis.—After the enlargement has begun to take place, no difficulty can exist as to the diagnosis. The erysipelatous inflammation, together with the part attacked, also points to the disease; repeated attacks of erysipelas about a limb should always be regarded as indicative of a probable increase in the amount of connective tissue.

It need scarcely be mentioned that no connection exists between the disease under consideration and elephantiasis Græcorum, or leprosy; the affixes Arabum and Græcorum distinguish the two affections.

Treatment.—During an inflammatory attack the part should be treated by absolute rest—the horizontal position—and cold applications in the form of cold water cloths. After the pain and heat have subsided, the limb should be rubbed with mercurial ointment, as suggested by Hebra, and encased in a well and closely applied bandage. The inunction should be repeated several times in the course of the twenty-four hours, with a view to the reabsorption of the exudation which has taken place. The bandage requires to be employed with skill, and to be adapted accurately and firmly to the limb, for it is all-important that it should exert the proper amount of pressure. Great diminution in the size of the limb will probably take place within the first few days of treatment,

during which period it will be found necessary to reapply the bandages several times in the course of the twenty-four hours. This method of treatment, together with rest, should be persevered in as long as any benefit seems to follow its employment. The constitutional symptoms accompanying the local disturbance are to be treated as the case may seem to require. When the disease has existed for some time and great deformity is present, ligation of the main artery supplying the limb, or even amputation of the limb, may be practised. In cases in which the genitalia are involved, the knife offers the best means of relief.

Prognosis.—If the affection is placed under proper treatment early in its course, much may be done to arrest the process, or at least to prevent its rapid increase. When, however, the growth has become fully developed and new tissues have become organized, but little permanent relief can be looked for. Striking deformity attends the disease, the part involved usually attaining great size and weight, while not infrequently, in the course of years, a limb will assume truly huge proportions, resembling in contour as well as in bulk the foot of an elephant. The penis, scrotum, and labia likewise enlarge at times enormously, forming solid tumors, often weighing many pounds.* In these cases locomotion is seriously interfered with, if not altogether prevented. Individuals affected with elephantiasis Arabum seldom perish from the effects of the disease; in rare cases, however, a fatal result may follow an inflammatory attack.

DERMATOLYSIS.

Syn. Cutis Pendula; Pachydermatocele; Hypertrophy of the Skin; Pendulous Growth.

DERMATOLYSIS CONSISTS OF A MORE OR LESS CIRCUMSCRIBED HYPERTROPHY OF THE CUTANEOUS STRUCTURES, CHARACTERIZED BY SOFTNESS AND LOOSENESS OF THE SKIN, AND A TENDENCY TO HANG IN FOLDS.

Symptoms.—It may exist as a slight affection, or to such an

* A huge scrotal growth of this character recently came under observation at the Hospital of the University of Pennsylvania; it was successfully removed by Dr. John Neill. Amer. Jour. of the Med. Sci., July, 1875.

extent as to cause serious inconvenience. The skin and all its component parts, including hairs, follicles, glands and ducts, as well as the deeper structures, are hypertrophied. The tissues are greatly thickened, exceedingly bulky, and incline to hang in folds or pouches; very commonly the layers lap over one another, like the folds of a loose garment. To the touch the skin is soft and pliable, and is remarkable for its laxity, reminding one of adipose tissue. Its surface is rugous, owing to the hypertrophy of the follicles and natural folds and lines of the part; it has the appearance of being viewed through a powerful magnifying glass, all the structures being highly exaggerated. There is more or less pigmentation present; the skin is at times brownish in color.

The affection may be confined to a certain region, as the face; or, it may show itself in several distinct localities, as upon the face and arm. It has been observed to occur about the head, face, neck, arms, abdomen, genitalia, thighs, and legs; it may, however, make its appearance upon any part of the body. One or a number of the growths may be present about the same region; where several exist they are apt to develop in close proximity, side by side, and to crowd one another into layers or folds; occasionally purse-like, dependent pouches are formed. The course of the disease is slow. It occasions, as a rule, no trouble beyond the inconvenience of so bulky and heavy a growth.

The tissues may develop to an enormous size, as in the case of Nélaton, reported by Keen,* where the hypertrophy sprang from the back of the neck and shoulders, and fell in the form of a huge cloak over the whole back, reaching down to the buttocks; its weight was twenty-five pounds. The late Prof. Valentine Mott, of New York, reported five cases of this disease, portraits of two of which accompany his communication.† Stokes, of Dublin, has recently reported a case, with a drawing, upon which he performed a successful operation.‡ Mr. Weeden Cooke's case, which I had the good

---

* Photographic Review of Med. and Surg., vol. ii. p. 45.

† Med.-Chir. Soc. Trans., vol. xxxvii. p. 155.

‡ Dublin Jour. of Med. Sci., Jan., 1876.

fortune to see when in London, in 1869, may also be referred to. The subject was a girl of seventeen, who was affected with an enormous hypertrophy of the cutaneous tissues about the left hip and thigh, extending down as far as the knee, and there abruptly terminating. The integument was greatly hypertrophied, and hung loosely and flabbily in folds, one overlapping the other, resembling in appearance the leg of a pair of loose Turkish trousers. These folds were four or five in number, and could be readily lifted up separately with the hand. The commencement of the growth dated back only three years, and latterly it had increased with great rapidity. It probably weighed fifteen pounds or more, and it interfered seriously with locomotion. I have also in my possession a photograph kindly sent to me by Dr. Hodges, of Boston, illustrating the same affection; the growth in this case extends from the left shoulder to the elbow, hanging over the forearm and almost reaching the wrist, looking very much like the open sleeve of a lady's dress.

Etiology.—No cause can be assigned for the abnormal development; at times it is congenital, in other cases, as in that of Mr. Cooke, it does not make its appearance until puberty or later.

Pathology.—The growth consists primarily of a simple hypertrophy of the skin, including all its structures, and of the subcutaneous connective tissue.

Diagnosis.—No difficulty can arise in recognizing this disease, the features of which are usually so well defined. It is not to be confounded with molluscum fibrosum, nor with elephantiasis Arabum.

Treatment.—The knife offers the only means of removing the mass. The advisability of an operation must depend altogether upon the location and extent of the growth.

HYPERTROPHY OF THE HAIR.

Syn. Hypertrichosis; Trichauxis; Polytrichia.

Under this head are included all those cases in which the hairs are unusually developed, as regards their size and

number, either upon regions where the hair is ordinarily found, or in places where the growth is abnormal.

The hair upon the scalp in both sexes not infrequently grows to an unusual length and in great quantity; it may be either of the average thickness, or finer or coarser than normal. The hair in other localities to which it is natural, as the eyebrows, axillæ, pubis, and beard in men, may also take on augmented growth and attain uncommon development. Instead of the fine, downy hairs, or lanugo, present over the greater portion of the body, increased activity of hair growth may manifest itself, either universally, over the whole surface, or locally, in certain parts, as the face, which may continue until the body is extensively covered with long, well-formed, more or less stout hairs. This form of development also takes place in both sexes, and at all periods of life. It often gives rise to much disfigurement in the female. In these cases the hairs are apt to assume a more luxuriant growth in those localities in which the hair is naturally strongest. Examples of these so-called "hairy people" are from time to time met with, extraordinary cases of which have now and then been reported.*

Stout, stiff, and sometimes long hairs are of common occurrence in connection with moles, when the formation is termed a NÆVUS PILOSUS; if it possess a rough, uneven, warty surface it is called a NÆVUS VERRUCOSUS. These growths are encountered upon various regions; existing upon the scalp, the hairs are usually noted to be greatly increased in calibre; at times so much so as to resemble the hair of the lower animals.

Hairs occasionally show abnormality as regards the direction in which they grow after making their exit from the follicle; the condition is termed TRICHIASIS. It is seen upon the scalp and eyebrows, and upon the eyelashes, where, at times, the hairs exhibit a tendency to turn inwards towards the eyeball.

The condition known as PLICA or PLICA POLONICA (common

* See Wilson, loc. cit., p. 716; Hebra and Kaposi, vol. iii. p. 69; Rayer, Treatise on Diseases of the Skin, English translation, London, 1835, p. 1040.

in Poland, and observed chiefly among the poorer classes), in which the hair, through long-continued neglect, uncleanliness, and at times the presence of lice and of eczema, becomes closely matted together in the form of a mop, may be here referred to. It is not a disease, as was formerly supposed, but merely an entangled, felted, filthy state of the hair and scalp, brought about by inattention to combing, cutting, and cleansing this portion of the person. It is remedied by the free use of oils, soap and water, and the comb and brush; or by means of the scissors, cutting off the whole mass. It is rarely encountered in this country, at least to any extent.

Etiology.—Nothing definite can be stated in regard to the causes of these abnormal developments. They may be congenital, the usual case, or they may be acquired, the disposition to increased growth first showing itself later in life. Excessive hairiness is more common in persons of dark than in those of light complexion. In women, when the condition is acquired, as at times observed about the face and arms, masculine peculiarities are very often present. It also occasionally manifests itself in women at the climacteric period; also in sterile women, and in those whose menstrual function is imperfect. Local stimulation or irritation of a part may be mentioned as one of the causes which has not infrequently been noted by observers. Cases have been recorded in which lanugo developed itself into strong, stiff hairs over the site of a former blister.

Treatment.—The removal of these augmented growths of hair is usually confined to small areas, as, for example, hairy nævi, the upper lip, and face generally of women. Where the hairs are few in number, they may be extracted with the epilating forceps. In the case of nævi, excision or cauterization of the whole formation is to be recommended as offering the most effectual and permanent relief. Shaving, with the use afterwards of starch or French chalk dusting powder, is a method very commonly employed; in many cases it is the simplest and best means of removing the disfigurement.

Depilatories, remedies of a caustic nature which act destructively upon the hairs, are often of service in destroying

patches of hair. They consist usually of several substances mixed in varying proportions, the active ingredients being either sulphide of arsenic, sulphide of sodium, sulphide of barium, sulphide of calcium, or quicklime. The so-called "depilatory powders" are formed of one or another of these preparations, reduced to impalpable powder and mixed with starch. They are made into a paste, with a small quantity of water, and laid on the hairy part to be destroyed, as a thin coating, for ten or fifteen minutes. As soon as heat of skin is experienced, the paste should be scraped off and the surface washed with water and immediately anointed with some bland ointment; afterwards a starch powder may be applied to conceal the signs of irritation upon the skin.

The sulphide of barium is one of our best remedies for this purpose. I have used and can recommend the following:

℞ Barii Sulphidi, ʒii;
Pulv. Oxidi Zinci,
Pulv. Amyli, āā ʒiii.
M.

All of these preparations should be employed with caution, and only under the direction of a physician; on account of their caustic properties, they are not infrequently the source of mischief. They require to be repeated in their use every few days, or as the case may demand.

HYPERTROPHY OF THE NAIL.

The nail structure may augment itself in various directions; as, in length, in width, or in thickness. The term hypertrophy of the nail is applied to any increase in size, from whatsoever cause.

Supernumerary nails have occasionally been observed; so also nails upon regions of the body where this structure does not usually exist, as upon the extremities of amputated fingers, where no rudiment of the original matrix can have existed.*

Hypertrophy may take place as an idiopathic affection,

* Wilson, loc. cit., p. 709.

occurring independently of disease in other parts of the body; or it may appear in connection with certain general or constitutional disorders, as ichthyosis and syphilis. The process may manifest itself as a simple increase in the normal growth of the nail, termed ONYCHAUXIS; or, as is more usually the case, it may be attended with changes of color, consistence, and shape. When the nail inclines to grow forwards and to the side, in a twisted, bent, or curved manner, like the horn of a ram, the condition is called ONYCHOGRYPHOSIS. The nails here are usually much thickened, and are hard and horny; they are yellowish or brownish in color, and are curved into various shapes. One, several, or all of the nails may be so affected. It takes place more frequently upon the toes than upon the fingers, and is ordinarily seen only in old people.

The skin immediately around the posterior outer surface of the nail, inclines at times to grow over the back of the nail; when this occurs it is designated PTERYGIUM OF THE NAIL.

Hypertrophy of the nails is apt to take place as the result of certain diseases of the skin, as psoriasis, ichthyosis, leprosy, syphilis, etc. The appearances presented in these affections vary, although usually marked by more or less softening and exfoliation. Hypertrophy of the papillæ of the matrix occasionally occurs, causing the nail to become thickened upon its exposed surface. Increase in the coloring matter of the nail, producing yellowish, brownish, or blackish discoloration, is also to be mentioned as one of the abnormal states now and then encountered; it may exist as an idiopathic affection, or in connection with other diseases.

The nail at times takes on an abnormal direction of growth, extending itself laterally into the soft parts. When this occurs, inflammation of the skin is apt to be produced, giving rise to PARONYCHIA.

The matrix of the nail not infrequently becomes the seat of inflammation and of new formations, followed by changes of structure of the nail-substance; the condition is termed ONYCHIA. It may result from external injuries, pressure, etc.,

or from certain diseases. Eczema, psoriasis, leprosy, and syphilis, are all known to attack the matrix.

Syphilitic onychia is due to the cellular deposit of syphilis taking place about the matrix of the nail, which undergoes the same pathological changes as this formation is subject to in other regions of the body, modified by the peculiar anatomical structure of the part. One or more nails may be affected. The process frequently extends itself to the cutaneous tissues around the nail, producing redness, swelling, ulceration, and a copious discharge of very offensive, puriform fluid. It is apt to be accompanied by hypertrophy and other structural change of the nail-substance. The nail not infrequently becomes detached from the matrix.

The vegetable parasites at times make their habitat beneath the nail, as well as in its very substance, which they penetrate in all directions, producing increase in size, and subsequently general disintegration of the tissue; the condition is termed ONYCHO-MYCOSIS. Several or all of the nails may be attacked.

Treatment.—This will vary with the cause, which must in each case be sought for. Both local and constitutional remedies are employed, either alone or conjointly, according to the nature of the affection. Idiopathic hypertrophy of the nail may be removed by the knife or scissors, after the growth has been softened or macerated by hot water baths or poultices. It is at times advisable, at the first operation, to remove a portion only of the hypertrophy, on account of the liability to split, which nails frequently evince.

In-growing nails should receive careful attention in the avoidance of all pressure, frequent cutting, and protection of the soft parts by means of lint placed between the nail and skin-fold. Alterations in the nail through constitutional diseases, as, for example, syphilis, must receive general treatment suitable to the case. Nails invaded by fungi are to be treated as in the case of the parasite when upon the skin, —by parasiticides, together with internal remedies, if they seem to be indicated.

CLASS VI.

ATROPHIES.

In this class may be grouped all those affections of the skin and its component parts which are characterized by a diminution or degeneration of the elements which go to make up the normal structure.

The changes which take place may be due to simple atrophy, as of the pigment in gray hair; to a combined process, including both atrophy and hypertrophy, the atrophy, however, predominating, as in vitiligo; or, to so-called degenerative atrophy, as in morphœa.

The absence of the proper amount of coloring matter in the skin gives rise to more or less disfigurement, varying in degree according to the extent to which it is wanting. It may exist either as a congenital or as an acquired condition. When congenital it is termed albinism.

Acquired (*i.e.*, making its appearance during the life of the individual) absence of pigment in the skin may be idiopathic, as in vitiligo; or it may occur in the course of other diseases, as, for example, in patches, following excoriations, ulcers, etc.

The pigment of the hair is very frequently absent in part or wholly, giving rise to varying degrees of canities. The skin itself occasionally suffers from premature atrophy, either in a diffused or in a circumscribed form, usually the latter, as in the striæ et maculæ atrophicæ, and in morphœa. The hair of the scalp and the scalp itself are very commonly the seat of atrophy, as in alopecia from various causes, and in alopecia areata. The nail is also now and then attacked.

ALBINISM.

Syn. Albinismus; Congenital Achroma; Congenital Leucopathia; Congenital Leucoderma; Congenital Leucasmus.

The condition which has been termed albinism consists of a congenital absence of the normal pigment. It may exist uniformly over the whole of the surface, in which case it is said to be *universal;* or, in the form of circumscribed patches, when it is designated as being *partial.*

As a universal anomaly it is met with in people of various races, who have received the name of Albinos. These individuals are characterized by the more or less complete absence of coloring matter in the skin and hair, and even in the iris and choroid coat of the eye. The skin is of a milky-white or pinkish color, varying as to shade. The hair of the head, as well as of the hairy portions of the body, is also white or yellowish-white; at times it is as white as snow, and has a silvery appearance. It is, moreover, fine, thin, and usually soft and silky. The lanugo covering the body is exceedingly fine, like that of an infant.

The eyes are highly sensitive to light; so much so that they are scarcely able to tolerate daylight. The pupils dilate and contract constantly, the eyeballs incline to oscillate, and there is almost continuous involuntary winking of the eyelids. In color the iris is pale-bluish or pinkish, while the pupil presents a pinkish or bright red appearance, owing to absence of pigment in the choroid. Albinos, as a rule, are of short stature, and are usually deficient in strength and in mental capacity. It is said that they almost always have a disposition to diseases of the chest.

Partial albinism is seen in the negro. Kaposi is of the opinion that it also occurs in the white race. It consists of one or more variously sized and shaped milky-white or pinkish-white patches, which may occur upon any region. The hairs or lanugo which may exist upon a patch are blanched, as in the case of universal albinism. The eyes are not deprived of pigment. Negroes thus affected are designated "pied" or "piebald" negroes.

Albinism, although of rare occurrence, is met with in all

races, and among those of cold as well as those of hot climates. It occurs in Africa, the various countries of Europe, and in our own country, especially among the negroes of the South. The causes are unknown. The condition is frequently, although by no means always, inherited. One child only out of a family may be so affected. It is incurable.*

VITILIGO.

Syn. Acquired Leucoderma; Acquired Leucopathia; Acquired Leucasmus; Acquired Achroma; Acquired Piebald Skin.

VITILIGO IS AN ACQUIRED DISEASE, CONSISTING OF ONE OR MORE SHARPLY-DEFINED, ROUND, OVAL, OR IRREGULARLY-SHAPED, VARIOUSLY SIZED AND DISTRIBUTED, SMOOTH, WHITISH SPOTS, WHOSE BORDERS SHOW AN INCREASE IN THE NORMAL AMOUNT OF PIGMENTATION.

Symptoms.—The disease commences by the appearance of one or more variously-sized spots, which are observed to increase slowly or rapidly in size; new ones are apt to show themselves from time to time. The number of spots varies from several to a dozen or more; usually, however, they are not numerous. Their outlines are well defined and terminate abruptly against skin which is observed to be darker than normal, commonly of a yellowish or brownish tint. They have a smooth surface, and are always on a level with the surrounding skin, being neither raised nor depressed. In shape they are for the most part roundish; they are also frequently oval, and at times, especially about the face, their outline is quite angular and irregular. In size they vary, according to their age and the rapidity with which they enlarge; they may be of all sizes from a small coin to the palm of the hand and larger. Ultimately, as they grow towards one another, they coalesce, forming larger patches, which may cover the greater part of a limb or the trunk. They have a milky-white color, varying somewhat in shade, which is at once seen to be due to the absence of the normal pigment of the skin. Hairs existing in their area may or may

* For the notes of several interesting cases, see Rayer's Treatise on the Diseases of the Skin, English translation, London, 1835, p. 932.

not be whitened. The sebaceous and sudoriparous secretions remain normal. Sensibility likewise is preserved; there is neither itching, pain, nor anæsthesia. The skin feels normal to the touch. The increased coloration surrounding the spots is a constant feature; at times it is present only to a slight extent, in other cases it is very marked. It is seen to be a diffused pigmentation, becoming more intense in tone as it approaches and touches the spot; beyond, it fades gradually away into the healthy skin.

The disease may appear upon any part of the body, from the feet to the top of the head, upon both hairy and non-hairy regions. Very commonly it occurs upon the backs of the hands and feet, also upon the trunk.

The course of the affection is exceedingly chronic; it usually lasts throughout life, the spots increasing slowly in size as well as in numbers until the greater portion of the skin may be involved. The disfigurement is striking, and proves a constant source of annoyance to the patient, especially if the lesions chance to make their appearance about the face.

Etiology.—The affection is quite rare. It is encountered in both sexes, in light- and in dark-haired people, in various races, and usually first shows itself in adult life. The general health is ordinarily noted to be good; at times, however, it is at fault. The nervous system may be implicated. As a rule, no satisfactory cause can be offered for its development.

Pathology.—The process consists in both an atrophy and a hypertrophy of the normal pigment of the skin, which appear to take place simultaneously. One part of the skin seems to suffer at the expense of the other. Microscopic examination, according to Simon,* shows a total absence of the coloring matter in the whitish spots, while the yellowish or brownish discoloration which surrounds each spot is found to contain an excess of pigment.

Diagnosis.—The disease is not to be confounded with chloasma, which it resembles. In vitiligo the spots are whitish, clearly defined, and are surrounded by deep pigmentation;

---

* Loc. cit., p. 63.

in chloasma the spot itself is yellow or brownish, and is unaccompanied by any whiteness whatsoever.

Vitiligo may also be mistaken for tinea versicolor; but here, as in chloasma, the patches themselves are yellowish, the skin between them being normal in color. The skin, moreover, in vitiligo, is perfectly smooth and without scale; in tinea versicolor it is always furfuraceous. The microscope will further aid in the diagnosis.

Vitiligo is also to be distinguished from morphœa. These two affections, however, differ in so many particulars as scarcely to permit of confusion in diagnosis; the spots of morphœa may be known by the marked alteration which takes place in the structure of the corium.

Treatment.—Where the general health is impaired, or where there is functional derangement, strict attention should be devoted to improving the condition. A full tonic treatment should be persisted in for some time; without doubt this plan offers the best chance for the arrest of the abnormal process.

In regard to local treatment, the greatest amount of success will attend the removal of the yellow and brownish discolorations immediately around the whitish spots, as recommended by Hebra and others. The hypertrophy of the pigment, rather than the atrophy, is to be treated; this is done exactly in the manner described in speaking of the chloasmata. Upon the whole, the treatment of vitiligo is extremely unsatisfactory.

Prognosis.—It will be found, as a rule, that the spots incline to increase in size very slowly, extending over a period of years, until a considerable portion of the surface is occupied; they are seldom arrested in their progress. At times, however, they cease growing, and remain at a stand-still for the rest of life. In rare cases the skin has been known to become normal again. The disease is attended by no unpleasant symptoms beyond the disfigurement.

CANITIES.

Syn. Grayness of the Hair; Whiteness of the Hair; Blanching of the Hair; Atrophy of the Hair Pigment; Trichonosis Cana; Trichonosis Discolor.

This may occur either prematurely, early in life, or, as is much more commonly the case, later, as the result of old age, when it is termed senile canities.

Premature grayness of the hair may show itself either universally, involving the whole of the hairy system, or in places, forming tufts or locks of gray or white hair. The color may be of any shade from black or brown to white; usually it is gray. The hairs may be discolored throughout their entire length or only at certain points; the shade may also vary in different places. The affection may occur at any age, but is rarely seen before adult life. After the process has taken place the hairs either remain without their normal supply of coloring matter throughout the rest of life, or, after a longer or shorter period, regain it; the course is variable.

The length of time which the hairs require for the complete change of color is found to vary exceedingly, being at times very rapid and in other cases slow. The question as to whether hairs can be deprived of their color suddenly, *i.e.*, within twenty-four hours, is differently answered by observers. Hebra and Kaposi* are of opinion, based upon physiologico-anatomical grounds, that the change can take place only gradually, and consequently that the several well-known reported cases in which the graying is said to have occurred "in the course of the night" cannot be received as absolutely true. In opposition to this view, Wilson† and Landois‡ may be cited as crediting the occurrence of this sudden change, the last-named observer endeavoring to explain the phenomenon by the presence of air bubbles which he believes take sudden possession of the interior of the hair.

---

* Loc. cit., vol. iii. p. 192. † Loc. cit., p. 732.

‡ See an interesting case of "sudden graying of the hair" by this writer in Virchow's Archiv, April, 1866. Cases are also reported by Dr. D. H. Tuke, "Influence of the Mind upon the Body," Amer. ed., p. 276, Phila., 1873.

Internal remedies do not appear to exert any influence in restoring the pigment. Dyeing of the hair may be resorted to to disguise the condition.

ATROPHIA CUTIS.

Syn. Atrophia Cutis Propria; Atrophy of the Skin.

Atrophy of the skin is characterized either by a diminution in its bulk, or by a degeneration of its elements.

Simple atrophy is marked by a general decrease in the number of the normal constituents of the tissue; the skin is thin, is more or less wasted, and presents a dried, shrivelled appearance.

Degenerative atrophy exhibits structural alteration, with or without actual loss of substance. The tissue so affected is usually observed to be somewhat hardened, to be yellowish or whitish in color, and to have a waxy, fatty, bacony look.

The atrophic process may be general in character, as in senile atrophy, and in certain rare forms of disease; or it may be partial or limited in its invasion, as in atrophic lines and spots, and in morphœa.

Atrophy of the skin may occur as a substantive disease (idiopathic atrophy); or, as a symptom in the course of some other disorder (symptomatic atrophy). The former is seen in the atrophic lines and spots, in morphœa, and in senile atrophy; while the latter takes place in connection with or following certain constitutional and local disorders, as, for example, seborrhœa, lupus, syphilis, and tinea favosa.

The singular and rare affection termed UNILATERAL ATROPHY OF THE FACE,* in which an arrest of development of all the structures of one side of the face occurs, may be here mentioned. The cutaneous structures, especially the corium, are all seriously involved, the skin appearing as a shrunken, hardened, yellowish, lardaceous tissue.

General idiopathic atrophy of the skin is a very rare

* For further information concerning this disease, see "Essai sur l'Aplasie Lamineuse Progressive," by Lande, Paris, 1870; also Eulenberg's "Lehrbuch der functionellen Nervenkrankheiten," Berlin, 1871.

condition; it has, however, been observed by Wilson,* and by Hebra and Kaposi.†

STRIÆ ET MACULÆ ATROPHICÆ.

Syn. Atrophic Lines and Spots.

This form of atrophy may be either idiopathic or symptomatic.

IDIOPATHIC. — The atrophy here occurs without known cause, often making its appearance so indolently and gradually that the attention of the patient is not directed to the lesion until it has existed perhaps for some time. The process may assume the form either of lines or streaks (ATROPHIA CUTIS LINEARIS, LINEAR ATROPHY), or of spots; the former are much the commoner. The lines are usually one or two lines in width, and vary in length from one to several inches. The spots are roundish, and from a pin-head to a pea or larger in size. They possess a smooth, glistening, scar-like appearance, and have a whitish, bluish-gray, mother-of-pearl color. The lines are slightly depressed or grooved (striæ), perceptible to the touch, and have an irregular, broken, curved or undulatory course. A number of them are generally found upon the same region; in which case they usually run parallel to one another, and almost always in an oblique direction.

They may occur upon any part of the body; they are, however, most frequently seen about the thighs, upon both extensor and flexor surfaces.‡ They give rise to no inconvenience. The general health of the patient is usually good. They ordinarily run a slow course, lasting years. Their cause is obscure. They are found in both men and women; at all periods of life; and may occur either alone, or in connection with other diseases. I have seen them in two cases associated with morphœa.

Kaposi§ examined an excised atrophic line, and found the epidermis, especially the mucous layer, very much atro-

---

* Loc. cit., pp. 393, 394. † Loc. cit., vol. iii. p. 252.

‡ See a recent article by Dr. R. W. Taylor, Archives of Dermatology, vol ii., No. 2, 1876.

§ Loc. cit., vol. iii. p. 262.

phied; the papillæ of the corium almost entirely obliterated; the connective and elastic tissue in very thin bundles; the bloodvessels few and slender; the fat cells absent; and the sebaceous glands wasted and degenerated.

SYMPTOMATIC.—The atrophy here results from various causes, as from extreme distention of the cutaneous tissues in pregnancy, in large abdominal and other tumors, and in the mammæ during lactation. The skin in these conditions becomes enormously stretched, and finally gives way in the form of lines, which subsequently atrophy (LINEÆ ALBICANTES). Wilson* states that linear atrophy may at times occur in the course of a nerve which has been disorganized.

MORPHŒA.

Syn. Keloid of Addison.†

Symptoms.—The disease usually commences by the development of one or more small, roundish patches, which slowly increase until they assume the size of a coin or the palm of the hand. They are circumscribed, their periphery being marked by an abrupt line of demarcation. Immediately around the patch is observed a pinkish or violet border, about a line in width, more or less well defined, which is seen to be made up of minute bloodvessels. The patch is never elevated; it is either on a level with the surrounding skin, or, if the disease be of long standing, somewhat depressed. To the touch it is usually firm; in other cases it appears to be very little different from the feel of normal tissue. Its surface is smooth, and often possesses a polished, glazed look. The epidermis may be either unaltered or in a state of atrophy. The color is peculiar; it is at first pinkish, but becomes whitish or yellowish, and so remains through-

---

* Loc. cit., p. 395.

† I include under the term morphœa, two forms of disease heretofore considered by writers under the names "keloid of Addison" and "morphœa," believing that they are but different manifestations of one and the same process. The so-called "morphœa of leprosy," although often resembling the disease under consideration, is but one of the many cutaneous symptoms of that disease, and is in no way connected with the affection about to be described.

out its course. The patch possesses a waxy look; it may also be likened to a section of a piece of bacon which has been cut out and laid in the skin, presenting the appearance of a lardaceous deposit. It is always dry, and after a time may take on a shrivelled, wasted appearance. One or two or more of these patches may exist; commonly but one or two are present. They are encountered about the region of the neck, upon the trunk, arms, and thighs.

In place of the symptoms just described, the disease may show itself by lesions of a more distinctly atrophic nature, consisting of numerous aggregated or disseminated, small, pit-like depressions in the skin; bluish or reddish tortuous lines; whitish atrophic streaks (true "striæ atrophicæ cutis"); decided yellowish or brownish pigmentary deposit; together with one or more definite centres of disease, reddish or purplish in color, followed by peculiar, yellowish, hard, horny, cicatriform lesions assuming the shape of roundish, coin-sized patches, or elongated, band-like formations.* The whole process is exceedingly complex and variable. The arms, thighs, and legs are particularly liable to be attacked, although the body may also suffer. Sooner or later the deeper tissues may become affected, contraction taking place, with serious deformity. One, several, or all of these manifestations may be present.† Their course is extremely variable; they may continue throughout a lifetime, increasing in severity from year to year, or they may undergo spontaneous involution, terminating in recovery.

The subjective symptoms of morphœa are not noteworthy; at times there is slight itching about the patches.

Etiology.—The disease is very rare. It has been noted to occur more frequently in females than in males, and has been observed in both children and adults. The causes are altogether unknown; it does not depend upon debility, many

---

* For a full description of these appearances, see the reported cases of Addison, to be found in "A Collection of the Published Writings of the late Thomas Addison." New Syd. Soc., London, 1869.

† A case, occurring in a young lady, eighteen years of age, is at present under my observation, in which all of the mentioned symptoms exist.

of the reported cases enjoying good general health. The affection has no connection whatsoever with leprosy.

Pathology.—But little is known concerning the nature of the process. The more important changes which take place are manifestly of an atrophic nature. No microscopic examination has as yet been made upon tissues thus affected.

Diagnosis.—The relationship between the conditions designated in literature by the names morphœa, keloid of Addison, scleroderma, and striæ et maculæ atrophicæ, are variously interpreted by observers.

Morphœa differs from scleroderma in that its lesions are more or less circumscribed; this is particularly the case in the macular form of the disease, where the patches exist as well-defined, circumscribed, yellowish, lardaceous, inlaid plates. It also differs from scleroderma in the absence of the peculiar sclerodermic hardness. In the later stages of morphœa, where distinct atrophy and cicatrization have occurred, the condition will scarcely be confounded with scleroderma. (See scleroderma, p. 364.)

The atrophic striæ of morphœa, as seen in one form of the affection, are with difficulty to be distinguished from the "lineæ albicantes" so often seen upon the abdomen. Other symptoms of quite a different nature, as, for example, pigmentation and cicatrization, will usually be present in morphœa, whereby these two conditions may be separated.

The roundish, circumscribed patches of morphœa bear a strong resemblance to the anæsthetic spots of leprosy. In general appearance these two forms of disease possess many features in common; but upon investigation they are found to differ in many very important particulars. The reddish or yellowish patches or macules of leprosy are well-known symptoms common to both the tubercular and the anæsthetic variety of the disease. When fully developed they are always anæsthetic, and are usually accompanied by other symptoms of leprosy. Neither anæsthesia nor hyperæsthesia occurs at any period in connection with the patches of morphœa.

The whitish patches of morphœa bear some likeness to vitiligo; but in vitiligo the disease is one affecting the pig-

mentary layer only, the texture of the skin itself being in every respect normal, and hence could not be confounded with the structural change in the skin which takes place in morphœa.

Treatment.—A general tonic treatment is called for, consisting of the liberal use of cod-liver oil, the preparations of iron, and arsenic. The last-named remedy should be given in full doses, and continued for a long period. Where arsenic is to be used for months it is of the greatest importance to begin with small doses, very gradually increasing the quantity until the patient takes as much as possible without disturbing the general health. More benefit probably is to be derived from the judicious use of arsenic in this affection than from any other remedy. The constant galvanic current may prove of service.

Prognosis.—It is always an exceedingly chronic form of disease, undergoing very slow and gradual evolution; it is apt to continue throughout life. At times it inclines to spontaneous recovery. Where extensive atrophy has already taken place, complete restoration cannot be looked for.

SENILE ATROPHY.

This form of atrophy, as its name implies, takes place as the result of old age. The alterations encountered are quite varied in their character, and affect not only the corium, but also its component parts and the subcutaneous tissues. The process may be either simple or degenerative; very commonly both processes occur together.

In simple atrophy, the skin, especially the corium, is always thin; the surface, moreover, is dry and wrinkled, more or less discolored, and shows signs of general emaciation. According to Neumann,* the epidermis is thinned; the papillæ of the corium are either altogether wanting, or are diminished in size; the pigment changes are irregular, and the hair follicles either well preserved or wasted. The hair is absent, or present only in the form of lanugo. The sebaceous glands always exhibit marked changes, which vary with the region.

* Loc. cit., p. 302; see also Hebra and Kaposi, vol. iii. p. 258.

On the parts supplied with lanugo, they are either destroyed or are transformed into cysts (milium); where the hairs are large, they are found to be enlarged and distended. The sweat glands do not show structural alteration.

In degenerative atrophy the connective tissue of the corium becomes metamorphosed into an infiltration of fine or coarse granular matter (granular degeneration), or into a vitreous, glassy, homogeneous mass (vitreous degeneration). Fatty and pigmentary degenerations may also occur.

ALOPECIA.

ALOPECIA IS A CONDITION OF MORE OR LESS COMPLETE BALDNESS, RESULTING FROM A DEFICIENT GROWTH OF THE HAIR, IRRESPECTIVE OF CAUSE.

The varieties of alopecia are designated according to the causes which have occasioned the disorder, and also with the view of expressing their chief characteristic.

CONGENITAL ALOPECIA.—Absence of hair, either partial or entire, may exist as a congenital condition. Rare cases are recorded in which individuals have been born without hair; much more frequently, however, the hairs are scanty, or are developed only in certain localities. The amount of hair present at birth varies to a great extent; when deficient, it is usually found that sooner or later it commences to grow, although it may perhaps be scanty throughout life. In these anomalous cases an hereditary predisposition to deficiency of hair may usually be noted; some families are remarkable for the limited supply of this structure.

SENILE ALOPECIA—SENILE CALVITIES—BALDNESS OF OLD AGE.—This manifests itself by permanent loss of hair together with general atrophy of the cutaneous tissues. It takes its origin, in the majority of cases, about the crown of the head. It is seen in old people, the exact time at which it shows itself varying considerably with individuals. Commonly, the hairs turn gray, after which, in time, they become thin and dry and are cast off, either slowly or rapidly, not to be replaced. As is well known, this form of baldness affects men much more frequently than women; as yet no satisfactory reason for this has been suggested. The hair upon other

regions of the body also suffers more or less atrophy, but rarely to the same extent, or so soon in life, as upon the scalp.

The alterations in the cutaneous structures found in senile baldness have been studied by Neumann* and Pincus.† The changes are found to vary somewhat according to the chronicity of the case and other circumstances; they usually consist in marked atrophy of the follicles, of the sebaceous glands, and of the skin itself.

Idiopathic Premature Alopecia—Idiopathic Premature Baldness—Alopecia Simplex.—The process here may take place either rapidly, in the course of weeks or months, or, as is generally the case, slowly, through a period of years. The hairs may commence to come out at any period after puberty, although ordinarily the trouble does not begin to manifest itself until the age of twenty-five or thirty.

The scalp throughout the process is seen to be apparently healthy, no scales or other signs of disease being at any time present. At first only a few hairs are from time to time cast off, and these are replaced immediately by a shorter and finer growth of hair. Later these in turn are shed, and are succeeded by still finer hairs,—in fact, lanugo. In the course of time even these cease to appear, when complete baldness results. On the other hand, the affection at times may be partially arrested in its progress, and normal hairs may even be produced for a time; but the improvement is not apt to be permanent, and sooner or later baldness in every way similar to senile baldness remains.

This form of alopecia is exceedingly common. It occurs in both sexes, though much more frequently in men. As in the case of senile alopecia, it ordinarily begins about the region of the vertex, and extends itself forward to the forehead, taking in on either side the space between the parietal protuberances.‡

Symptomatic Premature Alopecia.—Here are to be grouped a number of forms of baldness, more or less complete, caused by various diseases either local or general in

* Loc. cit., p. 307. † Virchow's Archiv, Bd. xliii.

‡ See an interesting article on this form of baldness, by Pincus, Berliner Klinische Wochenschrift, Nos. 4 and 5, 1875.

their character. The loss of hair may be transitory or permanent. Rapid shedding of the hair (defluvium capillorum) is apt to follow certain systemic diseases, as, for example, severe fevers; here it is usually a transitory affection. Nervous disorders, violent shocks to the nervous system, and mental distress, are also known to occasion loss of hair.

Among the local causes, certain inflammatory diseases attacking the scalp—as erysipelas, psoriasis, eczema, variola—may be mentioned as giving rise to more or less alopecia; in these cases the hair may or may not return with the general health. Parasitic diseases, as tinea tonsurans, tinea favosa, are also common local causes of baldness; the condition may be temporary or permanent; the new hairs return in a healthy state unless the follicle has been destroyed. Syphilis, leprosy, and other severe constitutional disorders also occasion alopecia.

Syphilitic Alopecia.—Loss of hair may occur at two periods during the evolution of syphilis; it is noted as one of the earliest symptoms, and again later, as a result either of circumscribed specific infiltration and ulceration upon the scalp, or of the cachectic state into which the individual is apt to fall. It may be due to a local cause, as a disseminated, erythematous, papular, or pustular syphiloderm; or to a general cause, unaccompanied by appreciable lesions. The first variety of alopecia is encountered with the first cutaneous manifestation. The hairs become dull, dry, brittle, loose, and are shed more or less uniformly from all parts of the head. The amount which comes out varies exceedingly; it may be so little as to be scarcely noticeable, or in such quantity as to cause partial baldness. The hairs upon other parts of the body may be likewise affected. In a short time, however, especially under treatment, they return; permanent alopecia never occurs from this form. Loss of hair also takes place later in the course of the disease, which may or may not be reproduced. Permanent localized alopecia is usually the result of ulcerative lesions.

Affections directly involving the sebaceous glands and hair follicles are to be regarded as the commonest causes of permanent baldness. Chronic dry seborrhœa occupies a con-

spicuous position in this connection; it is a most fruitful source of alopecia, which takes place as the result of atrophy of the glandular structures. Lupus erythematosus attacking the scalp is also followed by permanently bald patches.

Treatment.—The remedies employed for the relief of the forms of alopecia just enumerated, vary with the condition of the part and the cause of the trouble. Congenital alopecia is rarely so marked as to call for treatment; when, however, it exists to the extent of disfigurement, the surface may be stimulated by means of oily preparations and stimulating remedies. Senile baldness cannot be remedied. Simple premature alopecia requires an investigation into the probable cause. At times, attention to the general health, together with the judicious use of alkaline or alcoholic lotions, followed by stimulating oils, may arrest the fall of hair.

Symptomatic alopecia, the result of disease in other parts of the body, or of disease complicating the hairs and sebaceous glands, is to be treated according to the nature of the primary affection. In inflammatory disorders of the scalp, as, for example, psoriasis, the inflammatory process is to be arrested by the means, both local and constitutional, recommended in speaking of these diseases. In parasitic affections the parasite is to be destroyed and the diseased hairs removed by epilation. The baldness resulting from severe constitutional disorders, as syphilis, should receive local attention in the form of oily preparations and lotions suited to the case, as well as the proper internal treatment.

The management of alopecia following chronic seborrhœa of the scalp, will be found in connection with this disease. The external remedies and preparations, more or less modified, referred to in the consideration of the treatment of alopecia areata and seborrhœa, may all be employed for the various forms of baldness.

ALOPECIA AREATA.

Syn. Area Celsi; Alopecia Circumscripta; Porrigo Decalvans; Tinea Decalvans.

ALOPECIA AREATA IS AN ATROPHIC DISEASE OF THE HAIR SYSTEM, CHARACTERIZED BY THE SUDDEN APPEARANCE EITHER OF ONE OR MORE, CIRCUMSCRIBED, WHITISH, BALD PATCHES, VARYING IN SIZE FROM A COIN TO THE PALM OF THE HAND, OR OF MORE OR LESS UNIVERSAL BALDNESS.

The affection attacks the scalp, face, axillæ, pubis, and other hairy parts of the body. Its common seat is the scalp; next in frequency the beard in males is involved. The other regions are only rarely invaded. At times the whole body is affected, when there is apt to be entire absence of hair.

The disease upon the scalp is observed to consist of one, two, or more patches of baldness. They are usually roundish, often perfectly circular, and form markedly circumscribed and conspicuous areas of disease. Occasionally they are irregular in outline, and assume an elongated or riband-shaped course. In size they vary from a small coin to the palm of the hand, but are usually about as large as a silver dollar. At times they coalesce and form patches involving the greater part of the side of the head. Their seat is very frequently about the parietal protuberance and behind the ear; the occiput as well as other localities may, however, also be attacked. The disease is very often unilateral. The baldness is generally complete, the area presenting a whitish, perfectly smooth, polished surface, without trace of hair. The hairs are, as a rule, uniformly absent. Around the border (after the patch has ceased enlarging) the hairs are quite firmly seated in their follicles, and exhibit no sign of disease; it is seldom that they can be plucked without force. In other cases, a few small, broken hairs may be detected about the margin; these resemble the stumpy hairs of tinea tonsurans, and have been considered by some as pointing to the parasitic nature of the affection. They are in reality partially diseased or atrophied hairs which have been broken off by mechanical means. Not infrequently after the disorder

has continued for some time, fine lanugo, or woolly hairs, may be seen to spring up over the surface. The color of the patch is usually pale or whitish, quite different from that of the healthy scalp. The follicles are no longer prominent, but are in great part closed and shrunken, so that the skin becomes thin and smooth, to such an extent that it resembles that of an old man. To the feel it is soft and pliable. It is always dry, and free both of desquamation and of sebaceous matter. The patch is usually upon a level with the surrounding integument; it may, however, be slightly raised, or, in its later stage, somewhat depressed. Sensation is generally preserved; according to Neumann and others, it is at times diminished.

The course of the disease is peculiar. It almost invariably makes its appearance suddenly and without premonition. Very often the hair is observed to come out during the night, the patient awaking to find unexpectedly a handful of loose hair and a bald patch. In other cases the fall is more gradual, several days or even longer elapsing before it has all been cast off; in these instances the disease is noticed to increase its area day by day until the process becomes abruptly arrested, when no more hairs come out. The ultimate size of the area is usually soon determined, after which it rarely increases. It is this characteristic which distinguishes the affection from other forms of baldness. Where several patches exist, they will usually have been formed one after the other rather than at the same time, so that hair may be falling from one region or another for a week or longer. The disease may continue weeks, months, or longer, the time of its duration varying exceedingly. It, however, almost always terminates in recovery; occasionally, it is said, the baldness is permanent. When repair sets in it usually progresses rapidly, the hairs appearing first as lanugo and then growing as in the case of other new hair.

The subjective symptoms are negative; neither itching, burning, nor pain is at any time present. The patient is first made aware of the condition by the quantity of loose hair and the appearance of the bald patch.

Etiology.—The causes which produce the disease are not

understood. It occurs in both males and females, but is more common in the latter. It attacks children much more frequently than adults. It is encountered among both the wealthy and the poor. It is non-parasitic in its nature. The origin is beyond doubt to be found in a peculiar functional nerve disturbance. It has been noted to follow neuralgias, sudden nervous shocks, and debility resulting from various causes. In many cases, however, no appreciable cause for the attack can be assigned. It is not contagious.

Pathology.—The fall of the hair must be viewed as due to a state of perverted innervation. The suddenness of the attack, an important feature in the history of the disease, can only be accounted for by regarding the nervous system as at fault. The morbid influence which gives rise to the alopecia manifests itself with striking rapidity. The whole process, indeed, takes place in so short a time as to be altogether unexplainable upon any other theory than that of want of nerve force. The white, shrunken, atrophic condition of the patch also points very strongly to the trouble being due to this cause.

It is from a careful study of both hair and scalp that a correct knowledge of the nature of the disease is to be gained. For microscopical examination of the hairs, either those which have fallen at first, or the short, stumpy, broken-off ones that may at times be found about the periphery of the patch, will be found suitable. They are seen to terminate abruptly in a pear- or club-shaped extremity, instead of the thick, long, spongy, luxuriant-looking bulb observed in healthy hairs. The bulb is contracted, shrivelled, and atrophied, surrounded with only a scanty supply of sebum and epidermic cells. Its end is generally sharply defined, with a zigzag border. The root above the bulb retains its normal appearance, with the exception of being diminished in size. In the shaft, however, may be noticed, as the free end is approached, an even and gradual distention, terminating in an oval swelling, or bulging, close to the end of the hair, which tapers and finishes in a broken extremity. If the long hairs immediately about the border of the patch be examined, the same atrophied, shrunken bulb, the same feeble root, and the other peculiarities just referred to are

observed, though in a less marked degree. This shrivelled, atrophied condition of the bulb is also seen in hairs that have lived their normal life, and, having been detached from their papillæ, are thrown off; in one case it is disease, and in the other a natural process. In alopecia areata, instead of the normal death of the hair we have a sudden arrest of nutrition from some cause, and a rapid wasting and atrophy in consequence, due to disturbed innervation of the papillæ.

The bulging or oval distention of the shaft at its end may be explained as follows: the shaft not receiving its proper nourishment from the papilla, its extreme end suffers most; the filaments, not being sustained as usual, and losing their vitality, tend to separate, thus stretching the epidermic membrane and causing the appearance described. The fact that the filaments do separate is clearly demonstrated with a high power; moreover, this distention is quite constant and in the same position in the majority of cases.*

Diagnosis.—Alopecia areata is most frequently confounded with tinea tonsurans; although the suddenness of the attack, the complete baldness, the absence of all desquamation and itching, the whiteness and remarkable smoothness of the patch, always enable it to be distinguished from this disease. Difficulty can arise only in old cases of tinea tonsurans, where the short, characteristic hairs have entirely disappeared; but even here more or less desquamation invariably exists. Tinea tonsurans begins as a small patch and spreads gradually and often slowly about its periphery; the whole process in alopecia areata takes place in a notably short time, after which it remains at a stand-still. A history of contagion is usually found in tinea tonsurans, resulting either from tinea tonsurans itself or from tinea circinata; alopecia areata is not contagious. The microscope is a valuable aid in corroborating the diagnosis, and should always be employed in cases of doubt; it determines the matter indisputably. The appearances found in the two diseases are very different: in

---

* See a paper by the author in the Amer. Jour. of the Med. Sci., July, 1870. Also, an excellent article by Dr. Duckworth, St. Bartholomew's Hospital Reports, vol. viii.

alopecia areata there are distinct signs of atrophy of the hair, especially noticeable about the root, unaccompanied by fungus; in tinea tonsurans the tricophyton parasite, consisting of chains of spores and threads of mycelium, both highly refractive of light, is always present in great abundance, and easy of detection. It is not impossible, in rare instances, that alopecia areata may exist upon the scalp at the same time with tinea tonsurans.*

It may be known from favus by the absence of the characteristic yellow cups and crusts, and in the later stage of the disease by the absence of cicatricial tissue, which almost invariably results from protracted favus.

Vitiligo is scarcely to be confounded with the disease under consideration, for it is an affection of the pigment system only; it is never accompanied by loss of hair. If it occur upon the hairy parts of the body, the hairs may be deprived of their color, but are not cast off. It is commonly a disease of the non-hairy parts.

Alopecia areata may readily be diagnosed from other forms of alopecia by its peculiar train of symptoms.

Treatment.—The results from the many remedies which are used in the treatment of this affection are exceedingly variable, their reputed success in many instances depending more upon the short duration of the cause which originally produced the loss of hair, than upon their efficacy. Sooner or later, as a rule, recovery takes place spontaneously; but on account of the disfigurement, as well as the anxiety on the part of the patient, it becomes necessary in all cases to hasten the desired end as much as possible. Both internal and external remedies may be used with advantage. A tonic treatment, consisting of iron, small doses of arsenic, cod-liver oil, fresh air, and exercise, should be prescribed in those cases where they seem required.

The various external remedies which have been recommended are all more or less stimulant in their action, and are without specific effect, so that it matters little whether one or another be employed, provided the requisite amount of stim-

* I think that much of the confusion concerning the nature of the disease may be accounted for by admitting this occurrence.

ulation be obtained. Among them alcohol, cantharides, the essential oils, glycerine, castor oil, carbolic acid, tar, iodine, turpentine, ammonia, salts of mercury, veratria, tannic acid, nux vomica, pepper, and sulphur may be mentioned as valuable. They may be employed in the form either of ointments or of lotions, in sufficient strength to produce a stimulant or rubefacient effect upon the patch, and are to be applied once or twice daily, as occasion may require. Before making any of the above applications the scalp should be washed with water and soft soap, dried with a coarse towel, and brushed with a stiff brush until moderately stimulated. No fears need be entertained as to the production of increased baldness; for, after the patches have formed, the remaining hairs are firmly seated.

Blistering the patches, by means of a cantharidal vesicating fluid, is frequently serviceable as a method of treatment; it may either be employed alone, or may be followed by some one of the substances mentioned. It should be repeated from time to time, according to the sensibility of the scalp. Alcohol may be used either alone or with one of the stimulants; it constitutes the basis of almost all of the fluid formulæ. Carbolic acid with alcohol has been frequently employed by the writer, and found useful.

℞ Acidi Carbolici, f℥ss;
Alcoholis, f℥iss;
Ol. Ricini, f℥iii;
Ol. Amygdal. Amar., gtt. x.
M.

Cantharides, either in the form of powder with ointment, or as tincture, is likewise valuable. As an ointment it may be prepared in the strength of one or two drachms to the ounce; the tincture may be applied either in the officinal strength or diluted. Bulkley gives the following formula, which contains several desirable ingredients:

℞ Tinct. Cantharidis,
Tinct. Capsici, āā f℥ss;
Olei Ricini, f℥i;
Aq. Colognien., f℥ii;
M.—Ft. liniment.

Aqua ammoniæ has long been esteemed as of service in the treatment of this affection. Wilson and Duckworth both speak well of it; the former frequently employs it as follows:

℞ Olei Amygdalæ Dulcis, f℥i;
Liquoris Ammoniæ Fort., f℥i;
Spiritûs Rosmarini, f℥iv;
Aquæ Mellis, f℥ii.
M.—Ft. lotio.

Erlach and Duckworth have of late again brought to notice oil of turpentine, which they consider a valuable application. It is to be rubbed into the patch with a stiff brush once or twice a day until the scalp becomes sensitive. Fox recommends vesication of the patches, after which the following lotion:

℞ Tinct. Nucis Vomicæ, f℥ss;
Tinct. Cantharidis, f℥vi;
Glycerinæ, f℥ii;
Aceti Destillati, f℥iss;
Aquæ Rosæ, ad f℥vj.
M.—Ft. lotio.

Hebra and Kaposi make use of the ethereal oils and of the stimulating alkaloids with alcohol. Rindfleisch states that he has had success with equal parts of tincture of pepper and glycerine. Tincture of iodine, repeatedly applied, has also been employed with satisfactory result.

Prognosis.—As regards the time which the disease may continue, no opinion can be given. Occasionally recovery sets in a few weeks after the fall of hair; at other times months, or even years, will elapse before any sign of hair is visible. But it may be stated to the patient that sooner or later it will almost surely return. As a rule, no apprehension as to permanent baldness need be entertained. The individual should be encouraged to persevere in the treatment, with a view both to hasten the cure and at the same time to guard against despondency, which is apt to occur.

ATROPHY OF THE HAIR.

Atrophic alterations in the structure of the hair take place as the result of various diseases of the scalp, as seborrhœa

and the parasitic diseases; and also as the result of impaired nutrition following certain constitutional disorders, as syphilis, fevers, etc. In these cases the atrophy is symptomatic. It may attack a part or the whole of the hair substance, and is usually characterized by diminution of size, dryness, brittleness, and a tendency to separate and split up into its components.

Idiopathic atrophy of the hair, independent of disease in other structures of the skin, also occurs, as in the following affections:

Fragilitas Crinium, Fragility of the Hair. This condition, so called by Mr. Wilson, is marked by a fragile and brittle state of the hair shaft. Two varieties are met with. The first and common form is that in which the shaft of the hair, either of the head or beard, shows irregularities and uneven formation in structure, being at one point thinner than at another. In addition to this imperfection, the free ends manifest a constant disposition to split up into filaments. This condition may occur as a slight abnormality, or, on the other hand, to such an extent as to render the crop of hair very defective.

Another variety of fragility of the hair, first described by Beigel,* and designated by him "swelling and bursting of the hair," consists in the formation of a series of small, conical, bulbous swellings, situated at irregular intervals along the shaft of the hair. According to Beigel, and to Kaposi, who has encountered three cases, they possess a shining, somewhat transparent appearance, and look not unlike the ova of pediculi. The hairs readily rupture or break entirely off at the points of distention, and leave a bristly, brush-like stump, composed of jagged filaments. Kaposi suggests the name trichorexis nodosa for this disease. Devergie, of Paris, has also described and reported two cases of, probably, the same affection, under the name of tricoptilosis.†

---

* Sitzb. d. k. Akad. d. W., Bd. xvii. p. 612, 1855; also Hebra and Kaposi, loc. cit., vol. iii. p. 244.

† Annales de Dermatologie et de Syphiligraphie, No. 1, 1871, 1872. Translated in the Amer. Jour. of Syph. and Derm., vol. iii. p. 254.

Two additional cases are reported by Billi.* The affection gives rise to considerable disfigurement. It is usually confined to the hairs of the beard, but may also occur on the scalp, as in Devergie's case. The cause is unknown; it is not due to a vegetable parasite.

The various forms of treatment useful in alopecia, including repeated shaving, do not appear to possess any influence in arresting the process. Cutting the hair proved of benefit in one case.

ATROPHY OF THE NAIL.

The condition may be congenital; much more commonly, however, it exists as an acquired affection. It is characterized by a deficient development or growth of the nail substance, which is seen to be either smaller or thinner than normal; or brittle and split; or soft and crumbly, in a state of partial disintegration, according to the cause. The so-called "worm-eaten" condition of the nail, due to varied causes, is also at times of an atrophic nature. The color may be pale, whitish, and opaque; or it may be dark.

Atrophy of the nail may occur as a strictly local affection, or in consequence of some general disease, as syphilis. The fungi which prey upon the skin occasionally invade the substance of the nail, causing deficient growth or even destruction of the structure.

Nails are also subject to injurious external influences, as happens in certain occupations, which interfere with their proper development. Certain diseases of the skin, as eczema and psoriasis, attack also the nails, producing atrophic lesions.

---

* Giornale Italiano delle Malattie Veneree e della Pelle. Milano, Agosto, 1872.

CLASS VII.

NEW GROWTHS.

In this class are grouped a large number of important diseases, which, although differing in many instances in appearance and external characters, consist pathologically of a new growth in the skin.

The neoplasm may be made up of connective tissue, as in the case of keloid, molluscum fibrosum, and xanthoma; of a cellular deposit, as in lupus erythematosus, lupus vulgaris, syphilis, carcinoma, etc.; of bloodvessels, as in vascular nævus; or of lymphatics or of nerves, as in lymphadenoma and neuroma.

The neoplasmata, clinically, are either benign or malignant in their nature. The connective-tissue growths may be said to be benign; while certain of the cellular formations, as, for example, leprosy and cancer, are characterized by malignancy, completely destroying the tissues which they attack, and at times life.

According to their nature are they unattended by or accompanied with pain. The majority are not of a painful nature. They pursue a chronic course, ordinarily lasting throughout life, unless relieved; in some instances, as in syphilis and cancer, they run a comparatively rapid course. In many instances they are amenable to operative interference. Their pathology has been already referred to.

KELOID.

Syn. Kelis; Kelos; *Germ.*, Der Knollenkrebs; *Fr.*, Cancroide; Cheloide.

KELOID IS A CONNECTIVE-TISSUE NEW GROWTH, CHARACTERIZED BY AN IRREGULARLY SHAPED, VARIOUSLY SIZED, SHARPLY DEFINED, ELEVATED, SMOOTH, HARD, SOMEWHAT ELASTIC, REDDISH FORMATION, ACCOMPANIED BY MORE OR LESS PAIN UPON PRESSURE.

Symptoms.—The disease commences as a small, pea or bean

sized, nodule firmly implanted in the skin, quite pale in color, resembling a cicatrix. It increases in size, as a rule, very slowly, years often being necessary for its development as commonly encountered. . The form of the tumor is always peculiar. It is made up usually of a central portion or body, together with several or numerous prolongations or claws, extending out into the healthy skin; at other times it consists of a circumscribed growth terminating abruptly against the sound tissues. The shape of the keloid tumor is exceedingly variable; it may be oval, elongated, star-shaped, cylindrical, crab-shaped, or even in the form of streaks and broken lines. It is indeed remarkable for the irregularity of its shape. In size it likewise varies; it may be quite small, bean sized, or as large as a hand. Usually it is several inches in diameter. The outlines of the growth are always well defined, the disease appearing to be half imbedded in the tissues. It is more prominent about its centre, tapering off towards its periphery. It is elevated; very often as much as several lines. Its surface is smooth and usually devoid of hair. Taken between the fingers it has a solid, dense, slightly elastic feel. Its color is pinkish, or reddish; it generally has a shining appearance.

One, several, or many growths may exist; commonly, however, but one is present. The usual seat for them is upon the trunk, more particularly about the sternal region. Occurring here the tumor is apt to extend itself laterally, parallel with the ribs, sending out its prolongations in all directions. Keloid is also encountered upon the mammæ, neck, ears, arms, and other regions. More or less pain and itching usually accompany keloid; neither of these symptoms, however, is by any means constant. Pain is more especially noticeable upon pressure.

The course of the disease may be either rapid or slow; having attained a certain growth it is very apt to remain stationary. It is never attended with ulceration. It usually exists throughout life; occasionally, very rarely, it undergoes spontaneous involution.

Etiology.—Keloid may arise spontaneously, in which case it is termed *spontaneous keloid.* It may also spring up at the

site of cicatrices, when it is called *cicatricial keloid.* The difference between these two forms is one depending alone upon the cause which has occasioned their appearance; microscopically they are identical in structure.

The disease is encountered in both sexes, and usually appears in early adult or middle life. It is very much more common in the colored than in the white race. No cause is to be ascribed to the spontaneous variety of the disease. Cicatricial keloid follows various injuries to the skin, it being understood that there exists in the individual a predisposition to its development. It is frequently met with as the result of burns by fire or chemicals, cuts, flogging, and wounds of all kinds.*

Pathology.—Studies relating to the anatomy of keloid have recently been made by Langhans,† Warren,‡ Kaposi,§ myself,‖ and others. The growth is made up of a dense, fibrous mass of tissue, whitish in color, having its seat in the corium. Microscopic examination shows the horny and mucous layers of the epidermis to be normal; likewise the papillæ. The whole corium is occupied by a new formation, consisting of bands of connective tissue, arranged more or less parallel to the surface of the growth; here and there they run vertically. The fibres are closely packed together and form a dense, solid mass. Cells are rarely encountered, excepting along the course of vessels, especially the arteries, where they may be seen in layers about the walls of the vessels; they are nucleated and spindle-shaped, and are to be observed to best advantage in the more recent portions of the growth. It has been clearly shown by Warren, of Boston, that the disease has its starting point in the walls of the vessels, the cells referred to accumulating and in time becoming metamorphosed into connective tissue.

Diagnosis.—The symptoms of keloid are so striking in

---

* A remarkable growth of cicatricial keloid is reported by Dr. F. F. Maury, Photographic Review of Med. and Surg., Oct. 1870.

† Virchow's Archiv., B. xl. p. 334.

‡ Sitzungsbericht der k. Akad. der Wissenschaft, 1868.

§ Loc. cit., vol. iii. p. 281.

‖ Phot. Rev. of Med. and Surg., Oct. 1870.

character that no difficulty, as a rule, is experienced in the diagnosis. It is most liable to be confounded with simple cicatrix, from which, however, it may be known by its color, outline, elevation, and consistence, and frequently by the presence of pain; the history will also be of assistance in arriving at an opinion.

Treatment.—This is usually unsatisfactory, for operative interference, either by means of caustics or the knife, is almost invariably followed by return of the disease, and frequently in an exaggerated form. Various caustic remedies have been employed, with, however, as a rule, unfavorable results. Caustic potash has proved of value in certain cases, and offers the most efficient remedy if an operation be demanded; this should never be entertained if the disease is still increasing. To allay the pain which is at times present, hypodermic injections of morphia into the part are particularly useful. Chloroform and anodyne ointments may also be prescribed for the same purpose.

Internally, both the iodide of potassium and arsenic have been recommended; it is doubtful, however, whether they exercise any influence over the growth of the disease. Quinine is said to be of use in arresting the paroxysmal pains; this also will be found to be very uncertain in its action.

Prognosis.—Spontaneous involution occasionally occurs; but this event is rare. Not infrequently having attained a certain size the tumor ceases to develop, a course, however, which cannot be predicted. Its course, as a rule, is that of progression, attended at times by temporary arrest of development.

MOLLUSCUM FIBROSUM.

Syn. Fibroma Molluscum; Molluscum Simplex; Molluscum Non-contagiosum; Molluscum Pendulum.

MOLLUSCUM FIBROSUM IS A CONNECTIVE-TISSUE NEW GROWTH, CHARACTERIZED BY SESSILE OR PEDUNCULATED, SOFT BUT FIRM, ROUNDISH, PAINLESS TUMORS, VARYING IN SIZE FROM A SPLIT PEA TO AN EGG OR LARGER, SEATED IN AND BENEATH THE SKIN.

Symptoms.—These growths occur either singly, or, as is more apt to be the case, in large numbers, when they are observed to occupy the greater part of the body. They

assume various forms and shapes upon the same individual; at times they are dome-shaped, and are seated in the skin itself or in the subcutaneous tissue; while in other cases they are pedunculated, club-shaped, and hang from their pedicles. In consistence they are uniformly soft, but when taken between the fingers are usually found to have a certain amount of body; the larger ones have a somewhat elastic, fibrous feel. The skin covering them is smooth and normal in color, although it will be observed to differ somewhat in its structure according as the tumor is large or small, sessile or pedunculated. The skin covering them may be loose or stretched; hypertrophied or atrophied.

Their size varies exceedingly. Where multiple they are usually pea or cherry sized, with here and there larger ones varying from a walnut to a large pear. If single they are apt to be pedunculated and to attain considerable size, often weighing many pounds. As to numbers, when multiple they ordinarily exist in hundreds, occupying the greater part of the surface, without regularity of distribution; they have preference, however, for the softer tissues, and consequently develop extensively about the trunk. They are never attended with pain, although at times their great size and weight render them a source of extreme discomfort.*

They may make their appearance at any time during life, often in childhood, and grow more or less rapidly, either steadily or interruptedly, throughout life. Having attained a certain size they usually remain stationary; large, pendulous tumors occasionally ulcerate, as in the case of other large, heavy growths.

Etiology.—The disease is encountered in both sexes and in various races. The cause is unknown. Hebra has made note of the fact that all of the patients with this affection who have from time to time come under his notice, were remarkably stunted in physical as well as in mental develop-

* A well-marked example of the disease, with portrait, reported by Dr. Octerlony, of Louisville, may be found in the Archives of Dermatology, July, 1875. Another case, with portrait, has been published in the same journal, April, 1876, by Dr. Wigglesworth, of Boston.

ment. The observation has been verified by others, and by myself.* The general health of the patient does not suffer. The disease may be inherited, and may, moreover, manifest itself in several children of the family.†

Pathology.—The internal structure of molluscum fibrosum will be found to differ somewhat as the tumor is small or large, recent or old. A section made through the long axis of one which is fully developed, shows it to consist of a whitish, fibrous mass, from which upon pressure a small quantity of yellowish fluid can be made to exude. The growth is dense and compact about its base, and is here seen to be made up of coarse, irregular bands of fibrous tissue. In the centre it is quite soft and pulpy, while about the periphery the fibres are finer and partake more of the structure of the corium. No lines, however, mark these differences. These tumors cannot be enucleated, for they are firmly bound down by their pedicles to the subcutaneous and fatty tissues. Old growths, which have assumed a dense fibrous character, are, as a rule, less adherent to the corium, and may, therefore, more readily be dissected out. The attachments at the base, however, are always secure. Under the microscope small, recent tumors are observed to be made up of gelatinous, young connective tissue. The cells are to be seen more particularly about the periphery, and are traversed by bundles of fine fibrillæ. Older tumors consist in great part of firm, dense, fibrous tissue, closely packed together. When large, the tumors are quite vascular about the bases. According to Rokitansky and others, molluscum fibrosum starts in the connective tissue of the deeper layers of the corium. Virchow holds that they may also take their origin in the subcutaneous connective tissue.

Diagnosis.—No difficulty, as a rule, presents itself in arriving at a correct diagnosis. The tumors are to be distinguished from those of molluscum sebaceum by the fact that they do not possess any depression or aperture upon their tops; they

* Phila. Med. Times, March 18, 1876; also in other cases.

† See a recent paper, reporting two cases, by Dr. J. E. Atkinson, of Baltimore, New York Med. Jour., Dec., 1875; also a report of three cases by Dr. John Murray, Lancet, March 22, 1873.

are closed and do not permit of anything being squeezed out. They are, moreover, situated distinctly in and beneath the skin, which structure appears to be normal, whereas the sebaceous tumors are superficial, and stand forth prominently, covered by skin which is always thin and stretched. The history and course of these two affections are so different as scarcely to permit of confusion.*

They are not to be confounded with multiple neuromata of the skin, from which they may be known by the absence of pain; nor with lipomatous growths, which are always remarkably soft and generally lobulated in structure.

Treatment.—When not too numerous, they may be excised by the knife, as in the case of other tumors of a similar nature. If large and pedunculated, they may be ligated, or treated by the galvanic cautery. Hemorrhage should be guarded against.

Prognosis.—The affection is one which lasts throughout life. The tumors either continue to increase in size and number, or, having attained a certain development, become arrested in their growth and production.

XANTHOMA.

Syn. Xanthelasma; Vitiligoidea.

XANTHOMA IS A CONNECTIVE-TISSUE NEW GROWTH, CHARACTERIZED BY THE FORMATION OF YELLOWISH, CIRCUMSCRIBED, IRREGULARLY SHAPED, VARIOUSLY SIZED, NON-INDURATED PATCHES OR TUBERCLES.

Symptoms.—Two varieties of the affection are encountered; the macular and the tubercular. In the macular, or flat variety, the disease consists of pea-sized or larger, usually elongated or linear patches, having their seat in the corium. They are on a level with the surrounding skin, and have the appearance of being inlaid. They are sharply defined against the sound skin; possess a smooth surface; and are soft and apparently normal in texture to the touch. In shape they are either roundish, oval, or elongated; occurring upon the eyelids, their favorite locality, they commonly assume

* For further aid in the diagnosis, consult Molluscum Sebaceum, p. 121.

the form of semicircular bands, a couple of lines in width, extending from one canthus to the other. In color they are yellowish, the shade varying from a bright canary or lemon to orange. One, two, or more patches may exist, situated either closely together, as about the eyelids, or in different regions. They begin as small, pin-head or pea sized lesions, and increase in size very gradually and slowly in the course of years; very frequently two or more of these small patches coalesce. The common seat of this variety of xanthoma is about the eyelids, especially the upper; it is also seen occasionally upon other portions of the face, as well as upon the body. The patches give rise to no pain, and often to no inconvenience beyond the disfigurement.

The tubercular form of the affection shows itself as pin-head, pea, or larger sized, roundish, raised patches or tubercles. In general characters the growths do not differ materially from those of the flat variety. They are, however, seldom encountered upon the eyelids; they incline to develop upon the neck, body, and extremities. I recently saw a case, with Dr. R. W. Taylor, of New York, in which they were present over the arms, in the form of numerous roundish, pea sized, elevated, golden-yellow tubercles. The patient was a stout, healthy woman, about thirty-five years of age.

Xanthoma always develops very gradually; runs an exceedingly slow course; and continues through life.

Etiology.—The causes are obscure. In a number of the reported cases jaundice has been noted either as having occurred previously or as being present; the connection, however, between the two diseases is by no means determined. I am unable to see any valid reason, beyond the similarity of the color, for associating the two conditions. Hutchinson* and Kaposi† have both discussed this subject at length. The affection is more common in women than in men; it has not been observed in children.

Pathology.—Examinations of pieces of excised xanthoma have been made by numerous investigators, with different

---

* Medico-Chir. Trans., 1871. † Loc. cit., vol. iii. p. 351.

results.* In a patch recently excised from the upper eyelid by Dr. Strawbridge, of this city, I found the structure, immediately after removal, soft and flaccid, resembling a piece of normal skin; section through the centre of the mass showed the tissue to be of a yellowish-white color. The disease had its seat in the corium, and consisted of connective tissue, the cells of which had undergone fatty degeneration; oil globules and fat were present; the latter deposit gave the formation its peculiar yellow color. This result agrees with the examinations of the majority of those who have recently described the anatomy of the disease.

Treatment.—If interference is called for, the only plan of treatment is that of excision, which may be readily and, as a rule, satisfactorily accomplished. In order to avoid ectropion, when the affection is upon the eyelids, which, it should be stated to the patient, is liable to occur, care should be taken not to carry the incision around the patch too deeply into the tissues. After removal the edges are to be brought together by stitches, and the case treated as an ordinary wound.

RHINOSCLEROMA.

RHINOSCLEROMA CONSISTS OF A CIRCUMSCRIBED, IRREGULARLY SHAPED, FLATTENED, TUBERCULAR GROWTH, THE SIZE OF A FINGER NAIL OR LARGER, REMARKABLY HARD AND DENSE IN STRUCTURE, SOMEWHAT PAINFUL, HAVING ITS SEAT ABOUT THE REGION OF THE NOSE.†

Symptoms.—The growth, which may be either roundish or angular in outline, is always well defined by an abrupt ridge or line of demarcation, beyond which the tissues appear in every way normal. It is more or less elevated above the surrounding skin, and usually possesses a flattened, plate-like, somewhat uneven surface, caused by the presence of variously sized, isolated or aggregated nodules of which the mass is composed. These prominences are either of the color

---

* See Kaposi, loc. cit., vol. iii. p. 355.

† This affection was first described by Hebra and Kaposi in 1870 (Rhinosclerom, Wiener Med. Wochenschrift, No. 1, 1870). The author is indebted to Prof. Hebra for the opportunity of observing two examples of the disease.

of the normal skin, or are reddish or brownish. The tissues over the patch are firmly bound down, as in the case of scleroderma, and cannot be taken up between the fingers; the epidermis is dry, with here and there fissures which secrete a small quantity of viscid fluid, which forms into yellowish, adherent crusts. The growth is exceedingly dense, and may be compared to the hardness of wood or stone. Upon pressure it is slightly elastic, and at the same time painful; at no stage does it appear either inflammatory, swollen, or œdematous.

The disease is confined to the nose and contiguous parts. Its course is remarkably slow, lasting over a period of years. As it progresses the induration becomes very marked, the alæ narrowing in calibre until occlusion takes place. The nodules or tubercles do not change in their structure, even though they exist for years.

Etiology.—The causes are unknown. It is encountered in both men and women, usually at middle age.

Pathology.—Kaposi* remarks, "On cutting into one of the tubercles of rhinoscleroma, one is surprised at the ease with which the knife makes its way in comparison with the hardness which is apparent to the touch. The cut surface is of a pale red color, uniformly and finely granular, and bleeds freely."

The microscopic anatomy has been carefully studied by Kaposi, and Geber.† The former observer gives the following result of his examinations. The epidermis and rete were normal. The papillæ were longer than usual, their connective-tissue framework existing in the form of a finely fibrillated, small-meshed network; their vessels were scanty and thinner than usual. "The connective tissue of the vascular layer also only consisted of a narrow network of delicate, thin, pale fibres. This network of the vascular layer of the papillæ was filled with small cells closely packed together, the cellular infiltration, here and there, extending deeply into the corium, which was uniformly dense through-

* Loc. cit., vol. iv. p. 7.

† Archiv für Derm. und Syph., 1872, 4 Heft.

out, the vascular stratum and the papillæ being especially crammed full of cells. The cells were smaller, especially in the protoplasm, than the so-called granulation cells usually are, as met with in acute or chronic inflammation of the skin, and also in places where a new growth of connective tissue is taking place. The nuclei of the round cells were small and refracted light feebly, and were finely granular. The cells appeared to be simply lodged in the delicate connective-tissue stroma of the papillæ and the upper layers of the corium, and could easily be removed by manipulation. The deeper layers of the corium showed a dense connective-tissue felt." It is further stated that the cells were well preserved, and had a sharp outline and distinct nuclei, differing in this respect from the degenerative cells of lupus and syphilis. The growth must be viewed as allied to the small-celled or granulation sarcomata.

Diagnosis.—The location of the disease, the extreme hardness of the patch, the line of demarcation surrounding it, the alteration in the shape of the nostrils, together with its slow course, will usually serve to distinguish it from other affections. It may be confounded with syphilis, keloid, and epithelioma, but upon investigation will be found to differ from these diseases in many particulars.

Treatment.—The disease calls for interference, for, if permitted to increase, occlusion of the nostrils will occur. It is to be destroyed by means of caustics, the nitrate of silver or potash stick being the best remedies. No inflammatory action is set up, nor does the part ever assume a malignant character in consequence of the operation. Cauterization, however, is attended with but temporary benefit, for the disease tends to return after a time.

Prognosis.—This is never favorable. It is exceedingly obstinate, and, without treatment, usually continues a lifetime. Under the repeated use of remedies great relief may be experienced.

LUPUS ERYTHEMATOSUS.

Syn. Lupus Erythematodes; Seborrhœa Congestiva; Lupus Superficialis; Lupus Sebaceus; *Germ.*, Lupus Erythematosus; *Fr.*, Scrofulide Érythémateuse; Érythèma Centrifuge.

LUPUS ERYTHEMATOSUS IS A CHRONIC DISEASE, CHARACTERIZED BY ONE OR MORE CIRCUMSCRIBED, ROUNDISH OR IRREGULARLY SHAPED, VARIOUSLY SIZED, REDDISH PATCHES, COVERED WITH THIN, GRAYISH OR YELLOWISH, FATTY, ADHERENT SCALES.

Symptoms.—The disease begins either in the form of one or two, usually roundish, circumscribed patches, which, enlarging upon their peripheries, increase indefinitely in size; or, in the form of two or three or a number of isolated patches, which gradually approach one another, and coalesce to make one or more larger patches. The lesions, at first, are small, pin-head or pea sized, erythematous spots, which ordinarily make their appearance slowly. They are usually circumscribed from their commencement, exhibiting a slightly elevated border, covered with fine, grayish or yellowish scales. The patches, as a rule, extend very gradually; at times, however, they assume considerable size in the course of a month or two.

When fully developed, lupus erythematosus is seen to consist of one, two or a number of patches, varying in size from a split pea to a silver dollar or the palm of the hand, having a distinctly defined, slightly raised border. In shape they are usually roundish or oval; occasionally they are irregular in outline. In color they are reddish, the shade varying from a deep pink to a deep red. The surface is invariably covered with fine, thin, grayish or yellowish, fatty, remarkably adherent scales. These are usually scanty; at times, however, they are so abundant as to form a yellowish, sebaceous crust, like that met with in seborrhœa of the face. They are firmly attached to the openings of the sebaceous glands. The follicles are noted to be widely distended and patulous. They are seen to play a conspicuous part in the disease. The patch spreads upon its margin, the border being always well defined, while the central portion usually shows a paler color, some depression, and a tendency to atrophic change. After a

variable time the patch attains a certain size and is apt to remain stationary. There is never any moisture or discharge in connection with the disease.

The usual seat of the affection is upon the face. The cheeks, especially just below the eyes, and the bridge of the nose are most frequently attacked. When these regions are at the same time invaded, the symmetry is ordinarily so marked that the eruption presents an appearance not unlike the form of a bat or butterfly with outspread wings.* The red of the lips, ears, scalp, back, and other parts of the body may likewise be involved. The disease is usually very disfiguring.

The course of the disease is notable for its chronicity; it may exist years, increasing from time to time by repeated attacks. Now and then it progresses much more rapidly. Ultimately the process ends in the formation of a whitish or yellowish, punctate, soft, cicatricial tissue, which may be either very superficial or, on the other hand, quite deep seated.

The subjective symptoms are variable, and depend upon the activity of the disease; at times there is great burning and itching; in other cases but little discomfort is experienced. The general health is usually good, and ordinarily remains so. According to Kaposi, erysipelas, adenitis, and subcutaneous swellings of a peculiar character may complicate the disease. I have never encountered these symptoms.

Etiology.—The causes are obscure. It is one of the rarer diseases of the skin. Females are found to be much more liable to it than males. It seldom occurs before adult age, differing in this respect from lupus vulgaris. It attacks persons of all temperaments, but is most commonly met with in those with light skin and hair. It is observed notably upon those who are subject to disorders of the sebaceous glands. Not infrequently it originates in causes similar to those which produce seborrhœa; it is well known that lupus erythematosus may, and often does, start as a simple, localized seborrhœa.

* See Plate C, Lupus Erythematosus, Part I., in the author's Atlas of Skin Diseases.

Pathology.—It is a cellular new formation, preceded by and attended with marked hyperæmia, having its seat, as a rule, primarily about the sebaceous glands and follicles. The sweat glands are said to be also at times primarily involved. Hebra as early as 1845 pointed out that the disease had its chief seat in the sebaceous glands, and gave it the name of "seborrhœa congestiva." Since then, Neumann, and later, Geddings,* Kaposi, and others, have made repeated microscopical sections, with the following result. When the disease is fully developed there is marked cellular infiltration in the papillæ and throughout the connective tissue of the corium, especially noticeable about the glands and follicles. This infiltration is very abundant, and at times is seen to obliterate completely the distinctive character of the parts invaded. The papillæ are observed to be of abnormal shape and size, usually very much enlarged; at times they are but imperfectly defined; the walls of the sebaceous glands and hair follicles are thickened by the presence of both connective tissue and cells; while in some cases the whole tissue of the corium is filled with this deposit, destroying all trace of its normal character. If atrophy now occur, the infiltration appears to undergo waxy metamorphosis, showing itself in the form of a yellowish cicatricial tissue, containing miliary deposits or fatty molecules. In this stage, all the structures of the skin become greatly altered.

Diagnosis.—When fully developed, the patch offers such a striking picture that there is little danger of confounding lupus erythematosus with any other disease. The region attacked, almost always the face, and usually the cheeks and nose; the circumscribed, roundish, red patch with a defined border; the involvement of the sebaceous glands, and the adherent, grayish or yellowish, fatty scales; the slow course of the disease; all point directly to lupus erythematosus and no other affection.

It is to be distinguished from lupus vulgaris by the absence of papules, tubercles, and ulceration. In lupus erythematosus the sebaceous glands are seen to be enlarged and

* Amer. Jour. of the Med. Sci., July, 1869.

disordered; they are not in any degree affected in lupus vulgaris. The lesion in lupus vulgaris consists in the deposit of numerous minute, pin-head sized aggregations of new cellular material, seated at first subcutaneously; later in the course of the disease, papules, tubercles, and other hypertrophic formations, followed by ulceration, take place. Lupus erythematosus rarely shows itself before adult life; lupus vulgaris usually appears in childhood. Lupus erythematosus is a superficial disease throughout its course; lupus vulgaris is deep seated and attended sooner or later with ulceration and disfiguring cicatrices.

Psoriasis may at times bear some resemblance to lupus erythematosus, but may always be distinguished by its acute course, as well as by other symptoms peculiar to it. Acne rosacea may be known by the diffuseness of the disease; in lupus erythematosus the patch is markedly circumscribed and surrounded with a border. The disease cannot well be mistaken for syphilis; its characteristic features, history, and course, will prevent such an error.

Treatment.—The disease is, as a rule, remarkably intractable and rebellious to the influence of therapeutics.

The internal remedies are to be selected to meet the needs of the case; at times patients appear to be in otherwise perfect health, in which case external treatment alone is to be relied upon. The general condition, however, is always to be carefully investigated, and, if at all impaired, vigorously treated. In many cases the preparations of iron, iodine, and arsenic, may be used with advantage. Iodide of potassium may not infrequently be prescribed with benefit. Diet in some cases is a matter of importance; it should be of the best quality and generous, consisting largely of animal food. In this connection cod-liver oil is to be referred to. It may be given, in full doses, in the majority of cases. In many instances it will be found to exert a marked influence upon the disease, especially in those cases where the health is poor and there is a tendency to impaired general nutrition. Hygiene, fresh air, exercise, bathing, are all to be employed as adjuvants in the treatment.

The external treatment will, however, as a rule, be found

to be of the greatest value. Many remedies have been suggested and tried, all of them with variable success. Stimulating and caustic applications are followed by the best results. Among the remedies employed, soft soap occupies a prominent position. In mild cases the disease may occasionally be relieved by this means alone. In combination with alcohol, equal parts, it is even of greater value. The patch is to be well rubbed and washed with it until all the scales have been removed, when a weak glycerine lotion or simple ointment may be applied; in some cases it is expedient to make no after application. The washings are to be repeated twice daily, and to be continued for some time. Apart from the remedial effect, the soap serves as an admirable means of cleansing the patch for further treatment.

Mercurial ointment is of great service in many cases; it is to be prepared as a plaster and to be applied continuously. I have obtained good results from it. Care should be observed that ptyalism is not induced. Ammoniated mercury ointment, from ten grains to a drachm to the ounce, as may best suit the case, may also be employed. Sulphur may at times prove serviceable; it should be prescribed in the form of an alcoholic solution or as an ointment, a drachm to the ounce. Carbolic acid has been occasionally followed by satisfactory results; it is to be employed either pure or diluted with water, equal parts. Its application is painful.

Tar is one of the most reliable remedies; it may be used pure or diluted, either in the form of a lotion or as an ointment. A mixture containing equal parts of oil of cade, alcohol, and soft soap, to be rubbed into the patch morning and evening, is often an exceedingly valuable remedy. Tincture of iodine, alone or with glycerine, painted twice daily upon the patch until a crust has formed, as recommended by Hebra, will at times act favorably. Anderson also speaks well of this treatment, and gives the following formula: Iodine and iodide of potassium, of each half an ounce; glycerine, one drachm. The part is to be painted daily until a thick coating forms, or till the application becomes painful, when it is to be omitted until the effect of the previous applications has passed away.

Stronger applications, caustics, are often demanded in obstinate cases; they should, however, never be used until milder remedies have been tried. A solution of caustic potash in water, equal parts, or one part to three or six of water, may be used when other remedies have failed. It is to be applied by means of a charpie brush, care being taken not to permit its action to extend too deep into the tissues; vinegar or dilute acetic acid should be used immediately afterwards, to counteract this tendency.*

The after dressing should consist of water, glycerine, or a simple ointment. Dr. Anderson reports favorable results in certain cases from the repeated use of a cantharidal blistering fluid. The acid nitrate of mercury, corrosive chloride of mercury, chromic acid, nitric acid, chloride of zinc, nitrate of silver, arsenic, red iodide of mercury, in various strengths, have all been used, but without notable success. They should always be employed cautiously, on account of their very destructive properties, as well as on account of the pain they occasion. Recently Hebra and others have successfully made use of the "curette" or "scoop" (as originally suggested by Volkmann, of Halle, for lupus vulgaris) in the treatment of lupus erythematosus. Wigglesworth, of Boston, speaks well of it.†

Multiple scarification, or puncturing, as recommended by Volkmann for lupus vulgaris, is said by Veiel and Kaposi to have a corresponding effect in lupus erythematosus. (See the treatment of lupus vulgaris.)

Prognosis.—This should be guardedly expressed, more particularly so if the disease has existed for any length of time. When fully developed it almost always proves one of the most troublesome and stubborn of the cutaneous diseases. Occasionally it yields more kindly to treatment. The result will depend upon the extent of the disease, its distribution, the number of patches, the activity of the process, its duration,

---

* For further remarks upon the use of caustic potash, see the treatment of epithelioma; for other caustics, lupus vulgaris.

† See an interesting paper by Dr. Wigglesworth, describing the curette and the manner of its employment. Boston Med. and Surg. Jour., Feb. 10, 1876.

and the general condition of the patient. Relapses are very liable to occur.

LUPUS VULGARIS.

Syn. Lupus Exedens; Lupus Vorax; Noli Me Tangere; *Germ.*, Fressende Flechte; *Fr.*, Herpes Esthiomenos; Dartre Rongeante; Scrofulide Tuberculeuse; Esthiomène.

LUPUS VULGARIS IS A CHRONIC DISEASE, CHARACTERIZED BY VARIOUSLY SIZED AND SHAPED, REDDISH OR YELLOWISH PATCHES CONSISTING OF PAPULES, TUBERCLES, OR FLAT INFILTRATIONS, WHICH USUALLY TERMINATE IN ULCERATION AND EXTENSIVE CICATRICES.

The disease presents a number of appearances as it assumes one form or another, and as it is seen in the various stages of its development. It commonly begins in the form of numerous, small, grouped or disseminated points, situated immediately beneath the epidermis. These are reddish or somewhat yellowish in color, and have their seat within the structure of the corium. They very often give the skin a punctate appearance. They constitute irregularly shaped, roundish or serpiginous patches, without definite outline, varying in size from a pea to a walnut, or larger. Later, these patches not infrequently coalesce.

The puncta, or subcutaneous points, referred to, increase in size and become more prominent, resulting in the formation of papules, and ultimately tubercles (LUPUS TUBERCULOSUS). It is at this stage that the disease usually comes under notice. The papules are of all sizes, from a pin-head to a split pea, are dark red in color, and are covered with a thin layer of imperfectly-formed epidermis. They are quite solid and without pain. The patch now becomes more circumscribed and pronounced in outline. Having arrived at this period of development, the process may terminate either in absorption of the lesions, leaving a desquamative, atrophic, partially cicatricial tissue (LUPUS EXFOLIATIVUS); or, in disintegration and complete destruction of the infiltrated skin, resulting in ulceration and crusting (LUPUS EXULCERANS, LUPUS EXEDENS). If exuberant granulations spring up about the ulcer, the condition is that known as LUPUS HYPERTROPHICUS.

From the course of the disease as described, it will be

seen that the different forms are but modified stages of one process. It may be arrested at any period of its evolution, and in this manner constitute a variety of the disease. Not infrequently several or all of the lesions may be present at the same time, giving rise to a multiform picture in which the whole course of the affection may be studied.

Lupus in its early stages is unaccompanied by marked subjective symptoms, neither itching, burning, nor pain being present in any degree worthy of special mention; later, a certain amount of pain may be present.

The disease has its seats of predilection; it is commonly found about the face, especially the nose, cheeks, and ears. It also very frequently attacks the extremities, particularly the fingers, where it is followed by serious distortion and atrophy. The body may also be involved. It is an exceedingly destructive process, wherever it occurs, occasioning extensive ulcers, ugly cicatrices, and at times great deformity. It does not confine its ravages to the skin, but occasionally invades other tissues, as the mucous membrane and cartilage. The mouth, cartilages of the nose, ear, larynx, and even the eye, may be the seat of lupus vulgaris.

Etiology.—The causes are obscure. It is a disease usually originating in childhood; it almost invariably makes its first appearance before puberty. Hebra and Kaposi state that it is never congenital. It is rarely, if ever, hereditary; it is well known that children with lupus are almost always found to be descended from parents who have not had the disease. It attacks both males and females in about like proportion. Lupus vulgaris is of very much more frequent occurrence in certain countries than in others. It is common in Ireland, Germany, and Austria, less so in England and France; on the other hand, it is decidedly rare in the United States. The majority of cases encountered in this country occur among the poor Irish and German population. The general health of lupus patients is found to vary somewhat. At times they are broken down, debilitated, ill fed, and improperly cared for; other cases, however, show no signs of poor health. In certain instances, as reported by various observers, it is noted to occur in those affected with tuberculosis.

It is not caused by syphilis. Lupus and syphilis have nothing in common beyond their tendency to destroy the tissues, a feature shared also by other diseases, as, for example, carcinoma and elephantiasis Græcorum. Both the history and the course of these two diseases are quite opposite. Lupus and scrofuloderma must also be viewed as distinct processes, the former being frequently encountered in cases to which the term scrofulosis would be altogether inapplicable.

Pathology.—This subject has of late received careful study at the hands of Auspitz,* Neumann, Virchow, Kaposi, Friedlander,† and others.‡

The results of microscopical investigation vary somewhat, as different lesions and stages of the disease are examined. The lupus process is one which, briefly stated, may be said to consist of a new cell-infiltration throughout the cutaneous tissues. It has its starting point in the corium itself, and when fully developed is made up of a number of aggregations or clusters of cells, having their seat in and between the fibres of connective tissue, which appear either displaced or entirely obliterated. The cells when examined critically are seen to be unusually minute in size, to contain a distinct nucleus, and are notable for the peculiarity of remaining for a long period without undergoing change. In structure they are not unlike granulation cells. Friedlander, who has made recent researches, claims that they are tubercle, and consequently views lupus as a local tuberculosis. In the later stages of the disease fatty degeneration of the cells occurs. The process usually terminates in ulceration, followed by an atrophic cicatrix of a marked character.

Diagnosis.—Lupus vulgaris is to be distinguished from syphilis, the disease with which it is most liable to be confounded, by attention to the papules, tubercles, ulcers, crusts, history, and course of the affection, all of which are different in the two disorders. The ulcerative stages most closely resemble each other. The ulcers of lupus are, in the majority of cases, comparatively superficial; those of syphilis are or-

* Die Zelleninfiltration der Lederhaut, Med. Jahrb., Wien, 1864.

† Virchow's Archiv, vol. lx.

‡ See a paper by the author in Phila. Med. Times, No. 142, 1874.

dinarily quite deep, and have an excavated appearance. The individual ulcer of lupus is usually less extensive in area than that of syphilis. In lupus, moreover, there are, as a rule, a number of points of ulceration, which incline to become confluent; whereas in syphilis if several exist they usually remain separate and distinct. The border of the syphilitic ulcer is sharply defined; that of lupus is not apt to be so. The secretion of syphilitic ulcers is always copious, and offensive in odor; in lupus the discharge is slight, and inoffensive. The crusts of lupus are usually scanty, and reddish brown in color; those of syphilis are bulky, and frequently greenish. The histories of the two diseases are altogether unlike: lupus is very slow in its course; syphilis, comparatively, rapid. A fortnight or six weeks is often sufficient to produce the characteristic ulcer of syphilis; months or years would in all probability be required to bring about the same amount of destruction in lupus. If the case be one of syphilis, other symptoms of this disease will almost always be found present. The cicatrices of lupus are always distorted, hard, shrunken, and yellowish; in syphilis they are softish and whitish, and are not apt to be particularly disfiguring, considering the amount of ulceration which has preceded.

Lupus should not be confounded with epithelioma. The localization of epithelioma, its usually painful character, and its seat, together with the circumscribed induration of the lesion, will in most cases serve for its correct diagnosis. In the ulcerative stages, however, the diseases may often resemble each other. The destructive tendency of epithelioma is notable; the loss of substance is seldom so great in lupus. The ulceration of epithelioma starts from a point and increases peripherally; that of lupus begins usually at many points within the patch. The hard, everted border of epithelioma is never seen in lupus. The epitheliomatous ulcer is usually deep, with an uneven base; that of lupus is more or less superficial, with a reddish base of fine granulations. The course of epithelioma is, as a rule, much more rapid than that of lupus. Epithelioma seldom, if ever, occurs in children; lupus usually begins in childhood.

The lupus patch can scarcely be confounded with eczema.

The absence of all itching will alone suffice to distinguish it from this disease. Moreover, no scars accompany eczema. Here also the histories of the diseases are very different.

Lupus erythematosus is never accompanied by ulceration; this feature will always enable this disease to be diagnosed from lupus vulgaris. The patches in lupus erythematosus are superficial, uniformly reddish in color, hyperæmic, covered with adherent, grayish scales, have a circumscribed, distinct margin, and are without papules or tubercles. The sebaceous glands and follicles are always markedly involved in lupus erythematosus; in lupus vulgaris they remain unaffected. The age at which these two diseases usually first appear is also to be remembered.

Acne rosacea at times bears some resemblance to lupus vulgaris, but may readily be distinguished by its dilated vessels, redness, the presence of acne pustules, history, and course.

Treatment.—Lupus vulgaris is one of the most chronic and obstinate of all cutaneous diseases, and calls for both external and internal treatment. The disease seldom yields except under the most determined and vigorous measures. It is, however, decidedly more amenable to treatment, and especially constitutional treatment, in this country than abroad. In Austria the disease defies constitutional remedies. The general condition of the patient is first of all to be carefully inquired into. The age, past history, mode of life, present state, as regards both the extent of the disease and health, and surroundings, must all receive attention.

Hygienic influences are to be adopted, and to be insisted upon as very important towards a satisfactory result. Fresh air and abundance of out-door exercise are to be freely taken. The morning cold bath, followed by frictions, or, if better suited to the individual, the vapor bath, should be directed as may seem proper. The digestive tract should be kept in order, the bowels and other functions regulated, and every means employed to promote health.

The diet is likewise of vast importance. It should consist of the most nutritious articles of food, including meat, eggs, milk, malt liquor, and whatever else may be well digested.

Cod-liver oil is certainly one of the most valuable medicinal remedies, and should be freely administered for a long period, care being taken, however, not to nauseate the patient. Should this occur, its use may be interrupted from time to time. Iodide of potassium is of almost equal value. In several cases I have found it to succeed admirably; its influence should always be tested before severe external remedies are resorted to. From five to ten grains three times daily may be ordered; if there be idiosyncrasy less may be given. It is best prescribed with some palatable syrup or elixir, well diluted with water. Iodine itself, in small doses, may often be advantageously employed, especially in combination with cod-liver oil. Syrup of the iodide of iron, and other preparations of iron, are also useful.

External remedies are quite as important as internal treatment. A large number of preparations, most of them of a caustic nature, have been recommended; they should be selected to suit the particular stage and variety of the disease. The amount of surface and the region of the body involved are also to be taken into consideration. In the earlier stages stimulating applications may be employed with a view to bring about absorption; equal parts of tincture of iodine and glycerine, repeatedly painted over the part, mercurial plaster, tar, and ointment of the red iodide of mercury, may be used for this purpose. Strong caustics are, however, necessary in the great majority of cases that come under observation. Of these, potassa, nitrate of silver, arsenic, carbolic acid, acetate of zinc, red iodide of mercury, chloride of zinc, and lime, either alone or in various combinations, are the most valuable.

Potassa may be used in those cases where a powerful effect is required; it should always be handled with extreme care, on account of its violent action upon the tissues. In stick form it may be applied to large tubercles and hypertrophic conditions which require destruction. A solution of potassa, one or two drachms to the ounce, is also at times of service, applied by means of a charpie brush. The operation is severe, although the pain does not continue long; it ceases usually upon neutralization of the alkali with an acid, which

should invariably be applied immediately after the cauterization. For this purpose dilute acetic acid or vinegar will be found serviceable.*

Nitrate of silver, both in stick form and in solution, equal parts with water, constitutes one of the best caustics; it may be employed without danger of leaving scars. It never penetrates deeply. Papules and tubercles may be disturbed by boring into them with the solid stick; patches are most successfully treated with the solution, repeatedly applied with the charpie brush. It is the mildest and safest of the caustics, and should therefore be employed about the region of the face, where cicatrization is to be guarded against as much as possible. Hebra prefers it to all other caustics.

Arsenic has long been extensively used. It possesses the advantage that when applied to a part it only destroys the diseased tissue, leaving the healthy skin intact; on the other hand, it is a painful application. Cosme's paste, as modified by Hebra, is the best method of employing it:

℞ Acidi Arseniosi, ℈i;
Hydrarg. Sulphuret. Rub., ʒi;
Ungt. Simplicis, ʒi.
M.—Ft. ungt.

This is to be spread, quite thick, on a piece of cloth, and applied closely to the patch for two or three consecutive days, until the lupus nodules and points are seen to be blackish and destroyed. The ointment is to be renewed each day, as long as it may be used. On the second and third days the pain is apt to be severe, requiring all the fortitude of the patient to bear it. The results from this paste, however, are at times very satisfactory.

Carbolic acid has of late been repeatedly tried, but with indifferent success; it acts quite superficially and produces considerable pain. Acetate of zinc, well spoken of by Neligan, and more recently by Weisse,† may be applied in the form of the crystal. Its use should be repeated from week

* For more extended remarks upon the use of potassa as a caustic, see Epithelioma.

† Amer. Jour. of Syph. and Derm., Oct., 1870.

to week until cicatrization takes place. The pain is said to be severe at the time, but not to continue; it may be relieved by the use of water. An ointment composed of equal parts of the red iodide of mercury and simple ointment, applied upon a piece of cloth, is used very frequently by Hardy; it produces a caustic effect, with discharge, at the expiration of from six to twelve hours, followed by a crust, which falls off in a week or ten days, leaving a healthier condition of the skin.

Chloride of zinc may be used as a paste, as in the following formula, proposed by Hebra: Equal parts of chloride of zinc and chloride of antimony, with sufficient strong hydrochloric acid to dissolve the chloride of zinc, are rubbed up in a mortar with enough powdered liquorice root to make a paste. It should be spread upon a piece of cloth and applied at once, while still moist. It should be permitted to remain on for eighteen or twenty-four hours, when an eschar will have been formed. It is a very strong caustic, and should only be applied when it is desirable to destroy the whole patch, for it acts upon healthy as well as upon diseased skin.

The Vienna paste may be recommended for a similar purpose. It consists of equal parts of potassa and lime. This is to be made into a paste with alcohol at the time it is required for use, and applied upon a cloth for five or ten minutes only; it destroys everything with which it comes into contact, producing a blackish eschar. The action of the caustic should be stopped with acetic acid and water, after which the surface may be dressed with a water compress or with simple ointment. When either of the two latter preparations is employed, the skin surrounding the patch should be carefully protected with strips of plaster or linen.

The galvano-caustic has been used with success by Hebra; variously-shaped wires and other forms of apparatus are required to meet the different varieties of the disease. The actual cautery may be used with similar result. Volkmann has devised a method of treating lupus by means of a small, round or oval, metallic scoop with sharp edges. The lupus infiltrations are scraped or dug out with the instrument, after

which, in order to secure complete destruction of the disease, the skin is subjected to punctiform scarification with a peculiar small-bladed knife. The process is painful, and requires to be repeated at intervals.* The results are said to be satisfactory.

Prognosis.—This will depend upon the form of the disease, its duration, the age of the patient, and the extent of surface involved. The disease runs an exceedingly chronic course. Even in favorable cases energetic and continued treatment is necessary to bring about a satisfactory result. If the disease be confined to one patch or region, a more favorable termination may be anticipated. Relapses very frequently occur. The thoroughness of the external treatment must also influence the prognosis. The deformity attending and following the disease is usually great; ugly, hard scars, and contractions of the joints, are apt to remain.

SCROFULODERMA.

Symptoms.—Under the name scrofuloderma I would include those morbid conditions of the skin which exist as an expression of the peculiar state of the system designated scrofula, scrofulosis or struma. The cutaneous lesions vary, but are nevertheless characterized by certain features which serve to distinguish them from other diseases. As a rule, the affection begins in one or more of the lymph glands, which become swollen and permanently enlarged, constituting hard, roundish or oval tumors, unattended in the commencement by redness or pain. They increase in size very slowly. Having attained certain dimensions, as, for example, the size of an almond, they may either remain in this state, or, as is usually the case, undergo softening. The skin covering them becomes hyperæmic, and by degrees thin and sensitive. The color is peculiar; it is usually of a light or dark purplish or violaceous hue.

In the course of time, ordinarily months, fluctuation is ex-

* For a full description see his paper, Sammlung klinischer Vorträge, No. 13. Leipzig, 1870. See also abstract of a paper by Dr. Ernst Veiel, Amer. Jour. of Syph. and Derm., vol. v. p. 96.

perienced, and the tumor breaks open at one or more points and gives forth a more or less copious discharge, composed of pus, blood, serum, and a whitish or yellowish, flaky, caseous matter. The character of the fluid varies; at times it is puriform, in other cases thin and watery. The discharge does not usually cease suddenly, but continues oozing in greater or less quantity for an indefinite period. Sinuses are apt to form, which not rarely burrow deeply and invade the adjacent tissues. The condition is now chronic, and may remain, becoming better and worse from time to time, for months or years.

Sooner or later, however, the glands break down completely, terminating in ulcers. The tendency of the disease is to ulceration. The ulcers vary exceedingly as to their size, shape, depth, and general features, according to their seat and other circumstances. They have no definite shape, although they are usually elongated or almond-shaped. Their edges are irregular and ill defined, differing in this respect from those of syphilis, which are sharply cut and well defined; they are, moreover, ordinarily thin, covered with a scanty, watery secretion, more or less undermined, and have a pale-red or a bluish color. The base of the ulcer is uneven, and is usually studded with unhealthy-looking, pale, flabby granulations, which are covered with a grayish, flaky deposit. The ulcer inclines to bleed easily. According to the amount of secretion and its nature, will the crusting be slight or extensive; as a rule, it is inconsiderable. The crust may be either brownish or blackish, or pale and grayish in color; it is usually thin and adherent; when removed the surface of the ulcer is apt to bleed. The scrofulous ulcer manifests no disposition to heal; its course is always chronic. Not infrequently it will remain in about the same state, alternately better and worse, for months or years. As a rule, it is not painful.

The reparative process is always slow. The scar which eventually succeeds the ulcer is generally of a hard, irregularly contracted, knotty character. Compared with other scars, it is an ugly formation, usually occasioning contraction of the surrounding integument.

Scrofuloderma manifests itself upon various regions. It is most often met with about the face, beneath the lower jaw and around the neck, and in the axillæ and groins. It is also encountered about the thorax, and on the hands and feet.

A variety of concomitant symptoms, indicative of the scrofulous state, usually accompany scrofuloderma. Chronic inflammatory affections of the eyes, discharges from the ears, and coryza are at times present, particularly in children. In other cases, swellings of the joints and enlargement of the bones are observed. The glands in various parts of the body are apt to become enlarged, constituting indolent subcutaneous tumors. The skin very often has a pale, yellowish appearance, and is soft and flabby; the face is at times puffed. Old scars, the result of previous disease, may also usually be detected in one or another region.

Etiology.—Scrofuloderma may be inherited or it may be acquired. It is usually inherited. It very frequently arises from the marriage of blood relations. The causes which are recognized as being capable of producing the disease during life, are insufficient and unwholesome food, depressing external influences of all kinds, as, for example, long residence in cold and wet climates, impure air, damp and dark dwellings, want of exercise, and the like. It is also known to follow certain diseases, as, for example, measles and scarlatina, and remotely, in the third or fourth generation, syphilis. It is apt to show itself first in early childhood. It is more common in the colored than in the white race, and is particularly prone to attack mulattoes. It is not contagious.

Pathology.—The cause of scrofuloderma is to be found in the peculiar state of the system which has been termed scrofulosis, the nature of which is still involved in obscurity. Recent views of certain pathologists (Rindfleisch, Wagner, Green, and others) consider it to be identical with tuberculosis; clinically, however, scrofulosis and tuberculosis are different diseases.

Diagnosis.—It is to be distinguished from lupus vulgaris and from syphilis by the presence of the concomitant general symptoms of scrofula, and by the peculiar features of the lesions, which differ materially from those of lupus vulgaris

and syphilis. The characters of the primary lesions, the ulcers, the crusts, and the course of these three diseases are very different.

Treatment.—The treatment of scrofuloderma must be directed against the general disease. The internal remedies of service are the preparations of iron and iodine, phosphorus, lime, and cod-liver oil. The last named is by far the most valuable remedy. These may be given alone or combined. Fresh air, especially the sea air, and proper exercise are of the greatest importance. The diet should be generous, and should consist largely of animal food. Locally, the ulcers are to be treated by stimulating ointments, the various mercurial preparations being the most reliable.

ELEPHANTIASIS GRÆCORUM.

Syn. Lepra; Lepra Arabum; Leontiasis; Satyriasis; Leprosy; *Germ.*, Der Aussatz; *Fr.*, La Lèpre; *Norwegian*, Spedalskhed.

ELEPHANTIASIS GRÆCORUM IS AN ENDEMIC, CHRONIC, MALIGNANT, CONSTITUTIONAL DISEASE, CHARACTERIZED BY ALTERATIONS IN THE CUTANEOUS, NERVE, AND BONE STRUCTURES, RESULTING IN ANÆSTHESIA, ULCERATION, NECROSIS, GENERAL ATROPHY, AND DEFORMITY.

Symptoms.—The disease is a constitutional one, and involves the whole organism most profoundly. It exhibits its presence by both general and local symptoms of a marked character. Its invasion is usually slow and insidious, years often elapsing before it becomes pronounced.

Premonitory symptoms, consisting of malaise, mental depression, languor, sleepiness, loss of appetite, nausea, chills, repeated attacks of fever, general debility, nervous prostration, and pains in the bones, are mentioned as being present in the majority of cases. These may be severe in their intensity, or, on the other hand, quite slight, and may continue for weeks, months, or years without other symptoms. Sooner or later, however, more characteristic features manifest themselves, prominent among which are the lesions of the skin. These, like the earlier symptoms, vary in form; they may be either bullous, macular, pigmentary, or tubercular in nature. They may appear separately, following one another in succession, or, as not infrequently happens, several

or all of them may be present at the same time. The cutaneous manifestations, like those of syphilis, are remarkable for their multiformity.* They also vary exceedingly as regards the degree of their development; at times they appear to constitute the principal symptoms of the disease, while in other cases they seem altogether subordinate to the lesions of other tissues. Various organs of the body are, sooner or later, influenced by the disease, as, for example, the nerves. It will thus be seen that the skin trouble represents but a portion of a serious and even malignant systemic disorder.

Two forms of leprosy are recognized, the tubercular and the anæsthetic. It is necessary to state, however, that no absolute line separates the one variety from the other. Although the symptoms of each are quite distinct and well marked, they not infrequently appear simultaneously upon different parts of the body. One variety may, moreover, pass into the other. From these remarks it will be understood that the manifestations of either form of the disease are liable to vary considerably.

Elephantiasis Græcorum Tuberculosa — Tubercular Leprosy.—As the name indicates, this variety is attended chiefly by the formation of masses of infiltration and tubercles; together with these, however, are found other lesions, at times almost as prominent in character as the tubercles. An eruption of bullæ, very similar to those observed in pemphigus, usually constitutes one of the first cutaneous manifestations. These may show themselves in an irregular manner for some time before other more definite symptoms appear; it is said that they more frequently precede the anæsthetic than the tubercular form of the disease. Maculæ now make their appearance as distinct, smooth, shining, erythematous patches. The outlines of these spots are for the most part defined, the patches themselves consisting of circumscribed areas of infiltration into the skin; in other cases they are not surrounded by any line of demarcation, but

* I was particularly impressed with this characteristic of the disease in examining the patients of the Leper Hospital at Granada, Spain, during a visit to this institution.

seem to fade into the healthy tissues. The patches have a smooth surface and are usually upon a level with the skin; they may be somewhat raised. In color they are yellowish or reddish, assuming usually a dusky yellowish or brownish hue as they grow older. Not rarely they are pale yellow in color, and have the appearance of a solid, fatty, lardaceous deposit beneath the epidermis. These spots are very aptly likened to a piece of cut, raw bacon, inserted in the skin. They are commonly surrounded by a delicate pinkish or lilac border, which upon close inspection is seen to be made up of a minute plexus of bloodvessels.

The sensibility of these patches is materially altered from the first, and is found to vary between hyperæsthesia and complete anæsthesia; at first they are usually hyperæsthetic, while later they become markedly anæsthetic.

They may appear upon any part of the body, although their most common seat is upon the trunk and extensor surfaces of the extremities; not rarely they are present in such numbers as to involve a considerable surface of the body. Their course is variable; they may disappear and reappear from time to time, or they may remain as permanent lesions, in which case they increase in size.

Sooner or later the disease manifests itself in the form of variously shaped and sized nodules and tubercles; they may assume the definite outline of tubercles, or they may develop into irregularly-shaped prominences and elevated masses. When typical they are roundish in form and of all sizes from a pea to a cherry or even a walnut. They may either stand forth conspicuously from the surface, or on the other hand be but slightly raised.

They have a yellowish or brownish color; very frequently they have a bronzed aspect. In consistence they are quite firm. Their seat is in the skin and subcutaneous tissues. They are more or less painful when pressed upon. They manifest themselves upon all regions of the body, but generally form in greatest numbers about the face. The forehead, eyebrows, cheeks, nose, lips, chin, and ears, are the localities where they usually develop, causing at times entire obliteration of the natural lines of the region. The other

portions of the body, notably the trunk, buttocks, arms and legs, fingers and toes, are likewise very often invaded.

The deformity which the presence of the tubercular masses occasions is very striking. When they occur about the face, the features become horribly distorted. The tissues appear more or less swollen and infiltrated; the skin is here and there thickened, puffed out, and moulded into unsightly shapes. The natural lines of the surface are greatly exaggerated, and give a bold, ferocious expression to the face. The skin of the forehead and eyebrows is usually markedly thickened and corrugated, and stands out in bold prominences, which suggest a likeness to the head of the lion (LEONTIASIS). The nose, cheeks, and mouth are also the seat of extensive infiltrations. The disfigurement is generally very great. The rest of the body, especially the hands, feet, fingers and toes, is in like manner made ugly by the disease.

Later in the course of the disease the tubercles appear upon the mucous membrane of the mouth, extending into the various passages, attacking the pharynx, epiglottis, larynx, and nares. The eye also suffers.

The course of the tubercle varies. It may last for a long period without undergoing much change, or, on the other hand, it may at once pass into softening and ulceration; or it may disappear by absorption. Ulceration occurs for the most part about the fingers and toes, the ulcers being covered with adherent, brownish crusts.

ELEPHANTIASIS GRÆCORUM ANÆSTHETICA — ANÆSTHETIC LEPROSY.—This variety may appear either in conjunction with the tubercular form of the disease, or alone, in which case it is characterized by the presence of a number of symptoms in addition to the anæsthesia.

Frequently one of the first symptoms encountered is an eruption of bullæ, which appear in an irregular manner, coming out from time to time, followed by a slight scar and pigmentation. They may continue to show themselves for an indefinite period, after which signs of anæsthesia are noticed about the seats of former bullæ. In other cases the maculæ referred to in describing the tubercular form constitute the earliest symptom. Hyperæsthesia of the skin is

also one of the early signs of the disease, the patient complaining of pains and burning sensations. This symptom is usually succeeded by anæsthesia, affecting either a limited portion or the greater part of the surface. The macular patches are noticed to be anæsthetic, often to such an extent that a pin may be thrust into and through them without causing pain. Later, portions of the skin free of maculæ become in like manner anæsthetic. The skin now begins to assume an atrophic condition ; it is dry, yellowish or brownish in color, and more or less wrinkled.

Following this alteration in the structure of the skin, the subcutaneous tissues and muscles undergo atrophy, giving rise to deformity, distortion, and joint trouble, especially of the fingers and toes. The hair and nails also undergo the same change, and are either greatly altered in their structure or are completely cast off. The hands and feet suffer most seriously, and are subject to great mutilation. The fingers and toes become bent, crooked, and contracted. Sooner or later the bones of these parts are attacked, causing destruction of the joints and of the bones themselves. The skin over the joints becomes excoriated and ulcerated, the ends of the bones undergo disintegration, and the phalanges finally either become absorbed or drop off. Not only fingers and toes but also hands and feet may gradually be lost. The tissues of the extremities are now more or less completely anæsthetic, and are wasted at times to half their former size.

Etiology.—The causes of this disease, notwithstanding the great effort that has of late been made to elucidate them, still remain obscure. A multitude of facts, however, of extreme interest have been brought together, from which valuable information has been deduced. Leprosy has existed from time immemorial, quite accurate descriptions of it being found in the writings of the ancients; frequent reference to it is also made in various portions of the Bible. At the present time the disease, existing as an endemic disease, is limited to certain geographical districts, which, however, embrace an extensive tract of territory, as may be seen by the following enumeration of the countries.

It exists in Africa, along the shores of the Mediterranean,

Atlantic and Indian Oceans, as well as in the interior of the country; also in Asia Minor, Arabia, Persia, India, China, Japan, Kamtschatka, the various islands of the Pacific Ocean, and Australia. In Europe, it is found in Norway, Southern Spain, Greece, and Southern Russia. Upon the western hemisphere it occurs in Mexico, Central America, in the islands of the West Indies, along the coast of South America, and especially in Brazil. It also exists to some extent in the island of Iceland. Cases originating in one or another of the above countries are occasionally encountered in the United States.* It is said that cases occur here and there endemically in our country. Further observation, however, is needed to corroborate this statement.

Thus it will be seen that its distribution is very extensive. It is, of course, very much more common in certain localities than in others, notably so in Southern Asia and in the islands of the Pacific Ocean. The disease seems to be caused by different influences as it occurs in one country or in another; it therefore becomes difficult to determine upon any one cause; certain points, however, are well determined.

It is in very many instances hereditary, and may be handed down, from parent to child, through a long series of generations. The disease is, in all probability, not contagious. It cannot be contracted, it is said, by contact. A leper and a healthy person may live together as man and wife through life without the latter contracting the disease.

The most potent causes in the production of the disease appear to be intimately connected with climate, state of the soil, food, and habits of the people. Investigations concerning the nature of the climate in those countries in which the disease exists, point to no conclusions which throw any light upon the subject. From the geographical distribution just alluded to, it will be seen that though more common in tropical climates it also occurs in the coldest of climates, as, for

* At Tracadie, in the province of New Brunswick, there has long existed a small colony of lepers (in 1863 they numbered twenty-three persons). They are French Roman Catholics, and are said to be of the lowest class. The disease was probably introduced into the country by a French emigrant family from St. Malo, Normandy, in the early part of the present century.

example, Iceland and Norway. The state of the soil has been regarded by many as having a potent influence in the production of the disease, it being believed that a peculiar "malaria" is given off in the districts in which leprosy occurs. A glance at the country will show that it is for the most part low, marshy, malarious, bordering on the sea-coast or surrounded by water.

The majority of those attacked by the malady are in the lowest walks of life, surrounded by abject poverty and destitution, fit subjects for disease of any kind. On the other hand, the disorder also attacks those in the most favored circumstances. The food used by the inhabitants in many of the leprosy districts is of a very inferior quality, consisting in great part of fish, oil, rice, and other articles of food peculiar to the country, and upon which the natives live almost exclusively.

The disease occurs in both sexes, and may show itself at any period of life from childhood to old age. It has no connection with syphilis.

Pathology.—The anatomy of leprosy has been carefully studied by Danielssen and Boeck,* Virchow,† Neumann,‡ Kaposi,§ Carter,¶ and others, with very similar results.

The disease consists in a deposit of new material, made up of cells similar to those encountered in lupus and syphilis. The patches of infiltration and tubercles have been examined in all stages of development; their structure differs somewhat as they are recent or old formations. When cut into, well-formed tubercles present a firm, yellowish or reddish, finely granular surface. The mass has its seat mainly in the corium, but very often extends down into the subcutaneous connective tissue. As a rule, it is not circumscribed, but inclines to spread out in various directions in the form

---

* Traité de la Spedalskhed, avec un Atlas de 24 planches coloriées. Paris, 1848.

† Loc. cit., Bd. ii. p. 512.

‡ Loc. cit., p. 362.

§ Loc. cit., vol. iv. p. 172.

¶ Transactions of the Med. and Phys. Soc. of Bombay, 1862, New Ser., vol. viii.; Trans. London Path. Society, vols. xiii. and xiv.

of a diffused infiltration or as irregular processes. Under the microscope the deposit is seen to consist of a delicate network, containing numerous, small, round, nucleated cells, closely packed together. According to Kaposi, in the younger tubercles the cellular infiltration is not uniform, but consists of small foci, which are most numerous around the thick-walled bloodvessels, glands, and hair follicles. The intermediate connective tissue only contains isolated cellular deposits. The older the tubercles or patches of infiltration, the more numerous, uniformly and densely crowded, do the cells become, the intercellular substance finally almost completely disappearing. As the process advances, the epidermis, hair, sebaceous and sweat glands all atrophy, and in time become more or less obliterated. Ultimately the tubercles incline to soften, disintegrate, and break open into chronic, superficial or deep, discharging ulcers; the course of these formations may be compared to that of the gummatous syphiloderm, although more sluggish.

The nerves of the body undergo marked and peculiar changes. They have been very fully described by Virchow.* The long nerves, as the ulnar or median, are, as a rule, swollen here and there along their course. The color of the nerve is apt to be altered; in place of the normal white color it is usually grayish, or of a smoky tint. The nerve is also generally firmer than normal, or it may even be hard. A transverse section under the microscope shows the structure to be more homogeneous than in health. The external nerve sheath is but little altered. The neurilemma is usually more or less changed; at times it is hardened. The most important lesions, however, are observed in the septa within the nerve fasciculi, and in the interstitial substance, between the nerve fibres, and consist of a deposition in these localities of a highly refractive material. With a high power this material is found to be a mass of densely packed cells. These changes having their seat about the nerves account for the clinical symptoms of hyperæsthesia and anæsthesia, which are always so conspicuous in the course of the disease.

---

* Loc. cit., Bd. ii. pp. 522, 523.

Diagnosis.—In countries where the disease is endemic, even the premonitory symptoms would be regarded with some suspicion, while the appearance of the cutaneous eruption would leave no room for doubt; but not so in districts in which the disease occurs only in isolated cases, or in those countries where it is altogether foreign, and to which it has been imported; in these instances it is liable to be mistaken for other disorders. The symptoms of leprosy, however, taken as a whole, are of so marked a character that if they be borne in mind it will be almost impossible to confound them with those of other diseases.

The macular and tubercular varieties are liable to be mistaken for syphilis.* The eruption of leprosy, in its early stages, is not unlike that of the macular and papular syphiloderms. It will be found to differ from syphilis, however, in the lesions being larger, and also more irregular in both size and distribution. The erythematous patches of leprosy are very often as large as the hand, and show signs of firm infiltration throughout the skin. The pigmentation and coloration of these patches are peculiar; they are more or less yellowish or brownish, and have a smooth, glazed appearance. The tubercles assume various sizes and forms; they are for the most part much larger than those of syphilis, being not infrequently the size of hazelnuts or walnuts. In form they are apt to be irregularly shaped, and unevenly raised above the surface. In color they are darker than those of syphilis. The course which they run will be noted to be very different from that of syphilis; it is usually much slower than syphilis.

The general expression of a face (the usual seat for this form of the disease) affected with tubercular leprosy is peculiar; the tissues are all more or less infiltrated with the new growth, and give a swollen, ugly, leonine appearance to the features, which is never seen in syphilis.

---

* A case of leprosy resembling syphilis, occurring in a Cuban gentleman, came under my observation (through the courtesy of Dr. Beecher) in this city a few years ago. The disease had been seen by a number of physicians, who viewed it as an ulcerating tubercular syphiloderm. For the report of this case, see Photographic Review of Med. and Surg., vol. i. p. 72.

Later in the course of the disease the tubercles and infiltrated patches break down, and become superficial or deep ulcers, covered with adherent, blackish crusts, as a rule less bulky than those seen in syphilis. With ulceration come other characteristic symptoms of the disease, as anæsthesia, distortion of the hands and feet, absorption of bone tissue, atrophy, and other symptoms denoting profound constitutional infection.

The yellowish, roundish patches of macular leprosy should not be confounded with vitiligo, a simple pigmentary affection. The two diseases may always be distinguished without difficulty by bearing in mind that in vitiligo the health is generally good, and that the patch of disease is seen to consist of simple absence of pigment with a border of an increased amount of coloring matter; the skin is seen to be normal in texture and sensibility, and to be smooth, the pigment change being the only sign of disease. The maculæ of leprosy, on the other hand, consist of infiltrated skin having the form of a distinct deposit of lardaceous looking substance, which is firm to the touch and either markedly hyperæsthetic or anæsthetic.

The whitish or yellowish patches of macular leprosy are also to be distinguished from the disease morphœa, an affection of an entirely different nature.* Morphœa is an affection of an atrophic nature, unattended by symptoms of constitutional disorder, the general health usually being good. The patches of morphœa differ from those of leprosy in being normal in sensibility, as well as in their course, which is one usually tending to spontaneous recovery.

Treatment.—This has proved extremely unsatisfactory. The many remedies which have from time to time been employed against the disease with the hope of success need not be enumerated; suffice it to say that they all have proved powerless, notwithstanding their vaunted virtues.

---

* I have adopted the term morphœa to represent the condition described upon p. 387, the opinion being held that there is no connection whatsoever between the anæsthetic patches of macular leprosy and the atrophic disease designated by modern dermatologists as morphœa. Contrary to the nomenclature employed by Erasmus Wilson and Kaposi, the term morphœa is not applied by the author to any manifestation of leprosy.

The general plan of treatment from which the greatest benefit has been derived is that which looks to the improvement of the condition of the whole health. The treatment should be constitutional and local. Change of climate and of residence is the first point to be attended to, and is of vital importance. The individual should at once seek a new home in some land free of the disease, preferably a mountainous district. Strict hygienic rules should be adopted, including exercise and frequent bathing. The subject of the nutrition of the body should also receive the most careful attention. The diet should be of the most nourishing quality, including meat and all those articles calculated to improve the general tone of the system. Tonics, especially iron and quinine, should be prescribed and taken for some time, either continuously or interruptedly. Iodide of potassium, iodine, and cod-liver oil are also to be administered with a view to producing an alterative effect. Mercury has been found to exert no beneficial influence upon the disease. Symptoms are to be treated as they may arise.

The local treatment is also very important. Baths of various kinds are said to be of service; they may be either simple, or medicated, as with iodine or sulphur. A number of remedies are used for the purpose of relieving the lesions of the skin, most of which tend to promote absorption of the infiltration. They are employed chiefly in the form of oils or ointments. The oil of the cashew nut, and Gurjun oil, in the form of inunctions, have of late been highly recommended. The former has been used extensively by Dr. Beauperthuy with a certain amount of success. It is rubbed upon the tubercles and anæsthetic patches of skin with a cloth or sponge, the operation being repeated once a week or as often as the skin will tolerate it. Carbolic acid, arsenic, and a host of other remedies have all been used with varying result.* Electricity has been employed with a certain amount of success.

---

* For a list of the remedies employed, as well as for a large amount of interesting material relating to the disease, see the Leprosy Report of the College of Physicians. London, 1867.

Prognosis.—This is extremely unfavorable, for it is only in those cases in which the patient is able to devote every effort to the treatment of his disease that improvement is to be expected, and even in many of these cases the result is most unsatisfactory. The sooner the disease is recognized and placed under treatment the greater the hope of relief; after it has become disseminated throughout the tissues, the prognosis is most dire.

FRAMBŒSIA, called also YAWS, PIAN, and ENDEMIC VERRUGAS, is an endemic disease, characterized by marked and peculiar cutaneous symptoms, occurring in the West Indies, particularly Jamaica and Dominica, in the various countries of South America, and in Africa. The affection has received careful study recently at the hands of Drs. Milroy* and Imray, of Dominica; Dr. Bowerbank,† of Jamaica; and Mr. Jonathan Hutchinson,‡ of London, to whose writings I am indebted for the following brief account. The eruption consists of variously sized reddish papules, tubercles and tumors, which are usually present in all stages of development. They begin as pin-head sized, hard, red points; later they reach the size of split peas, and resemble in appearance red currants or small raspberries. As they grow larger they incline to become flat on their tops, and to be studded with yellowish points. In time they enlarge to the size of cherries, become softer in consistence, and are apt to break down and to ulcerate, discharging a thin, fetid, yellowish fluid. The lesions, although usually roundish and semiglobular, may be of any shape; at times the tubercles, in close proximity to one another, coalesce, forming patches of disease of a vegetating or fungoid nature.

The appearance of the eruption varies with the stage of the disease; and with the color of the patient, whether black or white. In color the papules and tubercles are at first

* Report on Leprosy and Yaws in the West Indies, by Gavin Milroy, M.D. London, 1873.

† Quoted in Dr. Tilbury Fox's work on Diseases of the Skin.

‡ Catalogue of the New Sydenham Society's Atlas of Skin Diseases, Part II. p. 145. See also Plate XLI.

reddish or brownish; according to Dr. Imray, "if yaws are observed as they first make their appearance on the surface, one or more minute whitish or yellowish points or spots will be perceived, not larger than a pin's head. These yellow spots are seen very distinctly on the dark skin of the negro. Gradually the spots enlarge, and begin to project from their surface, retaining for the most part their circular form, and have much the appearance of small globules of yellow pus." The same writer compares the typical tubercle to a "piece of coarse cotton wick, a quarter of an inch, more or less, in diameter, dipped in a dirty yellow fluid, and stuck on the skin in a dirty, scabby, brownish setting, and projecting to a greater or less extent," which, although not so elegant a comparison as that of the strawberry, he believes to be more exact. Mr. Hutchinson, who reports a case occurring in an Englishman, compares the appearance of the lesions to red currants, with flat tops, of a bright pink color, glassy, and semi-transparent, but possessing the consistence of a raspberry rather than that of a currant. Larger formations, he adds, look not unlike small cherries. The surface of the tubercles varies; it may be smooth or slightly scaly; or, on the other hand, it may be in a state of ulceration, covered with a thin yellowish fluid, and crusts.

The eruption generally manifests itself on the face, the upper and lower extremities, and about the genitalia; the largest growths are said to occur on the lips, eyelids, toes, and genital organs. The lesions show no regularity of distribution. The course of the disease is variable; it may continue for months, or, if neglected, for years. There are no constitutional symptoms at first; later, the general health suffers. The tubercles are neither painful nor itchy.

The disease is considered to be contagious, but not infectious; it is probably not hereditary. It has no relation to syphilis.

The treatment, according to Dr. Imray, "is as simple as it is usually effective." It consists of attention to cleanliness, hygiene, good food, and the judicious use of mercury in conjunction with tonics. Iodide of potassium is also employed. The tubercles are best treated with a car-

bolic acid solution or with a weak nitrate of mercury ointment.

Pellagra is an endemic, constitutional disease, characterized by a chronic inflammation of the skin, of an erythematous nature, accompanied usually with derangement of the digestive tract and with cerebro-spinal symptoms. The disease may or may not be preceded by premonitory general symptoms. The eruption is confined to those parts which are commonly exposed to the sun, as the backs of the hands and feet, arms, legs, chest, and neck. The skin becomes red, and is the seat of violent burning sensations, which are greatly aggravated by exposure to the sun. The inflammation may be superficial or deep-seated; at times it is bright red, in other cases it is brownish-red. Later the epidermis begins to desquamate, leaving a reddish, shining surface. Fissures are apt to occur. According to Rayer,* the inflammation may be intense, the epidermis rising into vesicles or large, irregularly-shaped bullæ, succeeded by crusts. In other cases, the epidermis becomes thickened, hard and dry, yellowish or brownish in color, without having been preceded by redness or burning. The symptoms are at their height during the summer, subsiding with the advent of winter; they return, however, the following year, and usually in an aggravated form. Marked disturbance of the health is apt to occur with the cutaneous trouble, consisting of loss of appetite, thirst, nausea, indigestion, pains in the abdomen, with diarrhœa or constipation; these symptoms vary considerably. The patient becomes debilitated, is weak and feverish, and loses weight. In addition, nervous symptoms, characterized by vertigo, pains in the head and spinal cord, delirium, convulsions, loss of memory, loss of muscular power, and depression of spirits, varying in intensity, often follow.

The course of the disease is variable; it may continue several years, or, on the other hand, indefinitely. It is amenable to treatment in the majority of cases. Among the poorest class, it very frequently proves fatal.

---

* Loc. cit., p. 1162.

It is endemic in certain districts of Italy, especially Lombardy and Tuscany; it is also met with in the South of France. It occurs chiefly among the poorer population, notably those pursuing agricultural occupations. It attacks both sexes, and manifests itself at all ages. The cause of the disease has long been the subject of much discussion, although it is now generally conceded that it is produced by the use of diseased (ergoted) maize, which the inhabitants of the pellagrous districts consume in large quantities as an article of food.* Pellagra has also been attributed to malaria, bad hygiene, extreme poverty, bad water, and like causes, all of which are usually found to exist where the disease is endemic. The sun is the exciting cause.

The treatment is directed against the general condition.

SYPHILODERMA.

Syn. Syphilis Cutanea; Dermatosyphilis; Syphilis of the Skin.

Under this term are included the various manifestations of syphilis upon the skin. The syphilodermata, or "syphilides," as they are also termed, are numerous and constitute an important group of symptoms. They occur in a variety of forms, presenting themselves, in fact, in all the different lesions common to other cutaneous affections. They may occur at any period in the course of the disease, giving rise either to but slight inconvenience, or, on the other hand, to serious involvement of the skin.

Before describing them in detail, there are certain general features, characteristic of the group, which require consideration. Although these vary as to the degree in which they are expressed, they are nevertheless of significance and of value in a diagnostic point of view. They may be referred to under the following heads.

General Symptoms.—These, as a rule, are absent. With the exception of the syphilitic fever, which ushers in the secondary stage of the disease and the erythematous syphiloderm, there are rarely signs present indicative of general systemic

* See a discussion of this subject by Dr. Tilbury Fox, loc. cit., p. 129; also Traité de la Pellagre et des pseudo-Pellagres, par M. Roussel. Paris, 1866.

disturbance. Pyrexic symptoms, consisting of loss of appetite, weakness, headache, and slight fever, are occasionally noted to precede certain of the diffused eruptions; but more often they are not experienced, the eruption manifesting itself without constitutional disturbance. The patient in the majority of cases enjoys good general health.

Concomitant Symptoms.—Other signs of syphilis are ordinarily present with the syphilodermata. In the early eruptions, the chancre or its scar, induration of the inguinal glands, engorgement of the cervical glands, sore throat, alopecia, and mucous patches about the mouth and genitalia, may be looked for; one or more of these symptoms will usually exist during the first three or four months. With the later eruptions, those occurring after the first year, osteocopic pains, bone lesions, permanent alopecia, and other symptoms pointing directly to syphilis, will very often be present.

Seat.—They confine themselves to no particular region; all parts of the integument are liable to their invasion. The different forms of eruption, however, have decided preference for certain localities. The erythematous syphiloderm is observed to show itself most markedly upon the trunk; papules are prone to develop about the genitalia and at the back of the neck; tubercles are most frequently encountered upon the face; while the palms and soles are the usual seats for the papulo-squamous manifestation. Symmetry is, as a rule, noted in the earlier, diffused eruptions only; later, the distribution of the lesions is irregular.

Multiformity of the Lesions.—They assume a great variety of forms of primary eruption. They manifest themselves as macules, papules, pustules, tubercles, and blebs, together with numerous modifications; of these the papule is the most common. These various lesions, further, have a marked tendency to appear associated together. They either succeed one another, or, as is more usually the case, several make their appearance at the same time. Thus, macules and papules are frequently simultaneously present; likewise papules and pustules. At times, especially in the early eruptions, a number of different lesions, including macules, papules, pustules, vesico-pustules, scales, fissures, etc., may be observed

disseminated here and there over the surface. The lesions undergo evolution without fixed laws, a papule, for example, either remaining such, undergoing modification, or becoming a pustule; they observe no regularity of course.

Configuration of the Lesions.—The lesions possess a marked disposition to appear in a circular, semicircular or crescentic form of arrangement. This is particularly the case in regard to the later manifestations, as, for instance, recurrent papules, and tubercles.

Color.—The color varies according to the lesions, and also according to their stage of development. The so-called syphilitic tint is most pronounced in papules and tubercles, and may be described as being either of a brownish-red or yellowish-red, or copper color. The brownish-red hue, likened also to the color of a slice of ham, usually finds its expression in papules, while the yellowish-red, or copper color, is more apt to be observed in tubercles.

Course.—No laws as to time govern the evolution of the lesions of syphilis; their course, however, is usually slow. They may not uncommonly be observed to pass from one to another; as, for example, papules into pustules. They possess a marked inclination to recur from time to time. They are non-inflammatory in character, and in this respect differ very materially from the exudative diseases, which they so frequently resemble in appearance.

Absence of Itching.—It is only rarely that they are accompanied by itching or burning sensations. As a rule, no subjective symptoms are present. Not infrequently indeed the patient is first made aware of their presence by seeing or feeling them. If, however, they be subjected to external irritation, as friction, sweat or other irritants, itching may occur. The small papular and pustular syphiloderm at times proves an exception to the rule; it is not infrequently accompanied by itching.

Syphiloderma Erythematosum.—(*Syn.* Erythematous Syphiloderm; Macular Syphiloderm; Erythematous Syphilide; Syphilis Cutanea Maculosa; Roseola Syphilitica.)

This consists in the formation of maculæ of various sizes

and shapes, appearing as a general eruption. They are upon a level with the surrounding skin, or are slightly raised, and are observed to disappear under pressure. In size they vary from a split pea to a finger-nail; they are seldom larger. In shape they are somewhat irregular; they may be roundish, oval, or circinate. Their outline is for the most part ill defined; change of temperature, especially to cold, is apt to cause them to stand out more prominently. Some of them are always better defined than others. As usually seen they give to the skin a mottled or marbled look. The spots are of a pinkish or reddish color, which, however, varies considerably with their age, and also with the natural complexion of the individual. At first they are of a delicate rosy hue; later they become somewhat darker, usually passing into a dusky-pink or purplish tint. As they fade away they take on a pale, dirty-yellowish shade. In number they are always multiple; they may exist sparsely, or, as is usually the case, in great profusion, and at times to such an extent as to cover the whole surface. Where they are present in large numbers they may run into one another.

They show themselves upon all parts of the body, but are always seen to be particularly well marked about the trunk and flexor surfaces of the limbs. The palms and soles often exhibit them; the backs of the hands and feet, however, only rarely. The face commonly escapes. They evince no disposition to form into patches, circles or other arrangement; they appear without order of distribution.

The eruption is unaccompanied by symptoms of heat or itching; frequently the patient is unaware of its presence until it has existed for some days.

The erythematous syphiloderm is the earliest of the syphilodermata. It generally makes its appearance from the sixth to the eighth week from the date at which the initial lesion, or chancre, was first noticed; at times, however, it shows itself at a much later period. Occasionally it manifests itself as late as the second year, when it usually assumes the circinate form. Its appearance is retarded by treatment. It may show itself with or without systemic disturbance; very often it is ushered in with malaise and slight fever of short dura-

tion, the so-called syphilitic fever. It is usually accompanied by other signs of syphilis, as the chancre itself or its scar, engorged cervical ganglia, erythema of the fauces, pains about the body, especially the joints, alopecia, and mucous patches.

The development of the eruption is usually slow, several days or a week elapsing before it reaches its height; at times, however, it breaks forth with great rapidity and violence. Its appearance may be hastened by undue excitement or over-exertion. Its duration is variable; it may last a few weeks, a month or longer. It fades away gradually, unattended, as a rule, by desquamation, leaving a slight yellowish pigmentation of the skin, which in turn likewise slowly disappears. Relapses may occur.

The erythematous syphiloderm is encountered more frequently than any other form of syphilitic eruption. It is very common. It varies, however, exceedingly in the degree of its development; at times it is very pronounced, while in other cases it is so slight as not infrequently to escape detection. Treatment causes it to vanish quite rapidly.

The diagnosis is ordinarily not difficult. It is to be distinguished from measles, rötheln, urticaria, copaiba and cubebs rash, purpura rheumatica, tinea versicolor, and the simple erythemata. The absence of febrile and catarrhal symptoms, and its course, will serve to prevent its being confounded with measles. The eruption of measles, moreover, is peculiar; it is crescentic, and blotchy. Rötheln, or German measles, is characterized by small, roundish, often confluent, pinkish or reddish patches. It is preceded by pyrexic symptoms, and is accompanied by slight inflammation of the mucous membranes, as in measles. The eruption fades on the fourth or fifth day. It is an epidemic disease, and usually occurs in young children.

Urticaria may always be known by its sudden appearance, the presence of wheals, the short duration of the eruption, and the constant and marked feature of itching. The efflorescence following the ingestion of copaiba or cubebs, consists of isolated or confluent urticarial patches, reddish in color, of short duration, and dependent upon the use of these drugs; decided itching is usually present.

It may be diagnosed from purpura rheumatica by the nature of the lesions, as well as by the history of the case. The macules of tinea versicolor become at times pinkish or reddish in color, and, where they happen to be small, numerous, and disseminated, may resemble the syphiloderm; upon close inspection, however, they can scarcely be confounded.

SYPHILODERMA PAPULOSUM.—(*Syn.* Papular Syphiloderm; Papular Syphilide; Syphilis Cutanea Papulosa.)

This is characterized by the formation of papules, which vary greatly as to size, shape, distribution, and course. The appearances presented are altogether different as the lesions happen to be small or large, acuminated or flat, disseminated or grouped. The various stages through which they pass, moreover, and the modifications to which they are subject, give rise to symptoms which render a separate description of them necessary.

Small Papular Syphiloderm.—(*Syn.* Miliary Papular Syphiloderm; Lichen Syphiliticus.) This form consists of an eruption of disseminated or grouped, more or less confluent, minute papules. They are pin-head or millet-seed sized; are distinctly elevated; and have a solid, hard, somewhat rough feel. In shape they are rounded and acuminated. Their apices may be perfectly smooth, or they may be covered with very fine scales; not infrequently slight pointed pustulation may be noticed, especially in those through which a hair protrudes. At first they are quite bright in color; later they become darker, often deep-red or brownish. It is apt to be a well-marked eruption, and usually occupies a large amount of surface, either in a disseminated manner or in groups, thickly studded, constituting at times almost solid patches. It is often seen about the neck, shoulders, trunk and thighs.

It may be either an early or a late manifestation; occasionally it appears during the third and fourth month, in other cases not until after other lesions have occurred. It has a chronic course and is rebellious to treatment. It is more commonly met with in men than in women. Relapses are common. Large flat papules, as well as moist papules,

may very often be found existing at the same time upon other regions of the body.

It may be mistaken for lichen pilaris in those cases where the papules are very minute, pierced by a hair, and disseminated in great numbers over the body and extremities; especially in the colored race. It also bears a close resemblance to lichen scrofulosus; it may, however, usually be diagnosed by the presence of other symptoms of syphilis. It is not to be confounded with papular eczema.

Large Papular Syphiloderm. — (*Syn.* Lenticular Papular Syphiloderm.) The lesions here are large flat papules, quite different in size, shape, and general characteristics from the miliary papules just described. In size they vary from a small split pea to a large finger-nail or even a half-dollar. In shape they are generally circular or oval. They are firmly seated in the skin, more or less raised above the surrounding tissues, and have a flat surface. To the touch they are firm and circumscribed. They are usually smooth and free of exfoliating epidermis. Their color is dull-red, and generally shows the raw ham tint; at times they are so dark as to have a hemorrhagic appearance. They are usually present in numbers, although seldom, if ever, to the extent of the small papules. They may show themselves upon all parts of the body, either as a disseminated eruption or confined to certain regions. They also at times group, and form patches. The forehead, mouth, nape of the neck, flexor surfaces of the extremities, scrotum, labia, perineum, and margin of the anus, are all favorite localities for their development.

The eruption is one of the commonest of the syphilodermata. It may be either one of the earliest manifestations, or may first occur later. It may also appear in later years as a relapse. It is generally encountered closely following the erythematous form, and may even appear at the same time. The lesions, as a rule, develop themselves slowly, in the course of a few weeks, and attain to various sizes; they may usually be seen in all stages of growth. Once formed they are apt to remain for weeks or months. They are much more amenable to treatment than the small, miliary

papules. They are to be diagnosed from the papules of acne and lichen planus. Other symptoms of syphilis will almost invariably be present.

Large flat papules undergo more or less modification according to the locality in which they exist; other influences also cause them to become altered in appearance and form. These changes are of so marked a character as to call for special description; for they are not infrequently so complete as to mask all trace of the original lesion. Their diagnosis may thus become a matter of difficulty.

As the papules progress in their course they may either continue to be typical lesions, and as such pass away by absorption, or they may metamorphose in the following manner:

At times they become quite soft, spongy, and incline to disintegration; when this occurs they lose their form and sink to the level of the surrounding skin.

From one cause or another they may also show signs of excoriation, when slight crusting may take place; ulceration, however, is seldom seen.

Fissures not infrequently exist; they are often quite deep, and may be painful. They are usually observed about the angles of the mouth, anus, and other parts exposed to motion.

The commonest change, however, is into the

Moist Papule.—(*Syn.* Mucous Papule; Mucous Patch; Broad, or Flat, Condyloma; Plaque Muqueuse.)

This takes place upon those regions of the body where opposing surfaces and natural folds of skin are subject to more or less contact. As regions in which this lesion is apt to occur, the nates, perineum, genitalia, groins, axillæ, and beneath the mammæ in females, may be mentioned. Parts influenced by excessive glandular secretion, either of sebum or sweat, as about the spaces between the fingers and toes, are also liable to be the seat of moist papules.

The lesions differ from the large, dry papules in that they are more or less moist, and are covered with a whitish or grayish, sticky, mucoid secretion, consisting in great part of macerated epidermic tissue. They are also seen to be

considerably flatter than dry papules, and to be very often without defined outline. They vary in consistence, but are commonly soft and of a spongy nature. Not infrequently several of them will have coalesced, producing a patch of some size; about the genitalia very large surfaces are often involved in this manner.

Instead of becoming flat, they may take on action which results in the formation of bulky, luxuriant, hypertrophic, warty, papillary growths, when they are very properly designated "hypertrophic" or "vegetating" papules. This manifestation constitutes the so-called "vegetating syphiloderm" ("syphilis cutanea vegetans"). It is not to be confounded with the acuminated or venereal wart. (See verruca acuminata, p. 350.)

Their secretion is contagious, although not auto-inoculable; they are, however, observed to multiply abundantly in those regions favorable for their development simply by the presence of the irritating secretion. They are notable for the rapidity with which they develop and increase in size. They are a luxuriant growth. Heat, moisture, friction, uncleanliness, all contribute towards their development. They are quite amenable to treatment. Local measures usually act very promptly in causing them to disappear.

To return to the dry papules. Very frequently after having fully developed, or even in their early stage, quite another and different change may be established, namely, a process of extensive desquamation; when this takes place they become "squamous papules." This modification is a very common one, and constitutes the

Papulo-Squamous Syphiloderm.—(*Syn.* Squamous Syphiloderm; Syphilis Cutanea Squamosa; Psoriasis Syphilitica.)

This manifestation is always developed from the papule. It presents different appearances as it occurs in one locality or another, and according to the arrangement of the lesions. The papules may be isolated, grouped or closely packed together forming solid patches. They are seen to be somewhat flattened, and to be covered with a dry, grayish, adherent scale; it may be quite thin and scanty or relatively abundant,

although never so luxuriant as in psoriasis. If the scales are removed, elevated or flattened papules, dull red in color, more or less perfectly defined, may be detected. The eruption is seldom extensive; may show itself upon any portion of the body, with preference, however, for the palms and soles; and is remarkably persistent in its course.

Owing to the peculiarity in the structure of the skin of the palms and soles, the disease assumes here an appearance altogether different from that seen elsewhere. It is known as the "palmar" and "plantar" syphiloderm, and is entitled to special description. The lesions very often partake rather of the nature of macules than of papules, yet the characteristics are such as to permit of no doubt concerning their anatomy; they are modified papules. They consist of papules slightly raised above the level of the surrounding skin, but, as a rule, imperfectly defined to the touch. In size they vary; they may be split-pea sized or as large as a finger-nail. In shape they are irregular, and on account of their tendency to coalesce are seen in the form of roundish, linear, serpiginous or crescentic patches. They are covered with dry, scanty, semi-detached flakes of epidermis, which have a grayish color. These are very adherent, and are observed to be most abundant about the edge of the patch, where they usually have a wrinkled or dried-up appearance. If the scales be removed the surface beneath will be found, usually, of a deep-red color. At times the exfoliation of epidermis takes place quite abundantly and presents a distinctly squamous patch; it may either be cast off, or remain upon the surface, in which event it gives a hard, horny coating to the part. In other cases little or no desquamation occurs, the patch presenting a strictly erythematous look. The patches may either be hard or soft to the feel, according to the form in which the lesion shows itself; the more circumscribed the papule or deposit, the greater will be its firmness. In addition to the lesions described, fissures usually exist, extending at times deep into the corium.

The eruption is usually symmetrical, and is apt to appear in the centre of the palm or sole, upon the ball of the thumb,

and about the volar surfaces of the fingers. The outer sides of the palms and soles are also frequently invaded. It rarely attacks the backs of the hands or feet; nor does it usually spread extensively, as, for example, over the wrist. It may be limited to a small patch the size of a coin, or it may involve the greater part of the surface. As a rule, neither heat nor itching is present. Its course is exceedingly chronic, frequently lasting months and years. It is rebellious to treatment. It may appear either as a comparatively early or as a late manifestation. If it occur upon only one hand or foot, it is apt to be a late eruption, often years after the initial lesion.

The papulo-squamous syphiloderm is very liable to be confounded with eczema and psoriasis; also with callosities. From eczema it may always be distinguished by the absence of heat, itching, and discharge, the two former of which symptoms are always present in eczema. The course of the eruption, and its history, will also be of assistance in the diagnosis.

It often resembles psoriasis very closely, whether occurring upon the trunk, extremities, or palms and soles. The differential diagnosis may be stated as follows: The syphiloderm is almost always confined to adult age, and is the result of acquired syphilis; psoriasis frequently manifests itself in early life, usually before the age of twenty. In connection with the syphiloderm there is generally some clue to the initial lesion of syphilis; on the other hand, in psoriasis, a clear history of psoriasis is ordinarily obtainable.

The syphiloderm, though very persistent and stubborn in its course, when once entirely removed by treatment, is not apt to return; the tendency of psoriasis is to recur at intervals through life.

The patches of the syphiloderm have no tendency to form into a regular system of configuration; they may take upon themselves any pattern as to outline, and usually vary their shape according to locality. Very frequently, however, the papules composing the patch assume a circular or semicircular arrangement; this is usually more noticeable where the eruption is limited in extent. Psoriasis, on the other

hand, almost invariably inclines to assume some definite pattern for its patches.

The edges of the patches of the syphiloderm are generally elevated, and possess a marked line of demarcation; the disease is observed to terminate abruptly against the healthy skin. This margin may often be detected by passing the finger over its surface; it is the line of the plastic syphilitic deposit. Upon the palm or sole it is generally less defined than on other parts of the body. The edges here are, as a rule, only slightly raised, but are apt to be covered with a film-like, shrivelled scale. In psoriasis, the elevation of the patch and its border are due to the scales; if these be thoroughly removed, a red, shining surface, not much, if at all, raised above the level of the skin, is observed.

The syphiloderm, except when it attacks the palms and soles, and even here it is subject to variation, has no tendency to occur symmetrically. Psoriasis generally manifests a disposition to symmetry.

The syphiloderm ordinarily confines itself to one portion of the body, the amount of surface involved being usually small in extent; it rarely occurs upon the elbows or knees. Psoriasis attacks remote parts of the body simultaneously, and has a strong predilection for the elbows and knees.

Both the syphiloderm and psoriasis may invade the palms and soles; both diseases may also appear exclusively upon either the palms or soles, the rest of the body remaining entirely free. When psoriasis, however, exists upon the palms or soles, it is common to see it at the same time on other portions of the body. When the syphiloderm, on the other hand, attacks the palms or soles, it is the rule to find no trace of it elsewhere.

Slight itching may be present with the syphiloderm, particularly if seated on the trunk, but rarely to such an extent as to cause the patient to scratch. Psoriasis is very apt to be attended with more or less itching; at times it is marked, especially if the attack be acute.

The syphiloderm increases its area step by step, and is usually very slow in its course; psoriasis is a more active process, and often extends itself with rapidity.

The syphiloderm manifests its presence in the form of a deposit in the tissue; in psoriasis there is no deposit, but simply a hyperplasia of the cells of the rete, attended with inflammatory symptoms. This difference in the pathological structure of the patches is generally appreciable even to the naked eye, and constitutes one of the most valuable diagnostic signs between the two diseases. Exclusive of the scales, there is but little thickening of tissue in the ordinary patch of psoriasis; in syphilis there is decided infiltration throughout the skin. Care should be exercised in discriminating between the thickening due to inflammatory swelling in psoriasis, and that arising from the plastic formation of syphilis.

The syphiloderm usually consists of more than one kind of lesion, a variety indeed being at times observable, composed of papules, fissures, ulcers, and scales; in psoriasis all the patches of the disease show the same pathological characters. A patch of psoriasis is made up of a circumscribed inflammatory surface, which is always covered with scales.

The color of the syphiloderm is usually less vivid and bright than that of psoriasis; it has a dull, smoky, brownish-red hue.

The scales of the syphiloderm always have a yellowish, dirty-white, dingy, old, dried or shrivelled look; in psoriasis they are silvery white, glistening, mother-of-pearl colored, and have the appearance of being new and fresh, as though they had been recently formed. In syphilis they are formed very slowly, and exist scantily; in psoriasis they are produced rapidly, and are usually present in great quantity. This point of difference is valuable for diagnosis. In syphilis, moreover, the scales are thin and adherent; in psoriasis they are loose, non-adherent, and easily detached from their bed. A patch of syphilis may readily be denuded of its scales without provoking blood; a psoriatic patch will bleed very much more easily under the same circumstances.

In syphilis the papules may break down and show signs of moisture or superficial ulceration; in psoriasis the process is always a dry one throughout its course. Finally, in doubtful cases, treatment will aid in the diagnosis.

Syphiloderma Vesiculosum.—(*Syn.* Vesicular Syphiloderm; Vesicular Syphilide; Syphilis Cutanea Vesiculosa.) This is an unimportant and rare manifestation. Vesicles are seldom encountered in syphilis. In the majority of instances, so-called syphilitic vesicles may be more properly viewed as early pustules; occasionally, however, the lesions are of such character throughout their course as to be entitled to the term vesicular. The vesicular syphiloderm has been described at length by Bassereau* and Hardy.†

The lesions vary in size, form, arrangement, and distribution. They may be small, millet-seed or pin-head in size, more or less acuminated, and disseminated or grouped; or they may be split-pea sized, flat or semiglobular, with or without umbilication. The small, miliary vesicles manifest themselves as irregularly grouped or disseminated lesions, inclining to involve the hair follicles, and are succeeded by minute, yellowish, granular crusts. They very frequently pass into miliary pustules. The larger vesicles are apt to occur as a disseminated eruption and show a disposition to assume the form of the vesicle of varicella, whence the term "varicellaform syphiloderm." The lesions here are usually split-pea sized, slightly umbilicated, contain a clear or cloudy fluid, are surrounded with a more or less marked coppery areola, and are remarkable for their persistency, at times remaining days without undergoing appreciable change. They may be isolated or confluent. At times they group in a crescentic manner. They are succeeded by a light-yellowish or grayish crust, which, as a rule, is not large.

The vesicular syphiloderm shows itself in localities where the skin is naturally thin, as on the face and about the genitalia. It is rarely extensive in its distribution, nor are the lesions apt to be numerous. Its course is usually rapid. The lesions terminate either in absorption or in rupture and slight crusting. It seldom exists alone; papules, either large flat or small, are usually present over other regions of the body;

* Traité des Affections de la Peau symptomatiques de la Syphilis. Paris, 1852.

† Leçons sur la Scrofule et les Scrofulides et sur la Syphilis et les Syphilides. Paris, 1864.

other signs of syphilis are also generally present. As originally pointed out by Bassereau, it is an early eruption, occurring during the first year, and usually within the first six months.

Syphiloderma Pigmentosum. — This affection, the so-called "pigmentary syphilide" of the French, has been described by Hardy,* and more recently by Fournier,† two most accurate observers. I have never met with it, and consequently have no personal experience to present. According to these writers, it consists of a circumscribed pigmentation of the skin, in the form of roundish, oval or irregularly-shaped, split-pea or finger-nail sized, discrete or confluent macules. They are on a level with the surrounding skin, and have a smooth surface like that of normal skin; they are, in fact, simple pigmentary deposits. They have a grayish-yellow, pale, weak coffee-with-milk color. Not infrequently the color is so faint that the lesions at first escape detection. They usually have the appearance of being dirt-marks, rather than disease. The lesions are generally ill defined, and are apt to coalesce, forming an irregular, more or less broken patch of discoloration. The surface is said to present an indistinctly marbled look.

The affection is unaccompanied by subjective symptoms; there is neither heat nor itching. It is most frequently encountered upon the neck, upon one or both sides; according to Fournier it occurs here as often as twenty-nine times out of thirty. It is also occasionally met with on the thorax, abdomen, and limbs. The manifestation is peculiar in that it shows itself almost exclusively in women; it is very rarely met with in men, and only in those possessing thin, transparent, delicate skins. It is encountered during the latter half of the first and in the second year of the disease. It is rare.

Its course is slow; it may continue two or three months or from one to two years. Oddly enough, it is uninfluenced by anti-syphilitic treatment, neither mercury nor iodide of

* Loc. cit., p. 175.

† Leçons sur la Syphilis, étudiée plus particulièrement chez la Femme. Paris, 1873, p. 422.

potassium having any effect in causing its disappearance. Notwithstanding this peculiarity, the manifestation is, according to both Hardy and Fournier, unquestionably due to syphilis. It occurs in syphilitic subjects only. In its nature it is a simple pigmentary formation, probably differing in no way from chloasma.

It may be mistaken for chloasma uterinum, vitiligo, lentigo, and tinea versicolor. From the latter disease it may be known by its having a smooth, non-desquamative surface. No satisfactory treatment has been suggested.

Syphiloderma Pustulosum.—(*Syn.* Pustular Syphiloderm; Pustular Syphilide; Syphilis Cutanea Pustulosa.) The pustular syphilodermata constitute an important group. Although not so common as the erythematous and papular manifestations, they are nevertheless very frequently encountered. They appear in a variety of forms, the lesions of which differ in size, shape, number, distribution, and other features. Before describing these in detail I shall speak of them as a group.

The pustules vary greatly in size. They may be no larger than a millet-seed, or, on the other hand, they may be split-pea sized or as large as a finger-nail. In shape they likewise vary; at times they are circular, in other cases they are oval or irregular in outline. In form they are acuminated, as in acne and variola, or flat, as in ecthyma. Very often they are seated upon a distinctly indurated papular base; in other instances they are surrounded by extensive areolæ, and are but little elevated above the level of the surface. They vary greatly as to number; they may be few, or, on the other hand, very numerous. They may be disseminated or grouped; usually they are dispersed over the surface without regularity of distribution.

They either begin as pustules, or, beginning as papules, vesicles or vesico-pustules, sooner or later become pustules, which in a variable time terminate in crusting. From the decided inclination to crust formation which the larger pustules evince early in their course, they have been termed by the French "pustulo-crustaceous" lesions. The crusts usually begin to form shortly after the lesions manifest them-

selves; in some instances the crusts form simultaneously with the pustules. As a rule, the larger the pustule, the sooner will the process of crusting begin.

The crusts either correspond in size and shape with the pustules which have preceded them, or they may be contracted and smaller than the original lesion. They may be acuminated or broad; raised and bulky or flat and superficial. In consistence they are either soft, or, as is usually the case, hard and smooth. The larger and more bulky crusts incline to become stratified like the exterior surface of an oyster-shell. In color they vary from yellow to brown or even black, and when of any size and depth incline to assume an olive-greenish hue.

Beneath the crust there always exists an ulcer; this may be superficial or deep, according to the general character of the primary lesion. The edges are usually sharply defined, giving the ulcer a punched-out appearance. The base of the ulcer, when large, is generally covered with an abundant, grayish, yellowish or greenish, puriform secretion. The lesions are followed by pigmentation, and usually marked cicatrices.

As regards the time at which the pustular syphilodermata manifest themselves, they may be either an early or a late eruption. They may be benign or malignant.

The following varieties may be described:

Small Acuminated Pustular Syphiloderm.—(*Syn.* Miliary Pustular Syphiloderm.*)

The pustules are millet-seed in size. They are raised above the level of the skin, and are observed to be seated upon minute, reddish, papular elevations. They are acuminated in form, and contain an exceedingly small amount of fluid, more or less puriform in character, which in time dries into adherent yellowish or light-brownish crusts. After the crust has fallen off, slight desquamation or exfoliation is apt to take place, which usually manifests itself in the form of a delicate, thin margin or fringe of epidermis around the base of the lesion, constituting a minute, grayish ring or collar

* Herpetiform Syphilide of the French.

(the "collerette" of the French). The hair follicles are very commonly involved, hairs penetrating through the centre of the lesions.

The eruption is almost always abundant, the pustules existing in very great numbers, either discretely or confluently, irregularly disseminated or in groups, over various regions. Sometimes they are arranged in the form of more or less well-defined circles and semicircles. It usually invades a large tract of surface; at times, however, it is localized, as often occurs in the case of a relapse. The extremities, especially the arms and thighs, the chest and the back, are its favorite localities. With the eruption are usually found miliary papulo-pustules and papules; not infrequently these are numerous, and show the various stages of the evolution of the pustule from the papule. Miliary vesicles, as well as large flat papules, are also at times present.

The miliary pustular syphiloderm may occur either as an early eruption or, in the form of a relapse, as a late secondary manifestation; at times it is met with in the third or fourth month. Uninfluenced by treatment it runs a slow course. Relapses may occur. It disappears leaving a deep pigment deposit, of a bluish-red or brownish color. After the lesions have passed away, minute pin-point or pin-head depressions in the skin remain, which in time become effaced. The diagnosis of this syphiloderm is not difficult. Other symptoms of syphilis usually accompany the eruption.

Large Acuminated Pustular Syphiloderm.—(*Syn.* Acneform Syphiloderm; Acne Syphilitica; Variolaform Syphiloderm.)

The eruption is characterized by small or large split-pea sized, more or less acuminated pustules, similar in general features to those of simple acne or of variola. The crusts, which form sooner or later, are yellowish or brownish in color, small and thin, and seated upon superficial ulcers. It may develop itself rapidly with fever, or slowly. The lesions usually occur in large numbers, and are generally disseminated. They are met with upon the scalp, face, and trunk; more rarely upon the extremities. Other syphilitic lesions are apt to be present, as, for example, papules.

It is one of the earliest of the pustular syphilodermata, and,

as a rule, pursues a rapid and benign course. It is not a common form of eruption. I have encountered it more often in the colored than in the white race.

It is to be distinguished from simple acne, from the eruption of the iodide of potassium, and from variola. In the colored race it not infrequently closely resembles variola.

Small Flat Pustular Syphiloderm.—(*Syn.* Impetigoform Syphiloderm; Impetigo Syphilitica; Pustular Eczemaform Syphiloderm.)

The pustules are generally small, flat, and grouped into an irregularly-shaped patch, the size of a coin or larger; they are seldom disseminated. Crusting begins almost immediately, rendering the lesions markedly pustulo-crustaceous. The crusts are more or less adherent; and are thick, bulky, uneven, and irregularly heaped up. They are dry, and incline to become granular and to crumble. In color they are yellowish, greenish-yellow or brownish; they resemble the crusts of pustular eczema.

Where the pustules have coalesced, a continuous sheet of crust is apt to form, as in pustular eczema. The ulcer beneath the crust may be superficial or deep. The eruption is usually encountered about the face, especially around the nose and mouth and on the hairy parts of the face, and on the scalp; also about the genitalia. It is generally benign; occasionally, however, it assumes a malignant action, the ulceration extending deeply, and spreading over considerable surface in a more or less serpiginous manner.

The affection resembles pustular eczema, and may readily be confounded with it if the character of the erosion or ulcer be not taken into consideration. The diagnosis can with difficulty be made from the appearance of the crusts alone.

Large Flat Pustular Syphiloderm.—(*Syn.* Ecthymaform Syphiloderm; Ecthyma Syphiliticum.)

This appears in the form of large, finger-nail sized, flat pustules, seated upon a deep-red base. The pustules seldom remain as such for any length of time, but incline to crust immediately. Two varieties of this eruption are met with, the superficial and the deep. In the former the crust is flat, roundish or oval, adherent, and of a yellowish-brown or

brown color. It is seated upon a superficial ulcer or erosion, having a grayish or yellowish, abundant secretion. The lesions are usually numerous and may appear upon any part of the body, although they have preference for the back, shoulders, and extremities.* It is a common manifestation, and runs a benign course. It is apt to occur in the first year, after the sixth month.

The deep variety possesses a raised and more bulky crust, which inclines to become conical, is harder in consistence, and has a greenish or blackish color. The prominent, stratified, oyster-shell-like crust often observed constitutes the condition known as RUPIA. This is also met with in connection with the bullous syphiloderm. Rupia, therefore, may be the result either of the pustular or of the bullous eruption of syphilis. Beneath the crust the ulcer is seen to be excavated, punched out, and to be covered with an unhealthy, greenish, puriform secretion. It is a late and malignant manifestation. It is seldom met with outside of hospital practice.

SYPHILODERMA TUBERCULOSUM.—(*Syn.* Tubercular Syphiloderm; Tubercular Syphilide; Syphilis Cutanea Tuberculosa.) The eruption here consists of one or more solid elevations of the skin, varying in size from a split pea to a hazelnut. They are circumscribed, rounded in form, acuminated or dome-shaped, and have usually a smooth, somewhat glistening surface. They are hard and firm to the touch, and are felt to be quite deeply seated in the skin. In color they are deep-red or brownish-red; at times they have a yellowish-red, distinctly coppery tint. Not infrequently they have an intensely red, lurid hue, a color not met with in any other disease of the skin.

They may be either single or multiple, usually the latter, although they rarely occur in very great numbers. If small they are more apt to be numerous. They seldom appear over the whole body, but are generally confined to certain regions. They may be either disseminated or grouped; when in large numbers they tend to form more or less solid tubercular patches. As to their arrangement, they may be

* See Plate D, Syphiloderma (Pustulosum), author's Atlas of Skin Diseases.

either irregularly disposed or grouped in the form of segments of circles and semicircles. When the latter arrangement occurs, the patches are very apt to coalesce, forming a serpiginous tract of disease ("serpiginous tubercular syphiloderm"). The parts of the body which are commonly invaded are the various localities of the face, the back, and, more rarely, the extremities. They are unaccompanied by pain, heat, or itching. Their development is slow, usually extending over some weeks or months. They are always to be viewed as a late manifestation of syphilis; they rarely, if ever, show themselves before the second year, and generally not until later; often not before five, ten, fifteen or twenty years after the initial lesion. Other symptoms of the disease will almost invariably have occurred before they manifest themselves.

They disappear in two ways, either by absorption or ulceration. They may ulcerate superficially or deeply; usually the latter. The process may commence upon their summits or in their interior, the result being a more or less complete destruction of the lesion, causing an ulcer of variable size. The ulcer is usually seen as a deep, punched-out cavity, with irregular edges, horse-shoe or crescentic in shape, covered with a grayish-red deposit of gummy matter, or with a yellowish or brownish crust.

Papillary formations at times spring up from ulcerating tubercles, in the form of wart-like, cauliflower excrescences, accompanied by the secretion of a yellowish, puriform, offensive product. ("Syphilis cutanea papillomatosa.") The same growth may occur with the gummatous ulcer.

Ulceration may also attack a patch of grouped tubercles, the result being an extensive excavation involving at times the whole affected surface. Not infrequently the process assumes a serpiginous course, extending itself in an irregular, serpentine manner; the ulceration is usually accompanied by a certain amount of simultaneous cicatrization, and is apt to be very disfiguring in its results. It is often encountered on the back, and is generally obstinate.

The tubercular syphiloderm is to be diagnosed from lupus vulgaris, from elephantiasis Græcorum, and from carcinoma.

It is most liable to be confounded with lupus vulgaris. The tubercles of syphilis, however, are harder, more deeply seated, and have a history of more rapid development. The characteristic features of lupus, moreover, are wanting. Lupus appears usually first in childhood; the tubercular syphiloderm is rarely seen before adult or middle age.

Syphiloderma Gummatosum.—(*Syn.* Gummatous Syphiloderm; Gummatous Syphilide; Syphilis Cutanea Gummatosa.) This is characterized by the formation of a roundish more or less circumscribed growth situated in the subcutaneous tissue, showing its presence upon the surface as a slightly-raised, dome-shaped tumor, variable as to size, of an elastic, moderately firm consistence, tending in its course to break down into an ulcer. The formation is known as a "gumma," "gummy tumor" or "syphiloma." It begins as a small, pea-sized, soft, ill-defined, painless body, which is felt to be beneath the skin; it is usually loosely imbedded in the tissues and may be moved about under the finger. The skin at this time is not altered in color, nor is the outline of the growth usually discernible. The deposit increases slowly in volume, until, through a period of weeks or months, it finally assumes definite shape and consistence. It is now seen to be a more or less rounded tumor, imbedded in the subcutaneous tissues. In size it may vary from a hazelnut to an egg; most frequently it is seen to be about the size of a walnut. The skin is more or less involved and appears pinkish, reddish or purplish. In shape the growth shows itself upon the surface as a slightly-elevated semiglobular, uniformly organized body. To the touch it has a soft, doughy, somewhat elastic, feel.

Gummata rarely exist in numbers. One or two only are, as a rule, present at the same time; occasionally they are multiple, but such instances are of infrequent occurrence. They may appear upon any part of the body; their tendency, however, is to develop in the looser and softer tissues, as upon the flexor surfaces of the extremities, abdomen, and sides of the thorax; they also occur upon the head. The palms and soles are rarely, if ever, attacked.

The gumma tends to break down, ulcerate, and destroy

the tissues in which it has its seat. The ulcer is seen as a circumscribed, deep excavation, usually rounded in form, with abrupt, perpendicular edges. It may be the size of a finger-nail or as large as the palm of the hand. Its bottom is generally uneven, and is covered with a grayish-red stringy or gummy deposit. The skin is always completely destroyed, likewise, to a great extent, the subcutaneous connective tissue and deeper structures. Disintegration, as a rule, progresses slowly; crusting, consequently, is unimportant. The loss of tissue is very often great, although cicatrization usually takes place in such a manner as to leave a comparatively insignificant scar. In place of ulceration, the growth may disappear by absorption.

The gumma is to be distinguished from furuncle and from abscess; from enlarged lymphatic glands; from carcinoma; and from fibrous and fatty tumors. The ulcer resulting from the disintegration of the gumma will be diagnosed from the non-syphilitic ulcer by the history, the depth of the ulcer, its sharply-defined edges, its punched-out appearance, the character of the secretion, the absence of pain, and the presence, in many cases, of other symptoms of syphilis.

Syphiloderma Bullosum.—(*Syn.* Bullous Syphiloderm; Bullous Syphilide; Syphilis Cutanea Bullosa; Pemphigus Syphiliticus.) The eruption is characterized by the formation of blebs containing a clear, watery fluid, which, in the majority of cases, tends to become soon cloudy and thick. At times the lesions partake more of the nature of pustules than of blebs. In size they vary from a pea to a walnut; it is usual to encounter them of all sizes and in various stages of development. They are discrete, disseminated, circular or oval in form, and are surrounded usually with a slight areola. The walls of the bleb may be fully or only partially distended; after lasting a variable time they break, and the contents dry into brownish or dark greenish crusts.

The crusts vary considerably in their form; at times they are very large, bulky, raised, conical, and furrowed upon their surface like the outside of an oyster-shell. This peculiar crust formation is known as rupia. (See large flat pustular syphiloderm.) In other cases they are smaller,

flatter, and less bulky. Beneath the crusts, which may usually be removed without difficulty, are seen distinct erosions or ulcers, with sharply-defined edges, secreting a copious, creamy, greenish-yellow fluid. They are followed by extensive, more or less pigmented cicatrices. The course of the eruption is variable, depending very materially upon the general condition of the patient.

The bullous syphiloderm is a late manifestation, and is usually accompanied by other symptoms of the disease. It is rare. It is seen for the most part upon cachectic, broken-down individuals. It also occurs in the new-born, as the result of inherited syphilis, when it often closely resembles pemphigus vulgaris. (See hereditary syphilis.) The character of the bullæ and of the subsequent crusts will serve to distinguish it from pemphigus; other signs of syphilis, moreover, will usually be noted.

Syphiloderma Hæreditarium Infantile.—The cutaneous manifestations of hereditary syphilis in the infant present a somewhat different appearance from those of acquired syphilis, and are therefore entitled to separate description.

Syphilis in the newborn may be hereditary, that is, the child may have become infected in utero through the influence of the mother or father, or of both parents; or it may be acquired, the disease being contracted at any period after leaving the uterus, either during delivery or after birth. When acquired, it runs precisely the same course as in the adult. The terms "congenital" and "infantile" syphilis are indefinitely used to express the existence of the disease, without reference to its having been inherited or acquired.

A child the subject of hereditary syphilis may be born either apparently sound or in an obvious state of disease. The majority of syphilitic infants are born to all appearances healthy, the disease not showing itself until a later period, in almost all cases, however, within the first three months. According to Diday,* who has collected 158 reported cases of hereditary syphilis in infants, the disease

* A Treatise on Syphilis in Newborn Children and Infants at the Breast, p. 101, New Syd. Soc. Translation. London, 1859.

manifested itself before the end of the first month after birth in 86 cases, and before the completion of the second month in 45 cases, while in the third month there were but 15 cases. It will be seen from these statistics that the disease usually makes its appearance before the end of the second month, and that after the fourth month the chances are in favor of the child having escaped infection.

On the other hand, infants may come into the world with the imprint of syphilis stamped upon them in the form of the maculo-papular or bullous eruption, or with the general signs of syphilitic cachexia and marasmus. These cases rarely live longer than a few days or weeks.

When the child is born with a clean skin and apparently healthy, syphilitic symptoms are not apt to manifest themselves before the second or third week; often it is later. The child during this period either remains well or shows signs merely of general debility. At birth the infant may be stout and well nourished, or it may be spare, puny, and delicate. Usually in the course of two or three weeks it begins to exhibit unmistakable evidence of failing in health. It grows thinner and weakly, is fretful, or cries peevishly, wastes away, and becomes greatly changed in appearance. From a well-nourished infant it has in a short time become emaciated and plainly diseased. The skin now assumes a peculiar dingy, yellowish, earthy or muddy hue. The cutaneous tissues are deprived of their fat; the bones are prominent; while the skin is harsh, dry, thin, and more or less wrinkled, forming lines and furrows, which are apt to be particularly noticeable about the face. These changes give to the little patient a pinched, wizened, dried-up aspect, resembling that of an old man or woman.

One of the first specific symptoms noticed is coryza, which is usually present at this stage of the disease. The discharge at first is thin and watery, but soon becomes thicker and tenacious, gradually accumulating in the nasal passages. In a short time the nares become stopped up, a collection of mucus and crust taking place around the orifices; the breathing is interfered with; and a peculiar snuffling noise is heard, which is quite characteristic. At

times the nostrils are occluded to such an extent that breathing can take place only through the mouth, in which event it is with the greatest difficulty that the child is able to suck. Later, the discharge from the nares becomes more or less sanious and has a penetrating, fetid odor, and mucous patches appear about the nares and around the mouth. If the disease continue, the small bones of the nose may be involved, caries occurring, with discharge of fragments of bone, followed by deformity of the nose. With the coryza there is generally more or less hoarseness, and at times even aphonia, the throat being attacked in a similar manner by erythema and mucous patches. The cry of the child at this stage of the disease is peculiar.

The lesions upon the skin may manifest themselves before the coryza, simultaneously with it, or later; usually they appear at about the same time. Not rarely, however, the skin is the first tissue attacked. The eruption may appear in the form of erythema, papules or blebs, or as a mixture of these lesions. The most frequent manifestation consists of both macules and papules. Not infrequently the first cutaneous symptoms are erythematous patches and spots, varying in size from a finger-nail to the palm of the hand, occupying the buttocks, thighs or genitalia. They are usually irregularly shaped; have a more or less indistinct outline; are deep-red, brownish-red or coppery in color; somewhat shining, or covered with a thin, ragged epidermis; and are either dry and squamous or slightly moist and excoriated. At times these patches are very extensive and involve the whole of the lower portion of the trunk and the thighs in one continuous sheet of erythema. The coloring in these cases is not infrequently of an intense, deep yellowish-red. The early stage of this erythematous manifestation very often closely resembles simple erythema intertrigo, so much so that the diagnosis may be difficult. In a short time the lesions become more marked, the patches become thickened, and distinct macules appear here and there over the surface, which either remain such or pass into flat papules. In other cases the palms and soles are first attacked by the erythema, the epidermis beginning at once

to exfoliate in the form of thin, dry, ragged pieces or layers. It will thus be noted that the erythematous syphiloderm of hereditary syphilis differs considerably in appearance from that of acquired syphilis.

Usually in the course of a few weeks the erythematous patches become the seat of broad, flat papules, the size of a finger-nail and larger, the eruption thus becoming maculo-papular. This may be considered as the commonest syphiloderm in the infant. The papules exist as both dry and moist lesions, the latter form predominating, especially about the genitalia and natural folds of the skin. They are usually large, not infrequently of the character rather of patches of infiltration; often but slightly raised above the level of the surrounding skin; and are smooth and glazed, or are covered with a pellicle or scale. The moist papule, or mucous patch, is one of the earliest symptoms of hereditary syphilis; it is also one of the commonest manifestations. These lesions first make their appearance about the nose, mouth, anus, and genitalia. They are also very frequently met with about the toes and fingers, umbilicus, axillæ, backs of the ears, and in other natural furrows of the integument, particularly where friction, heat, and moisture are apt to exist. Together with moist papules occur fissures, varying in length and depth, secreting a viscid or sanious, offensive product, which tends to crust and to mask the true lesion. Papules, moreover, not infrequently excoriate, break down, and ulcerate superficially.

Mucous patches occurring in the mouth may be confounded with aphthæ, or thrush, which often bears a close resemblance to the syphilitic lesion. Aphthæ may be distinguished by being seated upon an inflammatory base, and by their oval or circular shape with distinct margins and areolæ. They usually occur in successive crops and in groups, and are, moreover, generally attended by gastric derangement. The affection is due to a vegetable parasite, the oïdium albicans, which may be demonstrated under the microscope, thus, in doubtful cases, determining the diagnosis.

The bullous syphiloderm in the infant usually manifests itself at birth; is, in fact, already developed when the child

comes into the world. It may, however, first show itself later. It consists of variously-sized, flat or semi-globular, circular, oval, or irregularly-shaped, distended or flaccid blebs or pustules, scattered over the surface. They possess a decided disposition to attack the palms and soles, and fingers and toes; also the limbs. They show no regularity of form, and are usually present in all stages of development from the bleb to the pustule. Their contents may be clear or cloudy, turbid and sanious. They are seated upon patches of reddish, unhealthy-looking skin, and are sometimes surrounded by bluish or purplish areolæ. They may be present in large numbers or they may be sparse. Sooner or later they break or are ruptured by violence, and show an excoriated or ulcerated, dark-reddish or purplish base, which is slow to take on reparative action. At times the lesions break down into ulcers, which may be quite deep; these are not infrequently met with on the fingers and toes, especially on the joints.

The course of the eruption varies with the general condition of the patient; new bullæ are apt to come out from day to day, while the older ones become pustular, rupture, and are succeeded by excoriated, unhealthy-looking surfaces. Other cutaneous lesions, as moist papules and patches, about the genitalia and other regions, mucous patches in the mouth, fissures, and discolorations of the skin are usually at the same time present; in some cases, however, the bullæ are the only skin lesions encountered. Other symptoms of the disease may almost always be found. The bullous syphiloderm in the infant is a grave manifestation. The little patient very rarely lives.

Pathology.—The anatomy of the syphilodermata has received careful investigation by Auspitz,* Neumann,† Biesiadecki‡ and Kaposi.§ The typical syphilitic deposit, as

* Mediz. Jahrbuch. II. Bd., 1864, Wien. "Ueber die Zelleninfiltration der Lederhaut bei Lupus, Syphilis und Scrofulose."

† Lehrbuch der Hautkrankheiten, p. 448. Wien, 1873.

‡ Beiträge zur physiologischen und pathologischen Anatomie der Haut. Sitz. d. mathem. naturw. Cl., LVI. Bd. II. Abth. Wien, 1867.

§ Die Syphilis der Haut und der angrenzenden Schleimhäute. Wien, 1874–75.

encountered in the papule and in the tubercle, is a new growth, consisting of a small round cell infiltration, resembling that of lupus vulgaris. The earliest manifestation of syphilis upon the skin, the erythematous syphiloderm, is characterized by hyperæmia with incipient proliferation of connective-tissue cells. The process in this stage does not show the specific cell infiltration, this latter first appearing with the papule. The capillaries are chiefly involved in the production of the macule, a proliferation of connective-tissue corpuscles taking place along the walls of the vessels. These cells are found to be most numerous in the apices of the papillæ.

The papule presents a marked deposition of the syphilitic material. As seen in the flat papule it has its seat in the mucous layer of the epidermis, papillary layer of the corium, and in the body of the corium extending down as far as the subcutaneous connective tissue. The extent and depth of the infiltration vary with the size of the papule. The infiltration is circumscribed and sharply defined both laterally and from the tissues beneath. It is made up of a more or less solid mass of disseminated, numerous, small, round cells, which vary considerably in size and in other characteristics. They show no regularity of distribution, but appear for the most part closely packed together, here and there, within the meshes of the connective tissue. In some cases the cells are so numerous as almost completely to obliterate all signs of the normal structures. In the process of absorption, which takes place as the papule is about disappearing, the central portion is first absorbed; the papule in this stage thus assumes a somewhat cup-shaped or scooped form.

According to Kaposi, in the moist papule, or flat condyloma, there is the same infiltration occupying the same structures and extending itself occasionally into the subcutaneous layers. It is likewise sharply defined as to outline. The papillæ here are very decidedly enlarged, swollen, and lengthened into finger-like prolongations, and at times formed into two or more club-shaped extremities. The mucous layer is also highly developed and much thickened.

The pustule is, like the papule, also well defined, the

deposit occupying the corium, and, in some instances, the subcutaneous connective tissue. According to the size, character, and stage of the pustule, will the appearances of the infiltration be somewhat different. As stated by Kaposi the essential features of the pustule consist in the presence of "dimly-contoured, highly granular, cloudy, nucleated (pus) cells and free nuclei within the uppermost layer of the corium, papillary layer, and rete, seated in a succulent, large-meshed, serum-saturated tissue or even in open spaces, covered with epidermis (the roof of the pustule)."

The tubercle and gumma present the same characters as the papule, the infiltration extending itself, however, more widely and deeper into the cutaneous tissues. The elements concerned are the same as in the papule. The extent to which the formation is circumscribed, and the depth of the infiltration, will of course depend upon the size and form of the growth. The deposit ultimately disappears either by absorption or by ulceration.

Treatment.—The treatment of the syphilodermata is that of syphilis, the manifestations upon the skin being but one group of the many symptoms which take place in the evolution of the disease. To enter at length upon the treatment of syphilis would carry the chapter beyond the limits assigned to it. For a complete exposition, therefore, of this subject I must refer the reader to the admirable works of Fournier,* Bumstead,† and Van Buren and Keyes.‡ I shall, however, endeavor to point out the method and indications for treatment.

Constitutional Treatment.—In entering upon the treatment of syphilis, the importance of a systematic course of medicine, the length of time required to bring about the best results, the nature of the disease, the tendency to relapses, and the advantages of prolonged treatment, should all be clearly stated to the patient.

It is, in the first place, a matter of considerable moment

---

* Leçons sur la Syphilis étudiée plus particulièrement chez la Femme. Paris, 1873.

† The Pathology and Treatment of Venereal Diseases. Philadelphia, 1870.

‡ A Practical Treatise on the Surgical Diseases of the Genito-Urinary Organs, including Syphilis. New York, 1874.

that the patient be brought under the most favorable hygienic influences. The general health is to be carefully looked after throughout the entire course of treatment. The benefits to be derived from leading a regular life should be impressed upon the individual. The mind should not be suffered to dwell upon the disease. In the case of men, the use of tobacco and spirituous drinks should be interdicted, or at least they should be made use of only with the consent of the physician. Fresh air, sufficient exercise, relaxation from business, and healthy out-door amusements are to be sought for. Attention to cleanliness is to be enjoined. Baths, in the form either of the cold douche or of the vapor, are useful, and may be taken as the case may require. The vapor bath, indulged in not too frequently, is often a decided adjuvant in the treatment.

The diet should be directed by the physician; it should, as a rule, be generous, and should consist of the most nourishing articles, as meat, eggs, milk, and wine or malt liquor, as may seem necessary. The bowels demand attention; if constipated they should be kept open by means of one or another of the natural saline aperient waters or by small doses of aloes. The condition of the various secretions of the economy should be inquired into, and, if disordered, corrected by appropriate remedies. In a word, everything should be done to assist nature in coping with the disease.

The two specific remedies employed in the treatment of syphilis are mercury and iodide of potassium. They are the only two remedies that have a direct action on the disease. Their value is inestimable. Of the two, mercury is by far the more valuable. They are employed either alone or in combination. The indications for the use of one or the other, or for their conjoint use, are found in connection with the age of the disease, the character of the eruption, and the general condition of the patient. I would here state that mercury is a safe remedy; employed judiciously, under the advice of one familiar with its action, it may be used without fear of evil consequences. It may be administered in small doses for one or two years without injury to the general health. In this connection it need scarcely be remarked that when

given for a long period continuously it is essential that the dose be small, and that salivation be at no time induced.

Mercury may be introduced into the system in a variety of ways. The usual method, and without doubt the best for the majority of cases, is by the mouth. Patients vastly prefer to be treated by this plan, for obvious reasons; it is, moreover, the most practical method of treatment. A number of the preparations of mercury are made use of; blue mass, calomel, corrosive sublimate, gray powder, the protiodide, the biniodide, and the bicyanide, all enjoy reputation, and are employed to fulfil certain indications. Their manner of affecting the system is somewhat different, and hence the selection of one or another will depend upon the case to be treated. The most active and energetic preparations are the mild chloride and the protiodide. The system may be brought under the influence of the mineral more rapidly by calomel than by any other preparation; hence it is valuable where an immediate effect is demanded, as, for example, where there is grave iritis or serious throat trouble, threatening destruction to the parts. It may be given in one or two grain doses with a quarter or third of a grain of opium, three or four times daily. A more rapid effect even is to be obtained from oft repeated minute, fractional grain doses, as an eighth or a twelfth of a grain every hour, continued for a few days. The system is usually brought under the influence of the mineral by this latter method in two or three days.

The protiodide is the remedy in most general use at the present day, and for the majority of cases is to be preferred to other preparations. It is given in quarter, third, or half grain doses, three times daily, usually with opium, extract of lactucarium or hyoscyamus, and in pill form, as, for example, according to the following formula:

℞ Hydrargyri Iodidi Viridi, gr. x;
Pulv. Opii, gr. vii.
M. Ft. in pil. no. xxx. div.
Sig. One pill three times daily after meals.

The protiodide is an active preparation. At times it is irritating. Not infrequently, when taken for some time, it induces gastric and intestinal derangement, griping pains,

and diarrhœa. These symptoms, however, are counteracted in a great measure by the simultaneous use of opium or hyoscyamus, as suggested.

Blue mass and gray powder are both mild and comparatively slow in their action; they are, nevertheless, valuable preparations. They are among the least irritating of the mercurials; this is especially true of the latter. Gray powder is the most desirable of all the mercurials for infants and children. Bumstead speaks well of the blue pill with iron and opium in the early syphilodermata, as in the following prescription:

℞ Pilulæ Hydrargyri, ℈ii;
Ferri Sulphatis Exsiccati, ℈i;
Extracti Opii, gr. v.
M. Ft. in pil. no. xx. div.
Sig. One pill three times daily after meals.

According to the same author quinine may be very advantageously combined with gray powder, rendering the mercury less liable to salivate. The dose of the gray powder is about two grains three times daily. For infants the dose is from a half grain to a grain, twice daily; it may be given with sugar.

The corrosive chloride acts slowly, and, as a rule, is well borne, manifesting comparatively little disposition to salivate; it is, indeed, perhaps the least active of all the preparations. When taken for a time it tends to produce pains in the stomach and bowels. It is seldom employed in early syphilis; it is more often used for the later manifestations. Where iron is called for, it may be advantageously combined with the tincture of the chloride of iron. It may be prescribed with water, alcoholic mixtures, vegetable tinctures or syrups, or it may be given in pill form. The dose is about one-sixteenth of a grain, three times daily. It should be taken after meals. The bicyanide of mercury, in the dose of from one-twentieth to one-sixteenth of a grain, in pill form with gentian, quinine or opium, is highly esteemed by Fox,* who prefers it to the other preparations.

---

* Loc. cit., p. 306.

Mercury is also introduced into the system by inunction. It is a valuable method of treatment, and is frequently most advantageously employed. It acts rapidly, and when pushed brings the system under the influence of the remedy in a short time. It is therefore useful in those cases where a speedy effect is desired; in old cases of syphilis; and where mercury is not well borne by the stomach. It constitutes the best method of treating the disease in the infant. The two preparations employed are mercurial ointment, and oleate of mercury (as suggested by Berkeley Hill) from five to twenty per cent. strength. To avoid irritation of the skin, the frictions are made upon various regions. The arms, axillæ, thighs, abdomen, chest, and back, are the localities to be selected for the rubbings. Beginning with one or another of these regions, for example, the arms, the other parts are in turn taken up, when the parts that were first rubbed are again subjected to the process. The frictions are performed slowly, with the hand, the operation requiring from fifteen to thirty minutes or until the preparation used has been quite dissipated. Ordinarily they are made once in the twenty-four hours, the substance employed being allowed to remain on the skin for one or two days before being washed off preparatory to another rubbing. The skin should never be suffered to become irritated; if such be the tendency, new localities must be selected, a weaker ointment employed, or the treatment by this method suspended. The requisite quantity for each friction is from a half to one drachm of the officinal mercurial ointment, and about a drachm of the ten or fifteen per cent. oleate of mercury. For infants the mercurial ointment should be weakened by mixing with one, two or more parts of lard. Salivation is to be guarded against.

Perhaps the chief objection to inunction is its uncleanliness; patients not infrequently object to its use on account of the exposure to which the soiling of the underclothing subjects them. Nevertheless its value in certain cases is not to be lost sight of.

Mercury is also administered subcutaneously, by means of the hypodermic syringe and corrosive sublimate dissolved in

water, with morphia. Lewin* employs, for each injection, a fluid consisting of about one-eighth of a grain of corrosive sublimate dissolved in fifteen drops of water with one-twelfth of a grain of morphia. The region selected for the puncture is usually the back. The operation is repeated once or twice daily. Although experience has shown that this method may be employed in certain cases with good result, it has many disadvantages, chief among which are that it calls for much time on the part of both physician and patient; that it is painful; and that it is followed not infrequently by subcutaneous abscesses, and by salivation. Patients as a rule object seriously to its use.

The mercurial vapor bath is yet another method, and a valuable one, although, on account of the special appliances and the time required, it is not adapted for general use. Parker,† Lee,‡ and Milton§ are all warm defenders of this mode of administering the remedy, to whose writings I must refer the reader for a description of the necessary apparatus.

For infants the corrosive sublimate bath is very serviceable; it is prepared in the strength of from ten to twenty grains to an infant's bathtubful of warm water. The little patient is allowed to remain in the bath for twenty minutes once daily or every other day.

The selection of one or another of the methods mentioned for administering mercury must depend upon the requirements of the case under consideration, as well as upon other circumstances. The age of the patient is to be taken into account; in infants and young children, for example, the best results are to be obtained from inunction and the mercurial water bath. The general health, whether stout or weakly and debilitated; the condition of the alimentary canal; and the occupation of the patient, are to be borne in mind. The

* Die Behandlung der Syphilis mit subcutaner Sublimat-Injection. Berlin, 1869. For further information, see interesting papers by Wigglesworth, Boston Med. and Surg. Jour., Aug. 26, 1869; and Taylor, New York Med. Gaz., May 13, 1871.

† The Modern Treatment of Syphilitic Diseases. London, 1871.

‡ Lectures on Syphilitic and Vaccino-Syphilitic Inoculations. London, 1863.

§ The Treatment of Syphilis. London, 1875.

rapidity with which it is considered to be desirable to bring the system under the influence of the remedy; whether the patient is to be under continuous observation; to be seen only at intervals or irregularly; must decide in favor of one or another method.

Throughout the treatment it is of importance to look to the health of the patient. To secure good results from mercury, it is essential that a high standard of general health be maintained during the period of its employment. In the majority of cases, therefore, tonics are called for, the preparations of iron, quinine, gentian, and like remedies, all being valuable adjuvants in the treatment. They may be combined with the mercurial, as, for example, in the formula given, or may be prescribed separately. Cod-liver oil will also not infrequently be found a useful remedy, especially in the later manifestations accompanied with debility.

In this connection the various vegetable infusions, decoctions and fluid extracts, as those of sarsaparilla, mezereon, guaiacum, dulcamara and stillingia, may be mentioned. They act as diaphoretics, cathartics, and tonics. Their chief value is in syphilis of long standing, in severe and obstinate cases, and in subjects broken down and debilitated by the abuse of mercury or from other causes. The general condition not infrequently improves markedly under their continued use. They are to be viewed as alteratives and tonics. They may be given alone, or conjointly with mercury or iodide of potassium. The most efficacious preparations are Zittmann's decoction and the compound decoction of sarsaparilla.

Opium remains to be referred to as a remedy. Great benefit in certain cases is to be derived from its use. It is particularly valuable in the treatment of the ulcerative lesions. The progress of destructive ulcerations may very often be arrested by opium after all other means have failed. It may be prescribed in doses varying from a half grain to two grains, three times daily, or in the case of the extract of opium, half the quantity.

The mineral acids, especially nitric acid, may at times be prescribed with advantage in the later stages of the disease.

The length of time which mercury is to be employed must rest with the case under consideration; no positive rule can be laid down. I would, however, remark that in the vast majority of cases the remedy is continued for much too short a time. Were its use continued for a longer period, perhaps in smaller doses than is customary, there would, without doubt, be far fewer relapses. Unless contra-indicated by some of the ill effects to be referred to, it may in all cases be given with benefit continuously not only until the disappearance of the symptoms but for some time afterwards. During its administration symptoms of constitutional disturbance, as ptyalism, and gastric and intestinal derangement, are to be watched for; upon their appearance the dose is to be reduced, or the treatment discontinued for the time. The period at which these symptoms may be looked for varies extremely; in susceptible cases the system may be affected in a few days; in another case weeks may be required to bring about this condition.

For early syphilis I am in favor of giving mercury in small doses, and of continuing its use for a long period, intermitting its administration from time to time. To obtain the best results, it should be prescribed according to the following plan, the advantages of which have been ably set forth by Fournier.* It should be given until all the symptoms have disappeared, and for three or four weeks longer, in all probably two months from the commencement of the treatment, when it is to be interrupted for about a month. It is now to be recommenced and continued with for another course of two months, when all treatment may be stopped for two months. At the expiration of this period of rest, a third course is to be undertaken, lasting from six to eight weeks, to be followed as before by a two months' respite. The whole course of treatment should extend over a period of at least two years. During the second year, it is, in the majority of cases, proper to combine iodide of potassium with the mercury.

---

* Loc. cit., p. 1080. See a translation by Dr. R. W. Taylor, in the N. Y. Med. Jour., vol. xvi.

Other methods of employing mercury are also recommended by eminent syphilologists. Van Buren and Keyes advocate unhesitatingly the practice of giving the remedy unremittingly, in small doses, not sufficient to affect the system unfavorably in any way, for a period of not less than two years, making use of the iodide of potassium when necessary. Still another plan is urged; that of giving full doses of the mineral in rapid succession until slight salivation is induced, when it is withheld for a while. The course is repeated as many times as the case may seem to require. The method has been prominently brought forward by Hunt,* of London.

The so-called bad or injurious effects of mercury are in all cases to be avoided. They comprise ptyalism, tenderness of the gums, fetid breath, metallic taste, stomatitis, diarrhœa and griping pains, and, at times, depression of spirits, loss of appetite, and general malaise. With the manifestation of these symptoms, the dose is to be at once reduced or the treatment suspended, as the case may appear to demand. Salivation is to be treated by chlorate of potassium, in the form of a gargle, a drachm to four ounces of water, and by internal administration, one or two drachms in solution in the course of the twenty-four hours.

Iodide of potassium remains to be referred to. It is a most valuable remedy. It finds its chief use in the later eruptions, as, for example, those which occur in the second, third and subsequent years. The older the manifestation the more apt is the result to be satisfactory. It is prescribed either with mercury or alone. Decidedly more lasting effects are to be derived from its employment in combination with mercury than when used alone. It is administered either in solution, with wine of iron or with one of the palatable syrups, as syrup of orange peel, ginger or sarsaparilla, largely diluted with water, or in the form of the compressed pill; the former mode is preferable, for the pill when given in over five-grain strength is apt to produce gastric dis-

* On Syphilitic Eruptions, etc., with especial reference to the Use and Abuse of Mercury. London, 1854.

order. According to Bumstead and others, the action of the iodide of potassium is increased by combination with chloride of ammonium (equal parts). Carbonate of ammonium is also said to render the iodide more efficient as well as more agreeable. The dose, when used alone, varies from five to thirty or forty grains three times daily; the average dose is ten grains. When taken for the first time, it is well to begin with smaller doses, from two to five grains, gradually increasing the amount. It should be administered about an hour after meals.

The treatment by iodide of potassium and mercury combined, the so-called "mixed treatment," is exceedingly valuable in the second and later years of the disease. The two remedies are usually mixed in the same prescription. They may also be given separately and alternately at different hours of the day. The iodide may also be administered internally in connection with mercurial inunction, a plan useful in debilitated subjects, and in inveterate cases, where the stomach is apt to become deranged under the continued use of mercury. The corrosive chloride and the biniodide are the two mercurials ordinarily combined with the iodide of potassium. They are prescribed in from one-thirty-second to one-twelfth of a grain, with from two to five or more grains of the iodide of potassium, for each dose, as, for example, in the following formula containing the biniodide:

℞ Hydrargyri Iodidi Rubri, gr. ii;
Potassii Iodidi, ʒiiss;
Syrupi Zingiberis, fʒii;
Aquæ, fʒii.
M.—Sig. One teaspoonful three times daily, after meals, with a wineglassful of water.

The doses of both mercury and iodide of potassium may be increased or diminished to suit the demands of the case.

The length of time which the iodide of potassium, either alone or with mercury, is to be employed, must vary with the case; it may, however, be stated that it should be continued for weeks or months after the disappearance of the lesions.

The unpleasant effects of iodide of potassium consist of iodism, irritation of the mucous membranes, salivation, and

a peculiar eruption. Iodism is characterized by fulness in the head, headache, nervous symptoms, ringing in the ears, and general depression; the condition is only occasionally met with. Of much more frequent occurrence than iodism is irritation of the mucous membranes, taking the form of coryza, with running at the nose, swelling of the eyelids and watering of the eyes, redness of the conjunctivæ, and, at times, pain in the frontal sinuses. Increased salivary flow may also take place, although it occurs rarely in a marked degree. The iodide at times gives rise to eruptions upon the skin which assume the form of erythema, acne, furuncular inflammations, pustules, and blebs.

Iodine, iodide of sodium, and iodide of ammonium, are also at times employed with benefit. They are, however, much inferior to the iodide of potassium.

Local Treatment.—The local treatment of the syphilodermata consists in the judicious employment of baths, lotions, and topical applications in the form of liquids, powders, or ointments. The baths are variously prepared with starch, alkalies, and the mercurials.

The erythematous syphiloderm does not require local treatment. The papular manifestation may be much improved by the occasional use of the mercurial vapor bath, or the corrosive sublimate bath, one to three drachms to thirty gallons of water. The various mercurial ointments are of decided service in removing papules, and are often applied to these lesions when they affect the face and neck. Ammoniated mercury, a half drachm to the ounce of ointment; and ointment of the nitrate of mercury, a drachm to the ounce of ointment, are the most useful. Oleate of mercury, five per cent. strength, may also be employed with benefit.

Moist papules in all cases require immediate attention. Strict regard to cleanliness is of the first importance; the lesions should be washed with water and castile soap several times in the course of the day, and the parts, where the surfaces oppose each other, kept separated by lint. In addition to the cleansing, they may be bathed with dilute chlorinated

soda solution, one part to two or four of water, twice daily, after which powdered starch, oxide of zinc or calomel, may be dusted upon them. They may also at times be advantageously painted with a solution of nitrate of silver.

The papulo-squamous lesions may be treated with the simple or mercurial vapor bath, employed once or twice a week. In the localized conditions, as upon the palms and soles, tarry ointments and the various mercurial ointments may be applied with benefit.

In the ulcerative affections the crusts are to be removed by poultices or other means, and the lesions dressed with one or another of the mercurial ointments already referred to, or with the "emplastrum de Vigo cum mercurio." The tubercular formations call for the same local remedies as the large papules.

CARCINOMA CUTIS.

Under this head are found the several varieties of cancer which manifest themselves in connection with the integument, both as primary and secondary affections. Of the primary cancers of the skin, the most common form is that to which the term epithelial cancer is given, and it is this which more especially concerns the dermatologist.

The fibrous and medullary cancers, the melanotic and colloid forms, whether diffused or circumscribed, fungoid or tuberous, rarely attack the skin primarily, hence fall rather into the domain of surgery.

EPITHELIOMA.

Syn. Epithelial Cancer; Cancroid; Carcinoma Epitheliale; *Germ.*, Epithelialkrebs; *Fr.*, Epithélioma; Cancroïde.

Symptoms.—Epithelial cancer of the skin manifests itself clinically in three forms, which are very properly designated as the superficial, deep-seated, and papillary varieties.

Superficial Variety (known also as the "flat" variety).—The disease here usually makes its appearance as one, or, at times, several grouped small yellowish or reddish papules or elevations, having their seat in the superficial layers of the skin. They may start from a sebaceous gland, wart or other

growth, or in the form of a flat infiltration. Sooner or later, usually in the course of years, the tubercle, wart or infiltration shows a disposition to fissure or to excoriate, and to be covered with a slight brownish or yellowish crust, under which may be observed a scanty, watery or viscid secretion. The course of the disease is commonly very slow, years not infrequently elapsing before much progress takes place. In time, however, the tubercles or deposits increase in size, or new ones appear, and finally break down into superficial ulcers of various size and appearance. In size the ulcer may be no larger than a split pea when first seen, but it inclines to become larger by degrees, and may ultimately assume the dimensions of a large coin or the palm of the hand. In shape it is usually roundish; at times it is irregular in outline. Its edges are abrupt and sharply defined against the sound skin. They are not raised or everted, and do not appear reddened or infiltrated, although they may be quite indurated. The base of the ulcer is reddish in color; secretes a scanty, viscid, yellowish fluid; disposes to bleed; and has an uneven surface, which is apt to be hard. The amount of pain present varies; it is not usually marked until the ulcer has assumed considerable size.

The further changes which occur may vary. At times the ulcer having assumed a certain size ceases to grow larger. In other cases it extends itself and attacks the deeper structures, and passes into the infiltrating, or deep-seated, variety. It may continue for years as an apparently local affection, the patient enjoying excellent general health. The lymphatic glands are not enlarged or at all involved.

The disease which was for a long period designated RODENT ULCER, and considered as distinct from epithelioma, is now known to be in most, if not all, instances, this form of epithelial cancer. Warren, of Boston, has recently furnished additional evidence in a clear and satisfactory manner.*

DEEP-SEATED VARIETY (termed also the "infiltrating" variety).—This usually commences by the formation of a

* The Anatomy and Development of Rodent Ulcer. A Boylston Medical Prize Essay for 1872, by J. Collins Warren, M.D.

roundish, often conical, tubercle about the size of a split pea, having its seat in the skin. It may also start in the form of a wart or papilloma, as in the case of the superficial variety. One or several of these tubercular formations may be present at first; later they are apt to run together and to form a nodular mass, the size of a nut or larger. The growth is generally raised; is firmly and deeply seated in the tissues; is reddish or purplish in color; is surrounded with an areola; is hard to the touch; has an uneven surface; and presents signs of extensive infiltration both in the deeper structures and around its periphery. Instead of being prominently elevated, it may extend itself on all sides in the form of an outspread, flat deposit, but slightly raised above the surrounding skin.

In a shorter or longer time, in the course of months or years, according to the malignancy of the case, ulceration takes place, which begins either on the surface or in the interior of the growth. The tumor finally breaks up, disintegrates, and an ulcer varying in size, shape and general characters results. The ulcer, when of any size, presents a deep excavation in the tissues; is roundish or irregular in shape; has an uneven, reddish or brownish colored base, with sloping walls; secretes an offensive, pale-yellowish, viscid, stringy fluid; bleeds readily upon being manipulated; and possesses raised, markedly everted, hard, puffy, purplish edges. Infiltration is observed to extend itself for some distance around the cavity, as shown by the induration of the tissues and the redness of the surface. The destructive process now usually progresses rapidly, all of the tissues of the region becoming invaded and breaking down, until finally an ulcer the size of the palm or larger is produced. The disease is now often very painful, the sharp, lancinating pains, which are commonly present to a greater or less extent throughout the disease, becoming almost unendurable. The lymphatic glands enlarge, and at times break down. The patient suffers extremely, and sooner or later succumbs through exhaustion.

The course of this variety of epithelioma varies; it may be either slow, or, on the other hand, exceedingly rapid. I

recall the case of a gentleman, sixty-five years of age, who was under my care, from the beginning to the end, in whom the disease ran its malignant and fatal course in about one year, in spite of the most active treatment. Relapses are common.

Papillary Variety.—In the place of an infiltration the lesion may be a papillary growth or cauliflower-like excrescence. Formations of this character vary greatly as to size, shape, and outline. They may begin as wart-like growths the size of a split pea or finger-nail, possessing all the features of a common wart; or they may appear as larger, coin or palm-sized, raised, lobulated, spongy, markedly papillary formations. The appearances vary according to the stage of the process. The surface may be either dry or moist. At times it is covered with a thin layer of horny, wart-like, yellowish epidermis; in other cases the epidermis is in a state of maceration, and is seen as a cheesy substance. Not infrequently the surface of the growth gives out a viscid or thick secretion, mingled with blood and whitish cheesy or sebaceous matter, like that obtained from comedones and sebaceous cysts. The granulations may be exuberant, fleshy, and uneven, or they may be stunted and flat, inclining to spread out rather than to grow in height. Fissures are usually present, which secrete a semi-fluid, offensive product, composed of epithelial and sebaceous matter, which with blood is apt to form into a brownish, adherent crust. In these cases the growth resembles the venereal acuminated wart, or condyloma. In time the formation, either in places or over its whole surface, shows signs of disintegration; ultimately an irregularly-shaped ulcer, with more or less extensive granulations, forms, which runs the course of other epitheliomatous ulcers. This variety of epithelial cancer may start as a papillary growth, or it may proceed from a previously-existing superficial or deep-seated infiltration.

Epithelioma has its seats of predilection. Its most common seat is upon the face. It is encountered upon the lips, more often upon the lower lip, where it appears usually in the form either of the superficial or deep-seated variety. It is also of common occurrence about the inside of the lip,

the tongue, and the mouth. The nose is also frequently attacked, the disease very often beginning upon the side of the bridge. The cheeks, temples, forehead, eyelids, are also localities in which the affection is not infrequently seen. The face is much more prone to be invaded by the superficial than by the deep-seated variety. The genitalia, especially the penis and scrotum in the male, and the labia in the female, are not uncommon seats of the disease; upon the glans penis it is apt to show itself as a papillary growth; upon the scrotum as the superficial form; upon the labia either as the superficial or deep-seated variety. Other localities of the body are also liable to epithelial cancer; it may occur upon the trunk, and, more rarely, upon the lower extremities.

Epitheliomatous growths are usually single in number; it rarely happens that two are met with upon the same individual.

Etiology.—The causes of epithelial cancer are obscure. In many instances no cause whatever can be given. The disease is encountered much more frequently in the male than in the female. Thiersch found that out of 102 cases collected by him, 80 occurred in men and 22 in women.* Paget's experience is similar; in 105 cases, affecting regions common to both sexes, 86 were in males and 19 in females.†

Epithelioma rarely shows itself before middle life, commonly not before the age of forty-five or fifty. It may, however, make its appearance earlier, and a few cases are on record where it occurred as early as childhood. It is apt to have its starting-point in a locally irritated tissue, as, for example, in an excoriation, or about a lip that has been irritated by the use of tobacco. Warts of all kinds are the seat at which epithelioma very commonly first makes its appearance. Nævi, both pigmentary and vascular, are also structures in which it is well known the disease often commences. Occasionally epithelial cancer appears to be hereditary; in the vast majority of instances, however, no such disease can be ascertained to have existed in parents.

---

* Der Epithelialkrebs namentlich der Haut, p. 305. Leipzig, 1865.

† Lectures on Surgical Pathology. 3d edition, p. 733.

Pathology.—The anatomy of epithelial cancer of the skin varies somewhat with the form of the disease under consideration, and with the stage of the process. According as the growth happens to be superficial, papillary or deep-seated, will there be more or less difference in the anatomical arrangement and distribution of the pathological formation. As a type of the disease, that which occurs about the lip may be taken. If the growth be incised with a knife, the cut surface is seen with the naked eye to be of a grayish, yellowish or pale-red color, and to be marked here and there, particularly near the surface, with numerous minute grayish or yellowish points, rounded accumulations, and irregular bands or streaks, which usually occupy a considerable portion of the structure; these formations are the epithelial processes and globes, to be referred to. Upon pressure the cut surface of an epithelioma yields a more or less scanty, watery or viscid, yellowish fluid, together with a whitish or yellowish, firm or soft, cheesy, more or less granular material, similar to that of the secretion of comedones. This substance may usually be squeezed out of the growth, when it appears in the form of small, rounded, comedo-like plugs, variable as to number and size. The character of the product obtained from a section will vary considerably with the variety and seat of the disease, as well as with its age; thus it may be dry, friable, and firm, or soft and semi-fluid. The amount of vascularity also varies.

In microscopic structure, epithelioma is made up of epithelial cells, which vary greatly as to size, shape, and arrangement. The cells range themselves into masses which are characterized by growing into and invading other tissues, as connective tissue, where they form peculiar structures, which assume the shape either of cylindrical processes or of rounded, globular bodies. The cells may first be referred to. They are of the squamous, or pavement, variety, and differ but little from normal epithelium as met with upon the skin or mucous membrane of the mouth. They present nothing characteristic of epithelioma. They are thin, flat, and variously shaped; their form varies with their age and with the part of the growth from which they

come. When young, they are rounded; as they grow older they become polygonal, mostly irregular and angular in outline, and finally caudate or elongated. They contain, as a rule, a nucleus, which is usually large and rounded; more rarely they have two nuclei. As they become older they lose their nuclei. The cells frequently undergo change into fatty degeneration, the nucleus disappearing, and the cells showing fine granular dots and oil globules.

The cells may be arranged either in the form of club-shaped, cylindrical or conical processes, or of rounded nests, or globes (known also as "concentric globules," "fibrous capsules," "laminated capsules," "onion-shaped bodies," "epithelial nests," "pearl globules," "epithelial pearls," "epithelial globes").

The processes referred to consist of the mucous layer of the epidermis, projected into the connective tissue in the form of long, narrow, finger-shaped growths. The cells are usually greatly crowded, so much so as to constitute solid masses or plugs of epithelium. They vary as to size, and as to the depth to which they penetrate. At times they are so large as to be seen in sections with the naked eye, appearing as streaks and irregular lines, running from the surface towards the centre of the growth. These cylindriform processes are not infrequently developed in such numbers as almost to obliterate the papillæ. In highly developed epitheliomata they penetrate in all directions, extend deeply into the connective tissue, press upon the surrounding structures, and finally take more or less complete possession of the whole skin. Ultimately they undergo retrograde metamorphosis, ending either in fatty or in keratoid or colloid degeneration. They either disappear by absorption, or ulceration results and they are exfoliated from the surface.

The epithelial globes are made up of concentrically arranged cells, disposed like the coats of an onion. In consistence they may be solid or soft. The cells composing these masses vary; those in the centre are usually small, round, and succulent, while those on the periphery are elongated, flat, dry, and horny. The globes vary greatly in size; not infrequently they are so large as to be readily seen with the

naked eye. In form they are rounded or oval, and circumscribed. They are found in the cylindriform processes, and also in other portions of the growth. They are not, however, characteristic of epithelial cancer; they may occur wherever epithelium is undergoing proliferation and retention, as, for example, in milium and in sebaceous cyst.

The amount of stroma existing with epithelial cancer varies; it is, however, never a marked element in the anatomy of the disease. It is seen chiefly in the papillary and deep-seated varieties.

Concerning the histogenesis, or the formation and development of epithelial cancer, there can be no doubt that it takes its origin from the normal epithelium of the skin, mucous membrane or glands. Compared with other varieties of carcinoma, epithelioma possesses a decidedly less degree of malignancy, and this a relatively local one.

Diagnosis.—Epithelioma may be confounded with syphilitic tubercles and ulcerations, acuminated warts, lupus, and the rare affection rhinoscleroma. The papule or ulcer of epithelial cancer, especially if about the genitalia, may resemble the chancre; attention to the history of the case, the duration of the lesion, as well as to other points of diagnostic value, will aid in arriving at a correct opinion. The evolution of late syphilitic formations is always much more rapid than that of cancerous deposits; only rarely, in malignant cases, does epithelioma run a rapid course, one of months. The character, moreover, of the ulcerative process due to syphilis is very different from that of epithelial cancer. In tubercular syphilis two, three or more points of ulceration are apt to exist; in cancer usually only one. In syphilis the secretion is abundant, yellowish, and creamy; in cancer it is scanty, water-colored, streaked with blood, viscid, and stringy. The condition of the tissues surrounding the ulcer is different. In cancer there is more or less induration and areolar redness; in syphilis there is none, the deposit terminating abruptly against the sound skin. In cancer there is apt to be pain of a lancinating character; in syphilis the ulcer is without pain.

Inasmuch as many epithelial cancers begin in the form

of warts, papillomata, etc., it is often difficult to decide whether the lesion is a simple wart, or is of a cancerous nature. The history of the case, the mode of advance, the general appearance of the growth, the age of the patient, and the course of the disease, must determine its nature. Observation of the case for a short time generally enables the surgeon to establish the diagnosis beyond doubt.

Epithelioma may be known from lupus vulgaris by its usually attacking the middle-aged and the old; lupus vulgaris commonly first shows itself in the young, often in early childhood. Epithelioma is almost invariably a single formation; the deposits of lupus are commonly multiple; lupus, moreover, is apt to invade several regions of the body at the same time, as, for example, the face and hand. When ulceration takes place in lupus, or when it assumes an hypertrophic form, the diagnosis becomes more difficult, the two diseases in this case often closely resembling each other; but the peculiar, macular and papular deposits of lupus, aggregated into patches, and having their seat usually around the ulcer, will serve to distinguish it from epithelial cancer. The discharge from a cancerous ulcer is, moreover, different from that of a lupus ulcer; it is scanty, viscid, and pale, while that of lupus is quite abundant, yellowish, and puriform. The discharge from the ulcer of epithelioma is usually offensive; that from lupus is, as a rule, not so, notwithstanding great destruction of the tissues.

Treatment.—The diagnosis once established, the sooner treatment is instituted the better. Internal remedies are of no avail. The growth is to be removed, with as much of the tissue immediately about it as the case in hand may appear to call for. This may be accomplished either by the knife or by cauterization. The operation to be preferred will depend upon the variety of cancer, whether superficial or deep-seated; the extent to which the surrounding tissues are affected; and the locality attacked. In some cases the knife will prove most serviceable, in others caustics. The ultimate result, as regards relapses, will be found about the same with either mode of procedure, provided both operations are performed with equal skill. Superficial epithe-

liomata are, in the majority of cases, best removed with caustic. Among the various remedies, caustic potash, pure or weakened, in stick form or in solution, in my opinion, occupies the first position. It is effectual, and may be depended upon. It causes much less pain than other powerful caustics; moreover, the pain does not continue after the cauterization, and by means of acids may be almost instantaneously relieved. The growth should be thoroughly cauterized, no part of it being permitted to remain undisturbed. In all cases it is advisable to carry the caustic into the border of the sound tissues. As the operation is being performed, the operator must determine the extent of the disease and the amount of tissue to be acted upon. The readiness with which the morbid tissue gives way and is destroyed under the caustic, and the resistance experienced when in contact with normal structures, will enable the surgeon to know when to desist from further cauterization. There is usually no hemorrhage. After the operation the parts are to be bathed for a few minutes with dilute acetic acid, and subsequently dressed with diachylon ointment or olive oil and charpie or lint. The dressing may be changed once in twelve or twenty-four hours, and the surface of the wound carefully washed with soap and water if the secretion be at all offensive. In the course of a week the eschar will have loosened and detached itself, showing a healthy granulating wound, which, in cases favorably disposed, will heal completely, leaving not infrequently an insignificant scar. On the other hand, in cases where the disease is of a malignant type, the wound repairs itself in apparently the usual healthy manner for the first few weeks, after which the reparative process arrives at a stand-still, and the ulcer soon breaks down into its former state. This is apt to be the course of the deep-seated variety. Potassa cum calce, in stick, or in powder form, made into a paste (Vienna paste), is also a valuable preparation. It is at times to be preferred to the pure caustic potash.

Other caustics are used for the same purpose. The chloride of zinc, either in the form of a paste, with flour, or in stick form, enjoys a high reputation for the treatment of

epithelial cancer, especially the superficial variety. It is effective, but intensely painful, the pain often remaining uncontrollable for several days. I have known it to be so severe and so long continued as to greatly prostrate the patient. It is, moreover, doubtful whether it possesses the advantages over other caustics which have been claimed for it. Arsenic, in the form of a paste, may be used with benefit in certain cases of the superficial variety, as in the treatment of lupus vulgaris. So also nitrate of silver; this substance is especially valuable in destroying the early formations of the disease, and the small deposits which are apt to occur about the margin of superficial ulcers and in relapses. Whatever remedy be employed, it should be thoroughly applied; the more thorough the operation, the less likelihood of a relapse.

On the other hand, there are cases in which it is preferable to use the knife instead of caustic. The extent of the disease, the locality invaded, the previous failure of caustics to arrest the process, and other circumstances, not infrequently render extirpation with the knife a better mode of procedure. The advisability of one or the other plan of operation must be determined by the case in hand.

The galvanic cautery has been employed with marked success in the treatment of epithelioma; it is an effective and valuable remedy suitable to many cases.* It is particularly adapted to cases where the growth occupies regions which could only with difficulty be treated with caustic or the knife, as, for example, about the inner canthus of the eye. Hebra, Kaposi, and others, speak well of the "scoop" or "curette" in the treatment of superficial formations. (See the treatment of lupus vulgaris, p. 428.)

Prognosis.—This is always more or less unfavorable. It must vary with each case. The age of the patient; the duration of the disease; its course; its locality; whether single or multiple; the variety of the disease, whether superficial or deep-seated; the amount of surrounding infiltration; the presence or absence of glandular involvement; must determine the prognosis.

---

* See a paper, reporting cases, by Bryant, Lancet, April 4, 1874.

The superficial variety may be present, increasing very slowly in size, for years without giving rise to serious trouble; on the other hand, it may extend quite rapidly until an ulcer of considerable size has formed; in other cases it may pass into the deep-seated variety, when the prognosis becomes at once more grave.

The deep-seated variety is always a most serious disease. Its course, however, varies greatly. At one time it runs a fearfully rapid pace, terminating fatally in one or two years; in other cases it extends itself gradually through a long period.

Relapses frequently take place about the seat of the old disease; the patient should always be warned as to the possible return of the disease.

SARCOMA CUTIS.

Sarcoma of the skin may be described as consisting of shot, pea, hazelnut or larger sized, variously shaped, discrete tubercles or nodules, pigmented or non-pigmented, having their seat in the skin.* They are smooth, firm and elastic, and are not markedly painful upon pressure. In color they are reddish or brownish-red; in the pigmented variety they are bluish-red or even blackish-red. They may occur either singly or in numbers, the latter course being the more usual, and may develop upon any portion of the body. They manifest themselves without regularity of distribution; either in the form of groups or as diffused tubercles and tumors. According to Kaposi, the multiple pigmented sarcoma, of which he describes five cases, always first appears on the soles and backs of the feet, and later on the hands, attended by a diffuse thickening of the skin.

The lymphatic vessels and glands are not involved. The disease is seen in both men and women, and has been observed to occur generally towards middle age. It is always malignant in character, usually proving fatal in the course of a few years.

---

* I am indebted to the writings of Wigglesworth (Archives of Dermatology, vol. ii., No. II.), Kaposi (Diseases of the Skin, vol. iv.), and Köbner (Archiv für Derm. und Syph., III. Heft, 1869), for my knowledge of this disease.

The formation may be either a small or large celled sarcoma. Kaposi's cases showed the structure to consist of clusters of small round cells in the corium, slight hemorrhages into the corium and papillary layer, and an abundance of pigment. In Wigglesworth's case, the disease was found to be seated mainly in the cutis, and to consist of large round cells with a single granular nucleus, which were relatively uniform in size, and considerably larger than white blood corpuscles. They were imbedded in a reticulated, delicately fibrous stroma, the meshes of which enclosed, as a rule, single cells.

The disease is a rare one, only a few cases being on record.

NÆVUS VASCULOSUS.

Syn. Nævus Vascularis; Nævus Sanguineus; Nævus Flammeus; Claret Stain; Port Wine Stain.

Vascular nævi are congenital formations, composed chiefly of bloodvessels, which have their seat in the skin and subcutaneous tissues. Their external characters vary; they may be prominent, turgescent, tumor-like, circumscribed growths, with an uneven, rugous surface, or they may be flat, non-elevated, imperfectly defined, indistinct, smooth patches. In form they are roundish or irregularly shaped. They are always reddish in color, but vary considerably as to the shade. They may be either small or large; sometimes they are so extensive as to cover large hand-sized areas. They are seldom multiple; usually only one is present. They are encountered upon all parts of the surface, but are commonly met with upon the face, neck, trunk, and upper extremities. Nævi vary exceedingly in their course; at one time, having attained a certain size, they remain stationary through life, while in other cases they retrograde to a variable extent; at times, on the other hand, they increase in size. The more vascular they are, the more likelihood is there of their becoming larger; ordinarily they remain as permanent deformities, tending to decrease as the patient grows older; in some cases they have been known to disappear entirely.

Pathology.—The causes which give rise to nævi are altogether unknown. In structure they consist of dilated and

hypertrophied bloodvessels and capillaries, both arteries and veins, which have their seat in the corium and subcutaneous tissues. The vessels are to be considered as an abnormal growth, being present in unusual size, number, and arrangement. Sections through nævi show them to be made up of vessels of all sizes, which run here and there, without definite arrangement, and occupy almost the whole structure; they are held together by connective tissue. Other structures common to the normal skin, as hairs and glands, are also usually present. In the deeper-seated nævi considerable fat tissue at times exists (ANGIOMA LIPOMATODES).

Treatment.—The treatment to be recommended for the removal of nævi, when this is called for, will depend upon the region involved, the size, form, and general character of the formation under consideration. Various means have been suggested; those which have been attended with most success are the following. When the growth is small, the size of a split pea, and circumscribed, it may be treated by caustic applications, caustic potash being the most serviceable of this class of remedies. It should be applied in solution, the strength varying according to the amount of surface to be attacked and the effect produced; the smaller the growth the stronger may the solution be made. I am in the habit of employing from two to four drachms to the ounce of water for small nævi and telangiectases, one, two or more applications, at intervals, sufficing to destroy the growth. Nitric acid is also successfully employed, especially in flat nævi, and, according to Kaposi, may be used even in quite large formations. If the growth be of any size, a portion only should be attacked at one operation.

Neumann speaks well of an ointment composed of adhesive plaster, one drachm, tartar emetic, nine grains, for small, finger-nail sized, raised or flat, circumscribed nævi, especially of the scalp. Pustulation and free suppuration take place, followed by a flat, thin, soft scar. The application causes but little pain. Kaposi states that success has also resulted from painting the nævus with collodion and corrosive sublimate, in the strength of eight grains to the fluidrachm. Injections with the sesquichloride of iron, and other like

substances, as formerly practised, are not to be recommended; they are apt to cause extensive sloughing, and, at times, hemorrhage.

Vaccination upon nævi is at times followed by the satisfactory destruction of the growth; the virus should be inserted at various points over the tumor. The results, however, are uncertain.

The treatment of nævi by the galvanic current, or electrolysis, constitutes probably the most generally useful method, and has been highly recommended in preference to other remedies. Numerous instances of its successful employment are upon record.* The advantages claimed for it over other methods of treatment may be briefly stated as follows: the safety of the operation; the absence of hemorrhage; the cessation of pain immediately after operation; the absence of scar in small nævi; and, finally, the simplicity, rapidity, and effectiveness of the operation.

Where the tumors are prominent or pedunculated, the ligature may often be employed with good result, although a scar is apt to remain in cases where the growth is of any size.

TELANGIECTASIS.

Telangiectases are vascular cutaneous growths which make their appearance during the life of the individual. They are, therefore, acquired growths in contradistinction to those which are congenital and which are called nævi. They occur either in the form of more or less circumscribed formations or as tortuous lines. They are seen with the naked eye to be made up of a network of enlarged capillaries.

The circumscribed growths vary in size from a pin-head to a pea. They are usually on a level with the surrounding skin; not infrequently, however, they are raised. In shape they are roundish or irregular with radiating lines. In color they vary from bright to dark red. They show themselves singly or in numbers; one, two or three may not infrequently be

* See papers by Carter, Lancet, Jan. 18, 1873; Penhall, Lancet, April 11, 1874; Beard, Phila. Med. Times, Sept. 5, 1874; Knott, Lancet, March 20, 1875; Duncan, Edin. Med. Jour., Feb., 1876.

observed here and there over the surface. They may develop upon any region; they are most frequently encountered upon the face and neck.

The lines appear in the form of an ill-defined patch or collection of distended bloodvessels, more or less distinct in outline, ramifying over the surface in a tortuous or serpentine manner. They are met with upon the face, neck, chest, and other regions.

As a rule, telangiectases do not manifest themselves until adult or middle age. They are noted to occur in both sexes. They are unattended by pain or inconvenience. Their course is slow, enlarging, in the majority of cases, only through a period of years; they rarely, however, attain any size. They may either remain as permanent growths or they may disappear spontaneously; having reached a certain size they are apt to remain through life.

Rosacea.—By this term is designated a variety of telangiectasis, characterized by a diffused, more or less general dilatation of the cutaneous capillaries of the face. The vessels and their ramifications are enlarged and give the skin a reddish appearance, marked with lines which are apt to be tortuous and irregular in their course. The condition may be localized, as is ordinarily the case, as, for example, upon the nose; or it may be generalized, occurring over the greater portion of the face. Its common seat is the nose; it also manifests itself very frequently upon the cheeks and chin. The forehead may also be attacked, either alone or in connection with other parts of the face.

Rosacea may be, and very often is, complicated with acne, giving rise to the affection acne rosacea; or, on the other hand, it may occur as the sole disease, without disturbance of the sebaceous glands. It is also seen upon the nose in connection with seborrhœa in chlorotic and anæmic individuals.

In simple rosacea the skin is usually smooth; in aggravated cases it is apt to be rough and uneven, owing to the extreme distention of the vessels. When seborrhœa is present the part presents a shining, more or less greasy appearance. Upon pressure the redness disappears for the moment, but quickly returns. The part is very often warmer than

normal; in seborrhœic cases, however, it is apt to be below the normal temperature. The color may be either bright red or violaceous, depending upon the duration of the disease, the age of the patient, and the cause; it is usually a bright red. In rosacea complicated with acne the part usually becomes enlarged, and the whole cutaneous tissue hypertrophied. (See Acne Rosacea.)

The treatment of telangiectasis is that of nævus vasculosus.

LYMPHANGIOMA CUTIS.

Under the name of lymphangioma of the skin, Kaposi* describes for the first time a disease characterized by the formation of numerous, scattered, pea or bean sized, roundish, brownish-red, glistening, smooth, not scaly, flat, slightly elevated tubercles, occurring for the most part about the trunk. They were observed to become pale on pressure; to be firm and elastic to the touch; to be imbedded in the corium, but not sharply defined; and to be slightly painful on pressure. The appearance of the disease is said to resemble very much a large flat papular syphiloderm.

The course of the disease in the case referred to was extremely slow; the patient was a woman, thirty-two years of age, and some of the tubercles had existed since childhood.

Microscopical examination of excised tubercles, vertical sections, showed the whole corium to be perforated by canals, which appeared as rounded apertures; they were made out to be immensely developed lymphatic vessels. The growth consisted almost entirely of this structure, and appeared to have its chief seat in the corium.

The general health of the patient was good. The disease evinced no disposition to malignancy.

---

* Loc. cit., vol. iii., p. 387. See also Biesiadecki, Untersuchungen aus dem Pathologisch-Anatomischen Institute in Krakau, p. 11. Wien, 1872.

LYMPHADENOMA CUTIS.

Syn. Lymphadenoma of the Skin; *Fr.*, Lymphadénie Cutanée; Mycosis Fongoïde.

Symptoms.—The disease has been accurately described by Gillot* and by Demange.† Three forms of lymphadenoma are recognized by these writers, namely: (1) leucocythemic lymphadenoma, or leucæmia, characterized by appreciable and marked alteration of the blood, and by lesions in the spleen; (2) ganglionic lymphadenoma, or adenoid disease, in which the lesions affect chiefly the lymphatic ganglia, and sometimes also the spleen; (3) lymphadenoma of the skin, characterized by the production of an abundant adenoid tissue, taking place almost exclusively in the skin. These forms of the disease may occur together or independently of one another.

Lymphadenoma cutis usually begins insidiously. In the various reported cases, the patient enjoyed previous good health. At times the first symptoms upon the skin consist of patches of dry eczema, which may continue a longer or shorter time. Later, tumors, variable as to size and shape, situated in and beneath the skin, make their appearance. When the disease is fully developed, they vary in size from a split pea to a walnut or large tomato; they are more or less elevated above the level of the surrounding skin, and very often flat. In shape they are irregularly roundish or oval, and often assume the general outline and shape of the tomato. To the touch they are hard and somewhat elastic. They are usually more or less vascular, their color being either that of normal skin or reddish and violaceous. At times they are as red as a ripe tomato. The skin over them is smooth, tense, and shining. They are painless growths. Sensibility is said to be but slightly impaired. In number they vary; comparatively few may

* Étude sur une Affection de la Peau décrite sous le nom de Mycosis Fongoïde (Lymphadénie Cutanée). Paris, 1869.

† Du Mycosis Fongoïde ou Lymphadénie Cutanée, Annales de Dermatologie et de Syphiligraphie, No. 2, 1873–1874.

exist, or they may be present in large numbers, involving all regions of the body, particularly the trunk; they are generally isolated. They increase, as a rule, rapidly in size. Having reached certain proportions, they incline either to become smaller (and, it is said, to disappear) or, as is usually the case, to break down into a state of ulceration. The ulceration starts in the centre of the growth, terminating sooner or later in a shallow or deep, usually large, freely-suppurating, fungoid ulcer, having a reddish or yellowish base, with a grayish, viscid secretion. The ulceration is, as a rule, very extensive, and is said to be the most characteristic feature of the disease. A cachectic condition sets in, followed by loss of appetite, diarrhœa, emaciation, a peculiar, pale, waxy color of the whole integument, and ultimately death. The duration of the disease varies from one to a number of years.

Pathology.—In a case carefully examined by Ranvier,* to whom we are chiefly indebted for our knowledge of the nature of these formations, the tumors were soft, yielding on section a juice exactly like that of cancer or of a lymphatic gland. The cells obtained by scraping the surface were like those found in connection with irritated lymphatic ganglia; some of the larger ones contained several nuclei; they were formed of a mass of protoplasm without enveloping membrane. In non-ulcerated tumors the papillæ of the corium were spread out, and in some places their form was almost obliterated. The papillæ, corium, and deeper tissues were replaced by the new formation, which consisted of adenoid tissue, made up of a network of pale, soft, anastomosing fibrillæ, traversed by capillaries, running in all directions. No white corpuscles were found in the capillaries. The meshes of the network were filled with lymphatic cells.

No specific treatment has been suggested. The prognosis is very unfavorable.

---

* Gillot, loc. cit., p. 41.

NEUROMA CUTIS.

By the name of neuroma of the skin I would describe a disease characterized by the presence of variously sized and shaped neuromatous growths having their seat primarily in the true skin. The affection is an exceedingly rare one, and as there are, to my knowledge, but two cases upon record, one reported by myself,* the other by Kosinski,† I shall present an abstract of the cases themselves.

Case I.—The patient is a man, aged seventy, who has been under my observation for the past six years.‡ The disease began at the age of sixty, in the form of small, rounded tubercles, situated in the skin of the shoulder, attended with itching but not pain. For a period of four years they continued to appear in numbers, so that by the end of this time the arm and shoulder were well studded with them. During the last six years they have manifested themselves at longer intervals, and their development has been slower, although new ones still make their appearance from time to time. The original tubercles have, within this term, scarcely increased in size.

The disease is at present characterized by numerous small, split-pea sized, hard, rounded tubercles, occupying the left scapular region, shoulder, and outer surface of the arm as far down as the elbow. They are irregularly disseminated, and occupy no particular nerve tract. They are firmly incorporated with the skin, and extend into the subcutaneous connective tissue; they are immovable and not pedunculated. Over the shoulder and arm they are most numerous, and are closely packed together, the surface presenting a solid mass of hard, uneven, tuberculated tissue; about the scapular region, as well as farther down the arm near the elbow, they are more scattered and are discrete, the skin between them being in all respects normal. They are of a purplish-pink

* Case of Painful Neuroma of the Skin. Amer. Jour. of the Med. Sci., Oct., 1873.

† Neuroma Multiplex. Centralblatt für Chirurgie, No. 16, 1874.

‡ The notes describe the disease as it existed before the operation (in October, 1874). The case is still under notice.

or pinkish color, the shade varying with their age and location; the more recent, isolated formations are either pinkish or the color of normal skin. The color of the diseased surface, as a whole, varies greatly, according to the position of the limb, the temperature, and the presence or absence of pain. Fine, laminated, yellowish, glistening scales are slowly produced and shed from the tubercles, giving the affected part a dry, somewhat scaly aspect. The surface is warmer than the adjacent healthy skin; during an attack of pain it becomes quite hot, and, at times, livid in color. Pain, paroxysmal in character, constitutes the distressing feature of the disease. This did not manifest itself till three years after the tubercles had begun to form, since which time it has increased gradually in severity to its present degree, which it attained some four years ago.

The pain during a paroxysm is excruciatingly violent, shooting down the arm as far as the knuckles, across the chest, and up the side of the neck and head. The paroxysms usually last an hour or longer. Its exciting causes are movement of the affected part, exposure to cold air, and mental worry and excitement. Any decided change to bad weather is accompanied by a severe attack. There is greater immunity from pain in summer, or in a warm atmosphere, than in winter or during a rainy or snowy season. The nutrition of the arm is in no way impaired. The general health is good.

No cause can be assigned for the disease. Microscopic examination of excised tubercles revealed the growth to be made up of a firm connective tissue containing numerous fasciculi of what in all probability were nerve fibres, running up as high as the papillary layer of the corium.*

None of the various methods of treatment employed from time to time having proved of benefit, exsection of a portion (one inch) of the brachial plexus of nerves was performed by

* In the first examination of the growth, the result of which was given with the report of the case, I was unable to demonstrate the presence of abnormal nerve structure. Since that time examinations of other more recently excised tubercles have shown the existence of the above described formation.

Dr. F. F. Maury. The operation was followed by marked diminution of pain and considerable decrease in the size of the growths.*

Case II.—Kosinski's case is briefly reported as follows: The patient was a man, aged thirty. The disease made its appearance in his sixteenth year. The tubercles were at first small and painless, but later grew in size and became painful. The affection occupied the posterior and outer sides of the right thigh, as far down as the lower third, and a portion of the buttock. It was characterized by numerous (about one hundred), disseminated, more or less well-defined, round or oval tubercles, varying in size from a pinhead to a hazelnut. They had their seat in the corium, extending into the deeper structures; the smaller ones appeared to occupy the true skin alone. They were hard, elastic, and painful to the touch. The larger ones were semi-transparent in appearance. The surface of the affected skin was dry, uneven, and covered with a slowly desquamating, scaly epidermis. Pain was a marked feature in the disease. Upon pressure the growths, more especially the larger ones, were intensely painful, the pain radiating in all directions. Pain was present, moreover, in the affected part even during repose.

Microscopic examination of excised tubercles showed them to be composed of "non-medullated nerve fibres and connective tissue." The growths were found to be supplied by the branches of the small sciatic and external cutaneous nerves. All other treatment having failed, a portion of the small sciatic nerve was exposed by an oblique incision in the gluteal fold, and an inch exsected. The operation was followed by an immediate diminution of pain in the tubercles and affected parts. Four months later they had nearly disappeared and were entirely painless.

Attention has thus been called to two examples of a disease which I believe to be entitled to the name under which they have been placed. It is without doubt closely allied, clinically as well as pathologically, to the affection known as

* For a report of the operation and the details of its result, see the Amer. Jour. of the Med. Sci., July, 1874.

"subcutaneous painful tubercle." It differs, however, from the subcutaneous painful tubercle, as originally described by Wood,* in having its seat primarily in the true skin and not in the subcutaneous connective tissue. The subcutaneous painful tubercle, as its name indicates, is situated beneath the skin, and is very often scarcely perceptible to the eye. It is always found to be freely movable under the skin and never in any way attached to it. It is, moreover, almost invariably a solitary growth.

---

* Edinburgh Med. and Surg. Jour., 1812; and Trans. of the Med.-Chir. Soc. of Edinburgh, 1829.

CLASS VIII.

NEUROSES.

Under the head of neuroses are classed those disorders which are characterized by an alteration in the normal sensibility of the skin unattended by structural change. They are strictly functional in character, and depend upon an altered state of the nervous system, manifesting itself directly upon the cutaneous surface. The symptoms of neuroses consequently are purely subjective, no structural lesions or other objective symptoms primarily existing; secondary lesions, as scratch marks or artificial hyperæmia, may be produced, but they must be viewed as consequent upon the original disturbance.

The affections which are found in this class may be grouped into two divisions, termed hyperæsthesia and anæsthesia.

HYPERÆSTHESIA.

Cutaneous hyperæsthesia consists in an abnormal condition of the skin characterized by an augmentation in its general sensibility. It may be idiopathic or symptomatic; the latter variety is that usually encountered, the condition being secondary and manifestly dependent upon some more serious disease. Simple augmented natural sensibility, or simple hyperæsthesia, may be either general or local, diffused or circumscribed. It may be unilateral or symmetrical. The temperature, as a rule, remains normal. The causes are varied, the condition being due either to some functional derangement of the nervous system, or to some organic disease connected with the nerve centres or trunks. Hysteria and allied states are well known causes; also diseases of the brain, spinal cord and nerves. The sensation in the parts is unduly excited and exalted, the patient experiencing great

discomfort from contact with the air, clothes, and other objects. The skin is exquisitely sensitive to all impressions. In duration it may be permanent or temporary, according to the cause which has occasioned it; ordinarily it exists as a passing derangement.

DERMATALGIA.

Syn. Dermalgia; Neuralgia of the Skin; Rheumatism of the Skin; *Germ.*, Nervenschmerz der Haut; *Fr.*, Dermalgie.

DERMATALGIA IS AN AFFECTION CHARACTERIZED BY PAIN HAVING ITS SEAT SOLELY IN THE SKIN, ASSOCIATED USUALLY WITH A MORBIDLY SENSITIVE CONDITION OF THE PART, UNATTENDED BY STRUCTURAL CHANGE.

Symptoms.—The symptoms of dermatalgia are entirely subjective.* There is absolutely nothing abnormal to be seen upon the skin. It presents no sign of eruption, nor is there any alteration in its thickness, coloration or temperature. To all appearance it is perfectly healthy. The disease may be general or local; commonly it is confined to a small area. All parts of the body may be invaded; it has, however, preference for the parts supplied with hair, as the scalp and extensor surfaces of the limbs. It is ordinarily encountered in adult age, and is more frequently observed in women than in men. The affection is described by patients as consisting of an extremely sensitive state of the skin, accompanied by a feeling of positive pain, which is peculiar in that it has its seat in the most superficial layers of the integument. The attack is often quite sudden. The surface becomes remarkably sensible to all external impressions; the touch, and even the influence of the air, excite pain. In addition, the part is the seat of a spontaneous pain, which may be either continuous or intermittent in character. It may be slight or very severe in degree, and is compared to sensations of burning, pricking, shooting, boring and the like. It is said at times to resemble a series of electric shocks; also, as though the

* I am indebted for valuable information upon this affection to M. Beau, Archives Gén. de Médecine, Tome xii., Paris, 1841; likewise to M. Axenfeld, "Des Névroses," Paris, 1864. Clinical experience has also furnished notes.

part were being perforated with pins or nails. It is also described as though the part had been denuded of epidermis and the papillæ allowed to remain exposed to the air. The contact of external objects, as well as motion, always increases the pain; the rubbing of the clothes, or the mere touch of the finger, is sufficient to produce it. Gentle manipulation of the part causes a greater degree of pain than pressure. The passage of the fingers lightly over the surface will give rise to the sensation in a marked manner, whereas firm and forcible pressure will often relieve it. It is usually worse at night, and may be so severe as to prevent sleep. The course of the disease is indefinite; it may continue a week or a much longer period. Relapses may occur.

Two kinds of dermatalgia are encountered, which may be designated respectively idiopathic and symptomatic. In the former the cutaneous symptoms exist apparently as the primary and sole disease, while in the latter, diseases of other organs primarily occur, as, for example, lesions of the nervous centres (locomotor ataxia), upon which the skin trouble is manifestly dependent. The idiopathic form is very rare; the symptomatic more common. The cutaneous symptoms are similar in both varieties.

Etiology.—The causes which occasion the disorder are at times obscure. In considering this point it is of importance to discriminate between the idiopathic and symptomatic forms of the disease. The connection between rheumatism and idiopathic dermatalgia has been well established by the observations of Beau. This writer considers that the majority of these cases must be viewed as of a rheumatic nature. It is quite certain that in most of the recorded examples of the affection there has been a history of rheumatism, either recent or remote. It, however, also occurs in those apparently in the best of health. It is not confined to those of nervous temperament. It has been observed to follow a general impression of cold. In other cases no cause whatever can be assigned.* The symptomatic form may be

* A case of this kind, occurring in a gentleman, recently came under my observation. See also Piorry, "Mémoire sur la Nature et le Traitement de plusieurs Névroses," Paris, 1835.

caused by a number of conditions. Hysteria is one of the more common causes; it is also known to accompany chlorosis.* Various diseases of the nervous centres, especially organic diseases of the brain and spinal cord, are now and then productive of it.

Pathology.—From the character of the pain in idiopathic dermatalgia there can be no doubt that the disease has its seat in the upper layers of the skin, and, more definitely, in the papillary layer. It is remarkably superficial, and does not, as a rule, appear to extend even as far down as the subcutaneous tissues. As Axenfeld remarks, in addition to the location of the pain by the patient, its exasperation caused by the slightest touch proves conclusively that it is actually situated in the skin, and not simply referred there by the nervous centres. This writer adds, "that it is this which distinguishes it from the pains experienced in the skin by those affected with deeper neuralgias; these may coincide with actual anæsthesia of the integument over the region of the parts themselves where the pain is complained of. The dermatalgia which accompanies diverse neuralgias is only then, upon the whole, one of their possible symptoms, but not a necessary symptom."

Diagnosis.—The affection may be confounded with simple hyperæsthesia; this latter condition, however, usually extends over a considerable surface, and is, moreover, unaccompanied by pain. Dermatalgia will be distinguished from pruritus by the usually limited area of surface attacked, and by the presence of the pain instead of itching. It should not be confused with pains in the nerve trunks, ordinary neuralgias, situated in the deeper structures, nor with muscular pains, which may involve the cutaneous tissues; the superficial character of the pain, appearing to be situated just upon the surface of the skin, will serve to distinguish it.

Treatment.—This will depend upon whether it be idiopathic or symptomatic in form, and more particularly upon the cause.

---

* See an interesting paper by Mordret, Prager Vierteljahrschrift, vol. 73, p. 87; also Briquet, Traité clinique et thérapeutique de l'Hystérie, Paris, 1859.

Rheumatism should always be suspected. In obstinate cases troubles of the nerve centres may be looked for. In the idiopathic form the disease usually disappears at the end of a few weeks, either with or without treatment. Local applications are at times demanded to relieve the acute symptoms of pain. A blister to the part, as recommended by Beau, will be found serviceable. Frictions are not to be employed. Vapor baths may be used in cases where the disorder is general. The galvanic current would doubtless prove a valuable remedy.

Prognosis.—This will vary with the cause. In those symptomatic cases depending upon organic change in the nervous centres, it must be uncertain. It may or may not relapse.

PRURITUS.

PRURITUS IS A FUNCTIONAL CUTANEOUS AFFECTION, MANIFESTING ITSELF SOLELY BY THE PRESENCE OF THE SENSATION OF ITCHING, WITHOUT STRUCTURAL ALTERATION OF THE SKIN.

Symptoms.—The various forms of itching encountered in the course of many diseases of the skin accompanied by organic change, are in no way associated with the disorder under consideration. These have been mentioned and discussed in connection with the diseases in which they occur. Pruritus, as just defined, stands forth a prominent and distinct affection, entitled to separate and attentive study. As stated, the single symptom present is itching. There are no primary objective symptoms whatsoever; secondary lesions may or may not exist, their presence depending upon the amount of irritation and scratching to which the skin has been subjected.

The sensation of itching is variously described, as it is dependent upon one cause or another, and as it occurs upon this or that region of the body. At one time it is spoken of by patients as an irritation in the skin, as though some irritating substance were in contact with the body, as, for instance, new flannel. In other cases it is that of formication, as though minute insects were crawling over the surface, or were boring into the parts. Again it is a tingling

sensation, accompanied by a desire to scratch. In this manner, according to the subjective condition of the individual, will it be likened to an endless variety of sensations. It may exist in all degrees of severity, from a slight annoyance to a terrible disease.

One characteristic of the itching, in all cases, is that it produces an irresistible desire to scratch. This act, or its modification, rubbing, is invariably indulged in to a greater or less extent, and cannot be refrained from in spite of the strongest force of will. As a result the surface is generally seen to be roughened, hyperæmic, and torn or excoriated to a slight or marked degree. The tracks of the nails are frequently visible in the form of streaks and superficial wounds. In other cases, notwithstanding the violent scratching, no excoriations or marks are to be observed, so that were it not for the statement of the patient we should be inclined to doubt the presence of disease. The itching may be intermittent or continuous; it is more apt to be the former. It is almost always worse at night.

Pruritus may be general or local. It is rare to observe it invading the whole surface at the same time, although the various regions of the body may in turn be attacked. Ordinarily certain parts are chosen as its seat, where it remains permanently until it disappears spontaneously or is relieved. About the head it may attack the scalp or the face; when upon the face, the nose and mouth are particularly liable to be involved. The trunk is often the seat of the disease. The arms and legs are less frequently affected. The regions commonly attacked are the genitalia and anus. It is encountered here more frequently in women than in men.

Occurring about the female genital organs, it is important not to confound the disorder with other diseases of an itching character which are apt to appear in this locality. The itching may be seated in the labia, vagina, or clitoris, and constitutes a distressing and almost intolerable affection. It may occur at any period, but it is more frequently encountered during middle life and old age. In children it is often associated with, and caused by, worms in the bowel.

In the male, the scrotum is the part generally attacked.

It may involve this region alone, or it may extend along the perineum to the anus. The sensations are usually intensely annoying, and cause the patient to rub and scratch violently whenever the itching is present. It is worse at night, and is apt to come on immediately after retiring. It is greatly aggravated by warmth. These latter remarks apply equally to the disease in the female.

The anus is a frequent seat of pruritus. It occurs here in both sexes, and in children as well as in adults. The itching may be around the orifice or just within the rectum. It gives rise in some cases to considerable disturbance of the nervous system, rendering the sufferer very miserable. It is even more intolerable than any of the other local varieties. At times it is persistently present; more often it comes and goes through the day. It likewise is particularly annoying at night.

Etiology.—The causes which are capable of giving rise to pruritus are extremely varied, and it is necessary to bear this in mind when investigating a case. It may be occasioned by physiological changes, as, for instance, those which take place in connection with the uterus during gestation, or, by irregularity of the menstrual function in young girls. It is occasionally associated with hysteria. These are well known causes. In like manner organic diseases of the uterus and ovaries are at times accompanied by it.

Pruritus is, moreover, encountered in the course of certain other diseases; kidney troubles and hepatic disorder are not infrequently productive of it. In obstinate cases sugar in the urine may be suspected. The urine in all cases should be carefully examined. Various diseases of the nervous system are likewise at times found to be the origin of it.

Very often it is seen to be caused by gastro-intestinal derangement, constipation, and allied conditions. Genito-urinary diseases are well recognized causes of the affection; also, hemorrhoids and ascarides. In these latter cases the disease is apt to locate itself immediately about the seat of the trouble. The ingestion of certain medicines is at times followed by pruritus; opium now and then acts in this manner.

It is of course to be distinctly understood that the affection under discussion is in no way caused by parasites, either animal or vegetable. Pediculi may be present in pruritus, but if so the fact is to be regarded merely as incidental; they are never the cause of the disease.

Pathology.—Pruritus is a functional affection. It must be viewed as being due to reflex nervous action. The nerve disturbance, unaccompanied by structural change in the skin, constitutes the whole process. The tissues remain unaltered throughout the entire course of the disorder. The causes which give rise to it are often similar to those which occasion certain organic cutaneous diseases, as, for instance, urticaria; the effect upon the skin, however, is altogether different. In urticaria and other diseases intimately associated with nerve derangement, lesions of a definite form and character take place; in pruritus these are absent. It is a disease purely of sensation.

Diagnosis.—If the definition be remembered, no difficulty can well arise in distinguishing pruritus. It is a disease of the skin absolutely without any primary sign of alteration in its structure. Nothing abnormal is to be seen except secondary lesions, produced by mechanical means, as scratching and rubbing. The application of stimulating lotions, ointments and other substances, may also give rise to changes which are to be viewed as secondary. The diagnosis depends entirely upon the subjective symptoms as stated by the patient. Pruritus begins and runs its course as such; occasionally, owing to violent scratching, and the use of strong applications, more or less dermatitis may be brought on. This complication, however, is not often encountered.

It is of the first importance to distinguish between primary and secondary lesions, for if uncertainty exist upon this point, the difficulty at once becomes great. No primary structural lesions occur in pruritus. As the disease continues, scratch marks, torn follicles, with blood crusts of all sizes, roughened epidermis, hyperæmia, congested follicles resembling papules, and other symptoms of a similar kind are observed; these are all to be viewed as secondary lesions.

Prurigo, a name which until quite recently served for

several distinct diseases, is now acknowledged to represent a definite process.* (See p. 250.) It is a papular affection, with marked symptoms and a determinate course. Bearing its papular nature in mind, it should never be confounded with pruritus. The secondary lesions of pruritus, just referred to, in my opinion, have heretofore been considered by most English writers as the primary papules of so-called "prurigo." Pruritus and prurigo must be clearly separated. The only symptom they have in common is one found accompanying many cutaneous diseases, namely, itching.

Pruritus may also be confounded with phtheiriasis, a condition caused by the presence of lice. The mistake cannot occur if the primary symptoms are borne in mind. The secondary symptoms of these diseases, however, are similar, and it is concerning these lesions that the error is apt to arise. In both complaints there are itching and scratch marks; but the scratch marks are much more marked, as well as more definite in character, in phtheiriasis. The presence of the pediculi establishes conclusively the diagnosis of phtheiriasis; in pruritus they are absent. Of course, it is not impossible that pediculi may attack a patient suffering with pruritus, just as they may occur in connection with any other cutaneous disease; such an event, however, is seldom noted. The scratch marks and excoriations of pruritus are rarely extensive; in phtheiriasis they are conspicuous and severe, and, moreover, are characteristic as regards their distribution and form. Thorough inspection of the body, and especially of the underclothes, is very necessary in making the examination; the parasites should be suspected in every case of so-called "pruritus." The diagnosis is thus arrived at by exclusion.

Treatment.—This must vary according to the cause. Before entering upon any plan of therapeutics the case should receive careful investigation and study, for a successful result will depend entirely upon the recognition of the cause. This

* Much confusion has long existed between pruritus, prurigo, and phtheiriasis; but, as may be seen by reference to the description of these diseases, they are very different disorders as regards both their symptoms and their causes. If rightly comprehended they cannot be confounded.

once detected, the treatment becomes rational, and is usually satisfactory. Constitutional and local remedies are both demanded.

The internal remedies to be employed are those which seem indicated for relieving the cause, of whatever nature this may prove. The bowels are to be regulated, and if habitual constipation exist, they are to be kept open quite freely by means of laxatives, saline preparations being preferable. If there is flatulence or dyspepsia of any kind, the diet should be prescribed with a view to avoiding all irritating and indigestible articles of food. Exercise is also to be taken, as may seem proper. In certain cases close attention to details of this kind will be followed by gratifying results. Irregular menstruation is to be improved by attention to the general health, by the judicious use of iron, cod-liver oil, fresh air, and outdoor recreation. When accompanying diseases of the kidney or liver, the treatment is to be directed against these organs, nor is improvement to be hoped for until the primary disease has been relieved. These remarks apply equally to affections of the nervous system and of the genito-urinary tract. In these cases the pruritus is purely symptomatic. Where the internal trouble is of an organic kind, it is not likely that the cutaneous complaint will be relieved until the cause has been at least modified. In certain cases carbolic acid in one, two or three minim doses, in pill form, three times daily, may be given with the hope of obtaining relief. The dose may be increased from time to time.

External treatment is scarcely to be looked upon as curative, but rather as affording temporary relief. Varied and uncertain success is apt to attend the employment of local remedies. Water in one form or another will be found to be invaluable. Both cold and hot douches, plain vapor baths, and baths containing medicinal substances, will often prove of the greatest service in allaying the intensely disagreeable sensations so bitterly complained of by the patient. The alkaline bath, composed of from three to six or eight ounces of the bicarbonate of sodium, or of from two to four ounces of the carbonate of potassium, or of from two to four ounces of borax, to thirty gallons of water, will at times afford

decided relief. Sulphuret of potassium, from one to four ounces to the bath, may be mentioned as being useful. Salt-water, and sulphur baths are also at times beneficial.

Lotions, of one kind or another, are to be commended as especially serviceable in the treatment of the local varieties of the disease. The most valuable of all the antipruritic remedies is carbolic acid. It is to be employed in the strength of from five to ten minims to the ounce of water, to which, if considered desirable, may be added a half drachm of glycerine. The lotion may be made stronger, should the case require it; at times fifteen or twenty minims to the ounce are borne by the skin. The patient should be warned as to the blistering properties it possesses when used in strong solution. Alcohol is also an excellent remedy, either alone or as a vehicle for other substances. Sponging the parts with pure alcohol is occasionally very acceptable. The corrosive chloride of mercury in the form of a lotion, a quarter or a half grain to the ounce of water or diluted alcohol, may very frequently be resorted to with benefit. Black wash, and lime water, may likewise be used.

Morphia, one, two or more grains to the ounce of water; cyanide of potassium, from fifteen to thirty grains to the pint; sulphite of sodium, a drachm to the ounce; dilute hydrocyanic acid, from one to four drachms to the pint; chloroform; lead water; and dilute acetic acid; are all well-known and serviceable remedies which may be employed in obstinate cases. The strength of the various formulæ mentioned may be altered to suit the case.

Camphor, chloral, and borax are three useful substances; they may be employed alone with water or alcohol, or in various combinations. A chloral lotion, varying in strength from ten to thirty grains to the ounce of water, may be employed at times with good result. Borax and morphia are often advantageously combined, as, for example, in the following:

℞ Boracis, ʒiv;
Morphiæ Sulphatis, gr. viii;
Glycerinæ, f℥ss;
Aquæ, f℥viiss.
M.

Lotions of carbonate of potassium, four drachms to the pint of water; water of ammonia, one or more drachms to the pint of water; tobacco, in the form of infusion or decoction, may be mentioned as being useful. Infusions and decoctions of white hellebore, belladonna, and aconite have also been recommended.

Tar combined with an alkali, as in the "liquor picis alkalinus," is not infrequently found to be a valuable remedy; one, two or more drachms of this preparation (for formula see p. 191) to the pint of water may be used. Other tarry preparations may also be employed. In this connection the various tar and carbolic acid soaps may be mentioned as being of more or less service in mild forms of the affection; they are, however, not to be relied upon.

In pruritus of the female genital organs it is very often necessary to use the fluid preparations in the form of injections into the vagina. For this local variety of the disease hot water applications and injections will frequently be found effective. Dr. Goodell, of this city, informs me that he regards the decoction of tobacco, employed as an injection, as one of the most valuable remedies in these cases. Dr. Gill, of St. Louis, speaks well of the nitrate of alumina, five or ten grains to the ounce of water, used as injection.

In some instances ointments relieve more effectually than lotions, especially in the localized forms of the disease. They are prepared in various combinations, chiefly from the substances which have been mentioned. Calomel, a half drachm or a drachm to the ounce; cyanide of potassium, five or ten grains to the ounce; chloroform, from ten to thirty minims to the ounce; are all useful in pruritus of the genitalia. A preparation, introduced to the profession by Dr. Bulkley, composed of camphor and chloral, according to the following formula, will be found of service:

℞ Camphoræ,
Chloralis Hydratis, āā ʒi;
Ungt. Aquæ Rosæ, ℥i.
M.

N.B. The camphor and chloral are to be rubbed together until fluid, and then added to the ointment.

Prognosis.—This should always be guarded. The disorder, as a rule, is exceedingly obstinate, and often extremely difficult to relieve. The prognosis must depend entirely upon the nature of the cause, and the ability to remove it when discovered. The patient should be encouraged to persevere with the treatment. In grave cases, melancholic symptoms, and mental depression, are not infrequently present. The affection is a most distressing one, and calls for every effort on the part of the physician.

Pruritus Hiemalis.—By this name I shall describe a peculiar form of pruritus, which, on account of its well-marked symptoms, is entitled to separate consideration.* The affection consists in an irritable state of the skin, induced by and dependent upon atmospheric influences, accompanied by sensations of itching, smarting, tingling and burning, unattended primarily by structural alteration.

It is a disorder of cold weather, making its first appearance in the autumn, and continuing, as a rule, until spring. It is never present in the summer months. Its duration is variable; in some cases it lasts but a few days or weeks, while in other instances it remains until the advent of warm weather. It is a common complaint in cold climates, and is found upon individuals of all ages, no particular period of life appearing to be more susceptible than another. It occurs in both sexes in about the same proportion. All parts of the body may be attacked, although it is found upon certain regions in an almost invariable manner. It is confined in a great measure to the lower extremities, its usual seat being upon the inner surfaces of the thighs, about the knees, in the popliteal spaces, upon the calves of the legs, and around the ankles. The non-hairy portions of the limbs are selected in preference to the hairy parts. Both lower extremities are attacked symmetrically. It is not a localized affection,—that is, does not remain fixedly upon any given portion of the body. The itching may be most marked here or there,

* For a more complete description of this disorder, see author's original paper in Phila. Med. Times, Jan. 10, 1874.

as the case may be, or it may change from one locality to another.

The trouble makes its appearance either gradually or quite suddenly in the autumn, and is characterized by a feeling of itching, smarting, or tingling, as though the person were clothed in new flannel. The amount of irritation varies; it may be very slight, or so severe as to cause great annoyance. It possesses one peculiarity which is striking,—namely, the tendency to become aggravated towards night. It is always worse in the evening, as the patient is about to retire, and is at its height, as a rule, after the bed has been entered. At this time the desire to scratch and rub the affected parts is almost irresistible, and the individual usually gratifies the craving either until some relief is obtained or sleep terminates the distress. Upon awaking in the morning a little of the itching may again manifest itself, but generally it is insignificant, and no further thought is given the subject until the following evening, when the same symptoms reappear, and are exactly repeated. In this manner it continues day after day, with but slight intermission, until, at the end of an indefinite period, usually months, it gradually vanishes. The patient now remains free of it until the next autumn, when in all probability it will recur and run a similar course. It may relapse in this way year after year, or it may disappear at the end of the first attack not to return. There is no primary eruption of any kind connected with the disorder, either at its commencement or at any time during its course.

If the skin be minutely examined at the beginning of an attack, nothing indicative of disease is to be detected. The skin looks quite healthy, with the exception that it is perhaps somewhat dry. The epidermis seems normal, and there is no desquamation. The parts are neither hot nor hyperæmic. The hair follicles are neither inflamed nor obstructed; there is no accumulation of epidermis or other matter about their openings, nor are they at all prominent. Here and there an inflamed follicle may exist, but this condition occurs only accidentally (at this stage of the affection). The glands do not appear to be markedly de-

ficient in their secretion, nor is there any reason for supposing that they are deranged. In short, the subjective symptoms, which the patient communicates, alone convey any idea of the condition.

If, however, the skin be seen after the complaint has existed for some time, it will be noticed to look otherwise than just described. Certain secondary symptoms now exist. The skin may be rough and harsh or slightly chapped, sore, and reddish. Many of the follicles are more or less inflamed, giving rise to small, acutely congested papules. Some of the hairs are also torn and broken off short, close to their follicles. Here and there, or over a considerable surface, the skin looks irritated and inflamed, the result of scratching. The marks of the finger-nails are everywhere to be seen, in the form of streaks and variously sized excoriations and blood crusts. In fact, the appearances just detailed (and they are generally conspicuous) are produced solely by the hands of the patient; they are all secondary lesions, the effects of scratching.

Concerning the etiology of the affection, it is known that it is intimately associated with atmospheric influences. It is emphatically a disorder of the cool weather, disappearing as soon as the warmer season establishes itself. It is most common in northern climates, decreasing in frequency and in degree as the south is approached. It occurs usually in persons in excellent health, the various functions of the economy being in perfect order; the nervous system shows no sign of general impairment; the bowels are not apt to be constipated, nor are any of the secretions deranged. It is found equally among those who live in luxury and comfort, and those dwelling in poverty. It is not caused, or in any way influenced, by neglect of person or by inattention to cleanliness, for it exists in no greater proportion among the unwashed and dirty than among the cleanly; it is as frequent among bathers as among those who never use the bath. Nor is it caused by any peculiarity in the underclothes worn; neither flannel, woollen-wear, nor rough goods of any description, are the direct cause, although when they are used they always tend to aggravate the condition. Ex-

ternal irritation, therefore, has no share in the primary cause.

It is liable to be confounded with other affections. It is a pruritus; and by this is meant a functional disturbance of the skin, unattended by eruption, and whose only symptom is itching. The secondary stage, after the complaint has existed for some time, shows objective symptoms, the result of scratching, rubbing, and at times the application of irritating substances of one kind or another. It is when in this stage that it is most likely to be mistaken for other affections. The line between the primary and secondary symptoms must be clearly drawn. The primary symptoms are subjective only; the secondary symptoms are objective, and are entirely artificial in their nature.

Lichen pilaris is the affection most likely to be confounded with it; but when it is remembered that lichen pilaris is a disease of the hair follicles, consisting in an accumulation of epidermis and sebaceous matter about their openings, no difficulty can arise. There are other points of difference. In lichen pilaris itching may or may not be present; frequently it is absent. It is commonly seen upon those who do not bathe, the masses of epidermic product being permitted to remain about the hairs, where by degrees a slight conical elevation is formed, the hair or its stump perforating the centre of the mass. It is speedily relieved in the majority of instances by the free use of hot baths and soap. Pruritus hiemalis, on the other hand, is quite as frequent in bathers as in those who do not bathe, and presents no primary lesions of the follicles. Lichen pilaris has its favorite seat about the outer surface of the thighs; pruritus occurs anywhere upon the limbs, with marked predilection for the non-hairy parts. Lichen pilaris never occurs in the popliteal space; this is one of the common localities of pruritus hiemalis.

With true prurigo (the prurigo of Hebra), distinct plastic papules exist; this pathological lesion alone will serve to distinguish it from pruritus. Itching, scratching, excoriations of the skin, and other like symptoms, due to the presence of pediculi, are here referred to merely for the purpose of stating that they have no share whatever in the pruritus under dis-

cussion. They may possibly exist coincidently at times, just as they are liable to be found upon any person, but they are in no way connected with the disorder.

The most relief is to be obtained from the use of vaseline or cosmoline, glycerine, carbolic acid, and the tarry preparations, in the form of lotions or ointments. Alkaline baths, from two to six ounces of bicarbonate of sodium to the bath, according to the susceptibility of the skin, will at times give satisfactory results; their use should be persevered in. The water should be sufficiently hot to allow the individual to remain in the bath for twenty minutes without feeling chilly. Upon getting out, the parts should be gently dried by patting with a soft dry towel. No rubbing or friction should be indulged in. The bath is to be taken in the evening, if possible just before retiring; the patient should sleep as cool as possible. During the daytime the undergarments worn should be of an unirritating nature. The various other prescriptions, lotions, and ointments already referred to may also be used with more or less success. Internal treatment is of no avail.

ANÆSTHESIA.

Cutaneous anæsthesia is characterized either by diminished sensibility or by an absolute want of sensibility. It varies greatly in the degree of its development. It may be general or local; circumscribed or diffused. In the majority of cases the condition is confined to certain regions. It may be unilateral or symmetrical. Anæsthesia manifests itself by the absence rather than by the presence of symptoms. The part so affected possesses a numb, dead feeling, or may be completely without feeling. It may or may not be accompanied by diminution of temperature, arrest of nutrition, and other signs of nerve disturbance; symptoms of this character will be present or absent according to the cause. As a modification of anæsthesia there exists the condition known as "analgesia" or "anodynia," in which there is loss of sensibility to pain. It may be partial or complete; when complete there is absolute immunity from pain, to such a degree that a pin may be thrust through the tissues without giving rise to

pain. Analgesia may exist alone, without anæsthesia, tactile sensibility being preserved; or it may occur together with anæsthesia, in which case loss of sensibility both to touch and pain is present. It is encountered in syphilis* and in other diseases.

Cutaneous anæsthesia may be idiopathic or symptomatic. Its causes are numerous and diverse in nature; they may be divided into those having a central origin, and those which act from without. To the latter belong all those agents which are capable of producing local anæsthesia, as cold, freezing mixtures, carbolic acid, chloroform, ether, caustics, aconite, and other substances possessing like properties. Anæsthesia may also result from traumatism; wounds and injuries to nerves, as is well known, are not infrequently followed by more or less complete loss of sensibility.

Certain diseases in which the nerves become involved by the morbid process are also accompanied by anæsthesia; this is noted in a marked degree in leprosy; also in syphilis. Tumors of one kind or another pressing upon nerve trunks may also give rise to the condition. Diseases of the nervous system, both functional and organic, as, for example, hysteria and the various diseases of the brain and spinal cord, are not infrequent causes of anæsthesia. Finally, loss of sensibility may arise from the toxic effects upon the system of certain substances; of these, chloroform, ether, opium, and lead may be mentioned.

In certain cases of anæsthesia, to which the name of "anæsthesia dolorosa" has been applied by Romberg, the patient suffers from intense pain, although there may be complete loss of all forms of sensibility. The pain may be burning, shooting, darting or boring in character. This affection is met with especially about the region of the trigeminal nerve, and is probably always symptomatic of organic disease of the nerve centres.

---

* Syphilitic analgesia has been fully described by Fournier. Loc. cit., p. 783.

CLASS IX.

PARASITES.

THIS class stands upon an etiological basis. The diseases constitute a natural, intelligible, and satisfactory group. The so-called parasites of the skin belong to the vegetable and animal kingdoms, and are termed respectively vegetable and animal parasites. They derive their sustenance from the cutaneous tissues, and have their habitat either in the texture of the integument, as in the case of fungi and scabies, or upon its surface, strictly speaking, as in phtheiriasis. The diseases due to the presence of a vegetable organism, or fungus, are designated by the generic term "tineæ"; they comprise tinea favosa, tinea circinata, tinea tonsurans, tinea sycosis, and tinea versicolor. The two important animal parasitic affections are scabies and phtheiriasis. (See p. 70.)

The parasitic diseases of the skin occupy a prominent place in dermatology. They are met with everywhere; they occur, however, more frequently in certain countries than in others. They are more common in populous, overcrowded cities than in the country. They are local affections, and consequently are amenable to external treatment. They are all contagious, although by no means so to the same degree; some are highly contagious, while others are so only under certain circumstances. As a group they incline to pursue a chronic course, and may continue for an indefinite period. They are all curable, and are relieved by a class of remedies known as parasiticides.

TINEA FAVOSA.

Syn. Favus; Porrigo Favosa; Crusted Ringworm; Honeycomb Ringworm; *Germ.*, Erbgrind; *Fr.*, Teigne Faveuse.

TINEA FAVOSA IS A CONTAGIOUS, VEGETABLE PARASITIC DISEASE, DUE TO THE ACHORION SCHÖNLEINII, CHARACTERIZED BY ONE OR MORE, DISCRETE OR CONFLUENT, SPLIT-PEA SIZED, CIRCULAR, CUP-SHAPED, PALE-YELLOW, FRIABLE CRUSTS, USUALLY PERFORATED BY HAIRS, ACCOMPANIED BY ITCHING.

Symptoms.—The disease may attack the hairs and follicles (tinea favosa pilaris), the epidermis (tinea favosa epidermidis), or the nails (tinea favosa unguium); occasionally all of these structures are invaded at the same time. Its common seat is the scalp. Other portions of the integument, however, non-hairy as well as hairy regions, are also not infrequently invaded; for example, the shoulders, arms, penis, scrotum, and thighs.

It manifests itself at first by more or less, diffused or circumscribed, redness and superficial inflammation with slight scaling, followed by the appearance of one or several small, pin-head sized, pale-yellow crusts, seated about the hair follicles. In the course of a fortnight they will have increased considerably in size, and are then to be recognized with the naked eye as fully formed "favus cups" or "favi," presenting the following characteristics. They consist of a peculiar, dry, crust formation. They are circumscribed, circular in form, and are elevated from a half line to several lines above the level of the skin. In their early stage they are bound down to the skin by a layer of epidermis, which surrounds and overlaps their periphery; later, when the crust assumes size, this attachment breaks, leaving the edges of the favus free and above the level of the epidermis. They are distinctly cup-shaped, always possessing a marked depression or umbilication in their centres, through which one or more hairs usually protrude. In structure they are observed to be made up of a series of concentric layers or rings, compactly arranged one upon the other. In consistence they are quite firm, and in most cases retain their form for an indefinite period, or until destroyed by violence and contact;

when taken up between the fingers they are more or less friable, and very often crumble away under pressure like dry mortar. Owing to the concentric laminæ the surfaces of the crusts are uneven; not infrequently, from external causes, they are injured and broken, and then present a rough exterior.

The color of the recent favus crust is pale-yellow or sulphur-yellow. If the growth have existed for some time the brightness of the hue will have become tarnished by the deposit of extraneous matter, as dust, or applications which may have been used, and will then possess a dirty-yellowish color, similar to that observed in the crust of pustular eczema.

The favi are seated quite superficially upon the integument, and may be raised from their bed without difficulty. The skin beneath will be seen to be greatly depressed, smooth and shining or atrophied; often covered with a delicate layer of epidermis; hyperæmic or inflamed; or in a state of suppuration. In old cases, where the skin is much irritated, pustules and suppuration not infrequently occur beneath and around the edges of the crusts.

The amount of disease and the number of the favi present vary; it is usual to meet with several discrete lesions as well as with patches composed of two or more which have coalesced, forming irregularly-shaped masses, having a honeycomb appearance. The size of the favi varies according to their age; as ordinarily seen they are about the size of split peas.

Any part of the body may be the seat of favus; the scalp, however, as already stated, is its usual habitat. Occurring here, the disease is sometimes complicated with pediculi, while swelling of the glands of the neck, and small abscesses upon the scalp, are not uncommon. The general surface of the body may also be attacked, either together with the scalp or alone. The nails are frequently invaded. The growth finds its way even into the substance of the nail, causing it to become thickened, yellow in color, opaque, and brittle. It is generally observed to occur in connection with favus of the scalp, and is to be accounted for by the patient's scratch-

ing the head, and thus introducing the parasite beneath the nail.

Tinea favosa possesses a peculiar odor, a symptom by which (when the disease is sufficiently developed) its presence may very often alone be recognized; it is that of mice or of stale straw. Usually it is plainly perceptible; in other cases it is faint. More or less decided itching accompanies the disease; it is generally one of the first symptoms noted, and may prove troublesome throughout the course of the affection.

The hairs in favus of the scalp undergo, as a rule, considerable change; they become lustreless, opaque, dry, brittle, and, at times, split longitudinally. In other cases they seem to be less extensively invaded. After the disease has existed for some time they loosen and come out or are scratched out, leaving bald patches with atrophy of the follicles and sebaceous glands. The baldness eventually is more or less complete, and is usually permanent and disfiguring.

The course of the disease is chronic; unless properly treated it may last for years or for a lifetime. Even with energetic remedies it is at times an obstinate affection, requiring the prolonged use of parasiticides and depilation. Relapses are liable to occur, especially in those cases which have not been subjected to thorough treatment.

Etiology.—The cause of tinea favosa is found in the presence and growth of a vegetable organism, known as the Achorion Schönleinii. It was discovered by Schönlein, of Berlin, in 1839, and was named after him by Remak. The disease is eminently contagious. It not infrequently attacks several members of a family. I recall an instance (in London) where thirteen members of one family, brothers and sisters, were, in the course of years, affected; in another case, a mother and two children, constituting the whole family, were at the same time suffering from the disease. Similar instances are not rare. It does not, however, attack all persons with the same degree of readiness; some, owing to peculiarity of skin, state of the general health, or other conditions, are more prone to its influence than others. It is much more common in children than in adults. It usually

attacks children in the first place, either *de novo* or through direct contagion, and is from them communicated to adults.

Tinea favosa is emphatically a disease of the poor, being confined almost exclusively to the lower classes. Favus patients will almost invariably be found to be improperly cared for, dirty, and ill fed. The disease is rarely, if ever, met with upon the cleanly and well nourished. It is very seldom encountered in private practice. It is rare in the United States. White,* of Boston, out of 5000 consecutive cases of skin disease met with in dispensary practice, reports but 17 cases, and more than half of these were instances where two or three members of the same family were affected. In Philadelphia it is even more rare. In Scotland, on the other hand, the disease is not uncommon. Anderson, of Glasgow,† reports 156 cases out of 10,000 consecutive cases of skin disease encountered in dispensary practice. Favus is not an infrequent affection among certain animals, especially mice, rabbits, and cats, from whom it is often communicated to man.

Pathology.—The disease may have its seat either in the hair follicle and hair or upon the surface of the skin; the follicle and hair are the structures usually attacked. It is a local affection, and is due solely to the presence and growth of the parasite. The crust is made up almost entirely of fungus. Upon section it is seen with the naked eye to be composed of a porous mass, and to possess a pale-yellow or whitish color. Each crust is enveloped in a capsule, or "stroma," formed of a finely granular, amorphous substance. Under the microscope, the growth is observed to consist of both mycelium and spores in very great quantity, and in all stages of development. (See Fig. VI.)

The mycelium is made up of narrow, apparently flattened tubes, or threads, which ramify in all directions without definite arrangement. They average from $\frac{1}{900}'''$ (.002352 mm.) to $\frac{1}{700}'''$ (.003024 mm.) in diameter.‡ They vary greatly in

* Boston Medical and Surgical Journal, May 18, 1826.

† Lancet, Nov. 11, 1871.

‡ The measurements of the Achorion Schönleinii, Tricophyton, and Micro-

length. They are straight, curved, bent, or crooked, and incline to branch out in an irregular, forked manner. They have a watery, pale-grayish or pale-greenish color. The character of the mycelium differs considerably with the stage of growth. The filaments may be empty and simple in structure, or they may be in a state of fructification and contain spores, in which case they are known as "receptacles," "sporophores," or "spore-tubes." These differ from the simple mycelium in being here and there irregularly jointed,

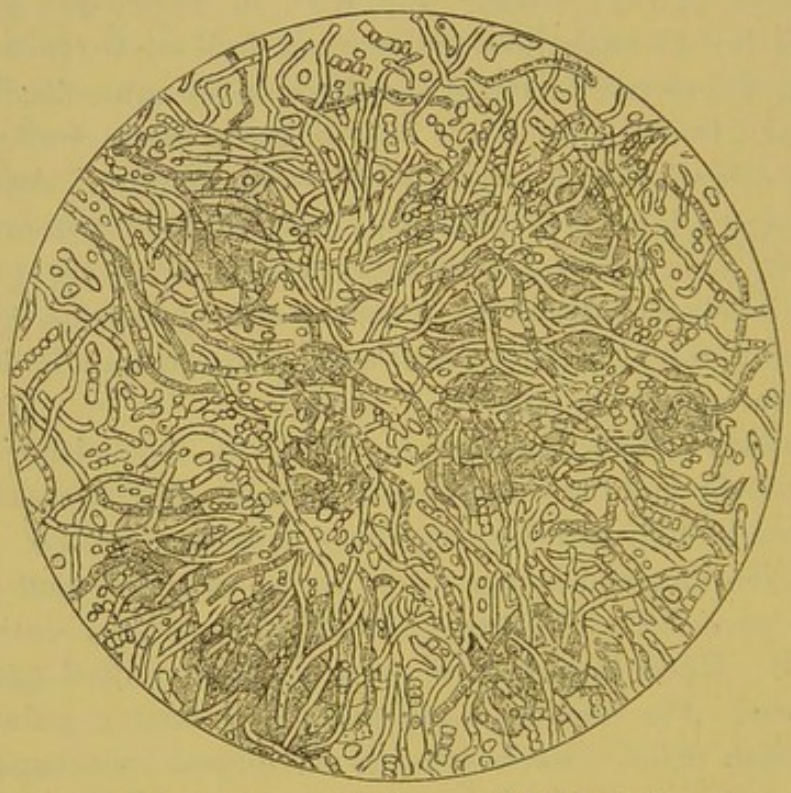


FIG. VI.—ACHORION SCHÖNLEINII. (500 Diameters.)
Showing simple mycelium, receptacles, broken mycelium, and free spores.

and in many instances divided into numerous, delicately marked small partitions or spaces, containing granules and young spores; the contents vary with the stage of development. Very often they are seen to be divided and broken up in such a manner as to have the appearance of the links of a chain; in time these links become detached, either singly or in variously sized parts, and are found intermingled with the spores. The mycelium is usually abundant.

---

sporon Furfur were made with $\frac{1}{25}$th (Wales's) immersion lens, by Dr. Joseph G. Richardson and myself.

The spores, or sporules, called also conidia, are irregularly shaped, small bodies, varying greatly in size. They average from $\frac{1}{900}'''$ (.002352 mm.) to $\frac{1}{400}'''$ (.005291 mm). in diameter. They are round, rounded or oval; very often they are elongated, contracted in the middle, or flask-shaped. They have a grayish or pale-greenish, nacreous color, and refract light in a marked manner. They assume no disposition to group, nor to arrange themselves in any definite way, although they are frequently found in aggregations. They occur in great numbers, and are present everywhere, both in between the mycelium and in other portions of the field. In places they are so numerous as to form almost solid masses. Forms of the achorion intermediate between mycelium and spores are always present, and show the mode of development. Granular matter also exists.

The fungus of tinea favosa may be discovered under the microscope without difficulty at all stages of the disease. It is the most abundant and luxuriant of the vegetable parasites. When the affection attacks the hairy portions of the surface, the hairs are in all cases more or less extensively invaded, the bulb and root especially suffering from the ravages of the growth. The fungus penetrates into the follicles and into the root, and develops here in quantity; or it extends itself up the shaft, in which case the hair is more or less disintegrated; this latter course, however, rarely occurs to the same extent as in tinea tonsurans.

The parasite when it attacks the nail may be readily detected in a section or in scrapings, presenting the same features as in the epidermis or hair, although the growth is seldom so luxuriant as in these latter structures, and consequently does not exhibit the same tendency to the formation of spores; mycelium, in its various stages of development, will usually be found to predominate. The achorion Schönleinii is a distinct variety of fungus, and is capable of giving rise to one form of disease only, namely, tinea favosa.

Diagnosis.—In the majority of cases no trouble will be experienced in the diagnosis. The small, circumscribed, well-defined, pale or sulphur yellow, friable crusts, circular in

form, and hollowed out in the shape of a cup or saucer, seated upon a slightly inflammatory base, cannot be confounded with those of any other disease. At times, however, especially when they have existed for a long period, they are broken, their peculiar form more or less destroyed, and their surface coated with dirt and other extraneous matter, giving them an appearance not unlike the crusts of pustular eczema; favus and pustular eczema may, indeed, in these cases be readily confounded. The absence of the characteristic pustules of eczema, and of subsequent discharge and crusting, will serve to distinguish the diseases. Occasionally, however, the bases of favus crusts suppurate from excessive irritation of the scalp, and pustules may even appear here and there around the favi. The peculiar odor is almost always present where the disease exists in quantity, and usually affords a ready means of diagnosis. A history of contagion may very often be obtained.

The microscope should always be employed in cases of doubt. No difficulty will be experienced in the examination. A small fragment of the crust should be placed upon a glass slide with a drop of dilute liquor potassæ, and covered with a thin glass. The specimen may be immediately viewed. A power of from 300 to 500 diameters is necessary to bring out the features described.

Treatment.—In the treatment we are influenced by the seat of the affection, its extent, and the length of time it has existed. Occurring upon the scalp, its favorite locality, it constitutes a troublesome and often rebellious disease, and demands thorough handling. The two remedies are parasiticides and depilation. Whatever parasiticide is employed, it must be used energetically, and in such a manner as to insure the complete destruction of the fungus in the follicle as well as upon the surface. The hair is first to be cut as short as possible with scissors, after which the crusts are to be removed by means of poultices or applications of almond or olive oil, and soft soap and hot water, as in the case of pustular eczema of the scalp. Where the disease is extensive and of long standing, repeated applications may be necessary to accomplish the object. After the crusts

have been removed, the scalp in severe cases will show marked depressions, areas of atrophy here and there, and baldness, either partial or complete, or patches of superficial ulceration with more or less abundant suppuration. This latter condition may bear a close resemblance to superficial syphilitic ulceration.

Extraction of the hairs, or depilation, is now resorted to, and for this purpose a pair of forceps are employed. Depilation is a most valuable means of treatment for the cure of the disease; without it, indeed, cure, in the case of favus of the scalp, becomes a matter of great difficulty, if not impossible. Before depilation is practiced, the part to be operated upon should on each occasion be well anointed with a simple oil, preferably almond oil. For the extraction of the hairs, a forceps with broad blades should be used, that the hairs may be firmly and securely grasped to prevent their breaking off at the level of the skin, an accident which, in the case of brittle hairs, is liable to occur. A few hairs only, two or three, should be seized at a time and carefully pulled out in the line of their long axes. The operation is not very painful. A small surface should be cleared each day.

Immediately after the operation, one or another of the parasiticidal ointments or lotions is to be well rubbed into the part, and made to penetrate the hair follicles and come in contact with the fungus. Corrosive sublimate, in the strength of one or two grains to the ounce of water, is one of the best parasiticides. Sulphite of sodium, one drachm to the ounce of water, as a lotion; sulphurous acid, one part to two or more of water, as a lotion; sulphur, a half drachm or a drachm to the ounce of ointment; yellow sulphate of mercury, a half drachm to the ounce of ointment; are all valuable remedies. The tarry preparations are also serviceable, either alone or in combination with other more active remedies; they may be employed where the itching is a prominent symptom. Care should be exercised not to make the preparations used too stimulating.

The length of time requisite to effect a cure in favus of the scalp will depend upon its extent and other circumstances; it may be stated, however, that in severe cases

from two to four months are necessary. Depilation is to be repeated as often as may be demanded, until the new hairs assume a healthy state; they should be examined from time to time under the microscope. Favus of the epidermis is to be treated after the removal of the crust by one of the above-mentioned ointments, as in the case of tinea circinata, to be described. In favus of the nail, the parasiticide should be rubbed into and beneath the free border of the nail; the nail, moreover, should be cut and scraped.

In addition to the means just indicated for the relief of the disease, certain other measures remain to be mentioned. Cleanliness is essential; it is, indeed, the first step in the treatment; without it but little progress can be made. In certain cases, good food, fresh air, and the use of tonics will prove of decided benefit. Hygienic measures are to be instituted and carried out as thoroughly as the case will allow. The contagiousness of the disease should be borne in mind.

Prognosis.—This will depend upon the duration and extent of the disease, as well as upon the general condition; dirty and neglected individuals recover much more slowly than those in better circumstances. The longer the disease is permitted to continue upon the scalp, the more likelihood is there of resulting baldness, atrophy, and cicatrix. Favus of the epidermis is seldom obstinate.

TINEA TRICOPHYTINA.

Under this name are included three varieties of disease, known as tinea circinata, tinea tonsurans, and tinea sycosis. They may be regarded as modifications of one disease, inasmuch as they are produced by one cause, namely, the Tricophyton fungus. This growth when it attacks the general surface of the body gives rise to the condition termed tinea circinata; the scalp, hair follicles and hairs, tinea tonsurans; the hair follicles and hairs of the beard, tinea sycosis. Although these three affections are due to the same cause, they are nevertheless characterized by such distinctive features as to entitle them to separate description. Their treatment, moreover, is somewhat different.

TINEA CIRCINATA.

Syn. Herpes Circinatus; Ringworm of the Body; *Fr.*, Herpès Circiné; Tricophytie Circinée.

TINEA CIRCINATA IS A CONTAGIOUS, VEGETABLE PARASITIC DISEASE, DUE TO THE TRICOPHYTON, CHARACTERIZED BY ONE OR MORE CIRCUMSCRIBED, CIRCULAR, VARIOUSLY SIZED, INFLAMMATORY, SQUAMOUS PATCHES, OCCURRING UPON THE GENERAL SURFACE OF THE BODY, ACCOMPANIED BY ITCHING.

Symptoms.—The disease begins as a small reddish spot, which in a short time extends itself peripherally and constitutes a circular patch.* As the process advances the skin becomes hyperæmic or inflamed, and is attended either by a number of minute vesicles in the form of a ring or by desquamation; the latter course is the more common.

When fully developed the patches are circular, and slightly elevated, especially about the margins, which are sharply defined against the healthy skin. They tend to assume a distinctly annular character (whence the name ringworm), owing to the disposition which the process manifests of disappearing in the centre while spreading on the periphery.

The patches vary in size; they may be the size of a small coin or as large as the palm of the hand; as usually encountered they are about the size of a silver half dollar. One, two or more of them may exist, in which case they are apt to coalesce, forming semicircles and segments of circles. Ordinarily, however, but two or three are present, and these discrete and upon different parts of the body. They are reddish in color, and are usually surmounted with thin, shreddy, grayish, adherent scales, which are more abundant about the margin; in the centre the surface is generally pale-red and only slightly scaly. The desquamation is, in the majority of cases, scanty.

The vesicles, when the irritation to the skin happens to be sufficient to produce them, exist about the periphery in the

* It will be understood that the following description applies to the disease chiefly as it is encountered in this country. The severer forms of tinea circinata, as those encountered in certain parts of Europe and in tropical climates, are seldom if ever seen here.

form of a ring; they are pin-point and pin-head in size. As a rule, they are ephemeral in character, and consequently usually escape detection. The disease is superficial, its seat being in the epidermis. The corium, however, is involved secondarily, and at times is the seat of a high degree of inflammation. The disease as a rule shows no disposition to symmetry, although it may so happen through contagion in certain regions, as the thighs, that both sides of the body are symmetrically affected.

All parts of the general surface of the body may be attacked by tinea circinata; preference, however, is shown for certain regions, especially the face, neck, and backs of the hands. The inner surfaces of the thighs, between the nates, and about the genitalia, are also common seats for the disease; attacking these localities, it is apt to spread extensively and at times to be remarkably difficult of treatment.*

The course of tinea circinata is variable, depending upon the region attacked, age and general condition of patient, climate, and other circumstances. It may run a brief course, lasting a few weeks, or, on the other hand, it may continue for months. Occasionally the disease exhibits a remarkable degree of obstinacy, showing itself repeatedly in the same region in the form of relapses, or manifesting itself from time to time in new localities. In the child it is usually very amenable to treatment, and not infrequently pursues a course terminating in spontaneous recovery. In warm climates it is much more intractable than in temperate or in cold climates. Tinea circinata may co-exist with tinea tonsurans; this occurrence, however, is seldom observed in this city.

The tricophyton occasionally attacks the nails, causing the condition known as TINEA TRICOPHYTINA UNGUIUM. The nails become opaque, whitish, thickened, and soft or brittle, especially along their free border. It seldom happens that more than two or three nails are affected.

---

* The disease which Hebra formerly designated "Eczema Marginatum," encountered in cavalry-men and others, occurring chiefly about the thighs, is to be viewed as a severe form of tinea circinata. It not infrequently takes on an eczematous aspect. The so-called Burmese and Chinese ringworms are of the same nature, and are due to the same parasite.

Etiology.—It is caused by the presence of the Tricophyton, a discovery made by Bazin, of Paris, in 1854.* It is the same growth which produces the diseases tinea tonsurans and tinea sycosis. It, however, shows itself in a quite different stage of development, seldom arriving at the luxuriant state attained in either of the just mentioned diseases. The affection is highly contagious, and is very frequently communicated from one member of a family to another. It may also be contracted from cows, oxen and horses, the tricophyton being known to attack these animals. It is much more common in children than in adults, attacking infants as well as older children. It occurs more frequently in some countries than in others. Anderson,† of Glasgow, reports 54 cases only out of 10,000 consecutive cases of skin disease encountered in dispensary practice; on the other hand, White,‡ of Boston, records 100 cases out of 5000 consecutive cases of skin disease met with at the out-door department of the Massachusetts General Hospital. It is now a well-established fact that all individuals are not equally susceptible to the ravages of the parasite. A certain condition of the skin appears to be requisite for its development and growth. It will not take firm root upon every skin. The peculiar nature of the condition essential for its growth is unknown; in some cases, however, especially in adults, the disease is noted to be dependent upon a depreciation in the general tone of the system, consequent it may be upon chronic constitutional disease or some temporary systemic derangement. It is met with among the poorly nourished and improperly cared for and also among those in the upper walks of life.

Pathology.—The fungus alighting upon the surface finds its way into the epidermis, which it permeates in all directions. At first hyperæmia is produced, which is soon followed in the majority of cases by superficial inflammation, with or without slight vesiculation, and desquamation. The seat of the parasite is in the epidermis, and in this tissue

* Considérations sur la Mentagre et les Teignes de la Face. Paris, 1854.
† The Lancet, Nov. 11, 1871.
‡ Boston Medical and Surgical Journal, May 18, 1876.

only, although the irritation occasioned affects the true skin to such an extent as to give rise very often to marked cutaneous disturbance. As already stated, vesiculation may or may not be present; more or less desquamation, however, is always at hand, and is especially noticeable about the margin of the patch. As a rule, it is not very abundant, the scales being thin, shreddy and shrivelled.

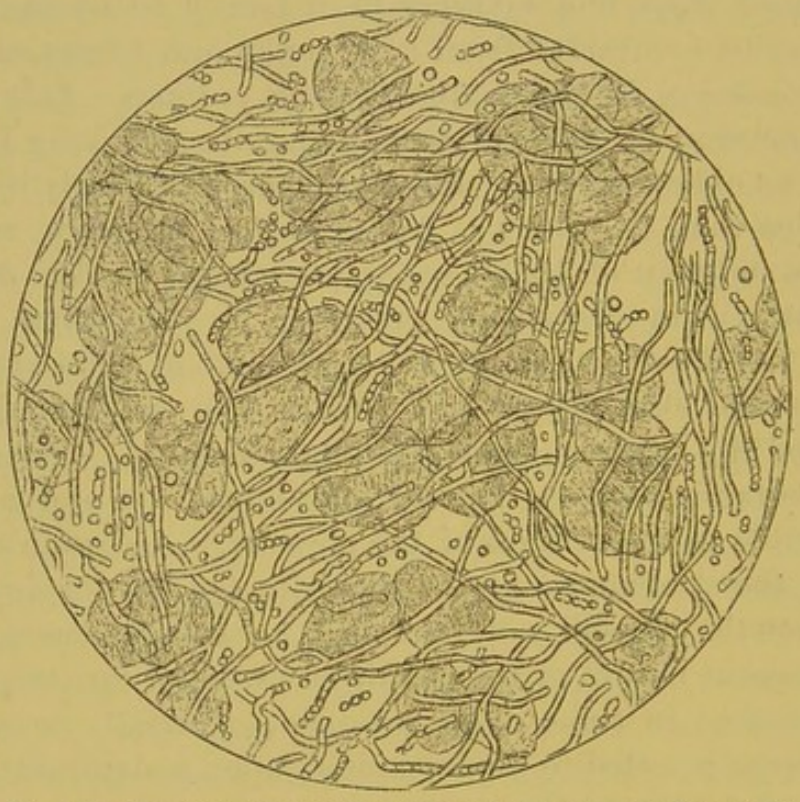


FIG. VII.—TRICOPHYTON, AS FOUND IN TINEA CIRCINATA. (500 Diameters.)
Showing mycelium and spores.

Under the microscope the fungus is seen imbedded in the epidermic cells in the form chiefly of mycelium, the spores existing usually only scantily. (See Fig. VII.) The mycelium consists of long, slender, delicate, sharply-contoured, pale-grayish, riband-like formations, or threads, containing here and there spores and granules. It is jointed at irregular intervals, and is remarkable for its length, a single thread not infrequently extending itself over the field, sending off branches here and there in all directions. It varies from $\frac{1}{1200}'''$ (.001764 mm.) to $\frac{1}{800}'''$ (.002646 mm.) in diameter. It may pursue a straight, curved or crooked course; very often it is forked. Where the fungus is abundant the

threads cross and recross one another in such a manner as to form an irregular network.

The spores are small, round or roundish, highly refractive bodies, of a grayish or pale-greenish color. They do not assume the manifold forms met with in the achorion Schönleinii or in the microsporon furfur. They vary from $\frac{1}{1000}'''$ (.002116 mm.) to $\frac{1}{600}'''$ (.003528 mm.) They are very persistent. They are met with singly or in the form of chains of two, three or more, and may be isolated or joined to the mycelium.

The plant rarely grows very luxuriantly in tinea circinata, as encountered in this country; as a rule, it is apt to be scanty. It may, however, always be found in the early stage of the affection; later, it is not infrequently somewhat difficult of detection.

Diagnosis.—This may be determined either by the clinical features of the disease or by means of the microscope. Where the fungus exists in profusion but little trouble is experienced in demonstrating it under the microscope; where, on the other hand, it is scanty, not a little microscopic skill is at times requisite to establish its existence. The examination is best made in the following manner. A few of the scales should be scraped with a blunt knife-blade, from the suspected patch and placed upon a glass slide containing a drop of dilute liquor potassæ, over which is laid a thin glass cover. The cover should be carefully pressed down and the epidermic mass flattened out. Permitting the specimen to remain for a few minutes, in order that the caustic may separate the epidermic cells, it may be viewed with a power of from 300 to 500 diameters. The fungus will in most cases be detected here and there, having at first a faint outline, but becoming more distinct as the specimen stands. The parasite resists the caustic, and for a short time at least is not injuriously affected by it.

It need scarcely be added that it is of the utmost importance that the slide and cover be scrupulously clean and free of shreds of lint and other extraneous matter which is apt to adhere to the surface of the glass. The mycelium is liable to be confounded with fibrils of wool and cotton, which often

become involved with the specimen, and with the margins of epidermic cells, which incline to overlap one another in a manner which often gives rise to an appearance resembling short mycelium. The outline of mycelium, however, is always distinctly defined, its walls showing parallel lines; the mycelial threads, moreover, usually stretch for a considerable distance over the field, and contain spores and granular matter. The spores are to be distinguished from extraneous fatty particles, as the fat of ointments, which may have been used in the treatment; from sebaceous matter; from fat globules in fattily degenerated cells, as in seborrhœa; from the nuclei of cells; from pus and other cells and granules. Where much fatty material prevails, the specimen may be advantageously submitted to a few drops of ether.

Tinea circinata may be mistaken for a patch of squamous eczema, although its circular and often annular form, its abrupt margin, its slight and shreddy desquamation, together with its course and history, will usually render the diagnosis easy. The more aggravated varieties of the disease, as encountered about the thighs and genitalia, resemble eczema more closely, and may indeed in some cases be complicated with eczema. The marginate character of the patches in these cases points in itself strongly to there being a parasitic element present.

Tinea circinata bears a close resemblance to seborrhœa as it is met with on the body, especially the chest and back. Patches of seborrhœa occurring in these regions very often take on a circular and annular form, and are accompanied with desquamation very similar to that of tinea circinata. Ringworm, however, may always be known by its inflammatory nature, by its tendency to increase its area centrifugally, and by the absence of enlarged follicles and a greasy surface.

It may also be mistaken for psoriasis, especially when the patch of psoriasis happens to assume the circinate form, as often occurs when the disease is about disappearing. The presence of psoriatic patches on other parts of the body, as well as the history of the case, will aid in the diagnosis. The microscope here, as in all doubtful cases, will decide the question.

Tinea circinata can scarcely be confounded with any of the manifestations of syphilis; the existence of other symptoms of syphilis, and the history, will assist in arriving at a conclusion. It may be known from tinea favosa of the epidermis by the absence of the characteristic, yellowish crust of this disease; the patch of favus, moreover, is usually smaller and less distinctly circinate than that of ringworm. The microscope will in all cases determine the diagnosis, for the two varieties of fungi are quite different.

Treatment.—As a rule, local treatment alone is required; in certain cases, however, particularly in adults, where the disease continues persistently in spite of parasiticides, internal remedies of a tonic nature should be generously prescribed. The preparations of iron, arsenic in small doses, quinine, cod-liver oil, and the mineral acids, will all be found serviceable remedies in these obstinate cases. They will very often prove of decided value in relieving the patient permanently of his trouble. In the majority of cases, however, as the affection exists in this country, the fungus has but a feeble hold on the skin, and is easily destroyed by any of the milder parasiticides. In the choice of a remedy the physician should be guided by the age of the patient, the extent and seat of the disease, whether localized or diffused, and the state of the skin as to the amount of inflammation, thickening, and irritability.

In children weak applications are usually sufficient to remove the disease. Washing the patch with soap and water and afterwards applying an ointment of ammoniated mercury, ten grains or a scruple to the ounce, will very often suffice. Ointment of the nitrate of mercury, a drachm to the ounce of simple ointment, or the yellow sulphate of mercury, ten or fifteen grains to the ounce of simple ointment, are also useful preparations. The corrosive chloride of mercury is also an excellent remedy, used either as a lotion with water or alcohol or as an ointment; in either form the strength should be from one to three grains to the ounce. Acetic acid, tincture of iodine, and cantharidal collodion, painted over the patches once or oftener; sulphurous acid, in the form of a lotion, one part to two or more of water; hypo-

sulphite of sodium, a drachm to the ounce, either as a lotion or as an ointment; are all serviceable remedies. When the patches are in a state of irritation, as occurs from the too frequent use of strong parasiticides, weak tar ointment, a half drachm or a drachm to the ounce, or carbolic acid ointment or lotion, five or ten minims to the ounce, may be employed with benefit. Sulphur or mild mercurial vapor baths may in certain cases be resorted to with advantage.

Whatever the remedy used, care should be taken that the skin be not irritated; it should be remembered that the disease has a superficial seat, and is therefore easily reached. The ointments should be employed in small quantity and well rubbed into the affected part once or twice daily. If a mild lotion be used, it should be applied for ten or fifteen minutes on each occasion.

Prognosis.—It is by no means always easy to predict the course of the disease; for, while the majority of cases yield readily to treatment, instances not infrequently present themselves where the affection persists, off and on, in the form of relapses, for a long period. This occurs more especially in adults. In children it may terminate spontaneously or with the aid of the simplest household remedies. Tinea circinata of the thighs and genitalia will be found the most troublesome and obstinate local variety.

TINEA TONSURANS.

Syn. Herpes Tonsurans; Trichonosis Furfuracea; Ringworm of the Scalp; Porrigo Furfurans; Tinea Tondens; *Germ.*, Scherende Flechte; *Fr.*, Herpès Tonsurant; Teigne Tondante; Teigne Tonsurante.

TINEA TONSURANS IS A CONTAGIOUS, VEGETABLE PARASITIC AFFECTION OF THE SCALP, DUE TO THE TRICOPHYTON, CHARACTERIZED BY ONE OR MORE CIRCULAR, VARIOUSLY SIZED, SCALY, MORE OR LESS BALD PATCHES, SHOWING THE HAIR TO BE DISEASED AND BROKEN OFF CLOSE TO THE SCALP, ACCOMPANIED BY ITCHING.

Symptoms.—It commences in the form of a small erythematous patch, rounded in shape, which soon becomes the seat either of a ring of minute, pin-head sized vesicles, ephemeral in character and which terminate in desquamation, or of furfuraceous scales.

The affection spreads rapidly, and in a short time attains its characteristic features, when it will be found to consist of one or more circular, circumscribed patches, varying in size from a small to a large coin, of a reddish, grayish or bluish-gray color, covered with fine, powdery scales, with the hairs broken off close to the scalp. The color of the patch varies with the complexion of the subject; in dark-haired children it is of a bluish-gray, leaden or slate color. The scalp is more or less raised and puffed out, and the follicles as a rule prominent, giving the surface a goose-skin or "plucked fowl" appearance, characteristic of the disease; it is most marked after the hairs have fallen out. The hairs are uniformly short, rarely more than a line or a line and a half in height, are thickened, twisted and bent, and look as though they had been broken off; their free extremities present a ragged, uneven, stubble-like look, as though the hair had been cut with a blunt pair of scissors; they have a "nibbled" appearance. They lack their normal lustre; are dull and lifeless, opaque in color, and upon extraction are found to be dry, harsh, and brittle. They are seated loosely in their follicles, from which they may be removed without pain; they are liable to break off close to the scalp in the attempt to extract them. As the disease progresses they incline to rupture, owing to the excessive infiltration of the fungus, and drop out of their own accord. As a result of the loss of hair, baldness, more or less complete, exists; it is, however, usually only temporary, the growth of hair returning sooner or later. When the disease is fully developed the scales are comminuted and are present in the form of a fine, mealy, grayish powder.

The patches are seldom larger than a silver dollar, although two or more upon the same region not infrequently run together, thus forming quite extensive areas of disease. Having started, they grow rapidly until they attain their determinate size, manifesting a marked disposition to recover in the centre while spreading upon the circumference. One, two or more may exist. They may have their seat upon any part of the scalp, although they show preference for the sides, over the region of the parietal bones. More or less

itching is always experienced; it is usually one of the first symptoms noted, and may prove annoying throughout the course of the affection.

Tinea tonsurans may spread on to the side of the face, in which case it becomes tinea circinata. It is at times associated with tinea circinata; the two forms of disease may occur simultaneously or either may precede the other. Permitted to run on without treatment, it may continue indefinitely, as in the case of the other vegetable parasitic diseases; on the other hand, it at times terminates in spontaneous recovery.

Etiology.—The cause of the affection is found in the presence and growth of the Tricophyton, the same fungus which gives rise to tinea circinata. The disease is a common one, and is met with universally. It is an affection of childhood, being very rarely if ever encountered in adult age, and seldom after puberty; on the other hand, it is rare in infancy. It is highly contagious, and may readily be communicated from one child to another by means of wearing apparel, caps, combs and brushes, towels, and bed linen. Its contagious properties are frequently manifested in schools and children's asylums, where a number of inmates become affected at the same time. It is liable to attack all classes, the rich as well as the poor, but especially those who are in ill health and debilitated. It is prone to occur among those who are improperly cared for and dirty. Cases are often met with in which it has been contracted from a patch of tinea circinata existing upon the mother or attendant.

Pathology.—Under this head are to be considered the changes which take place in the hair, hair follicle, and epidermis, as well as the peculiarities of the fungus. The parasite was discovered by Gruby, of Paris, in 1844, and fully described by Malmsten, a Swede, in 1846, and named by him "tricophyton tonsurans." It invades the hair, hair follicle, and epidermis. The hair, however, suffers most severely, becoming in a short time filled with the growth, to such an extent usually as to cause its complete disintegration and destruction. The follicle also is attacked, and becomes distended and prominently raised.

The fungus is the same as that of tinea circinata, and has been considered in connection with that disease. It, however, exists here in a different stage of development from that observed in tinea circinata. In tinea circinata the epidermis is the seat of disease; in tinea tonsurans the hair is the structure chiefly attacked. The fungus is found in tinea

FIG. VIII.—TRICOPHYTON, AS FOUND IN TINEA TONSURANS. (300 Diameters.)
Short, broken-off hair of scalp, invaded with free spores and chains of spores.

tonsurans to be in a state of exuberant growth, the spores being thrown out from the mycelium in great profusion.

As seen under the microscope, the broken hairs are invaded throughout their length with spores and jointed mycelium, the former in all cases markedly predominating; very often little or no mycelium is to be found. The spores are very numerous, and exist around the outside of the bulb

and root, as well as inside the hair, where they take more or less complete possession of the structure. They are found in rows running parallel to the filaments of the hair or in irregularly disposed masses. The bulb and root are usually so extensively invaded as to be literally crammed with spores, appearing as a solid mass resembling fish-roe, at times completely obliterating the hair structure. The hair is seen to be distended, or ruptured here and there along its shaft, the filaments protruding at these points, giving its exterior a rough, uneven surface. It is at times split up longitudinally, its component parts separated and barely holding together. In some cases the fungus is so abundant as entirely to disintegrate the hair. The free end of the shaft, at the point of fracture just beyond the level of the scalp, always possesses a jagged, bristly, stubble-like extremity, consisting of broken filaments, between which spores may be found. (See Fig. VIII.)

The furfuraceous scales scraped from the surface of the patch also contain fungus, although not to the same extent as the hairs, for the disease attacks the hair to the comparative exclusion of the epidermis. The amount of irritation to the skin varies; usually it is slight, giving rise merely to more or less desquamation or to the formation of ephemeral vesicles; in other cases it is severe, causing œdema and inflammatory symptoms with fluid exudation, as occurs in the variety of the disease termed tinea kerion, to be described.

Diagnosis.—In the majority of cases the diagnosis is sufficiently easy. There are, however, several diseases with which it may be confounded. Squamous eczema is frequently met with about the scalp assuming the form of one or more patches which may resemble those of tinea tonsurans. The histories of these affections are very different, and will alone usually suffice to distinguish them. In eczema there is no history of contagion, a point which can generally be established in tinea tonsurans. Squamous eczema of the scalp is usually a chronic disease; tinea tonsurans, on the other hand, generally pursues a rapid course, spreading day by day until a considerable surface becomes involved. The patches of eczema are not apt to be sharply defined, nor are

they usually circular as in tinea tonsurans. The hairs in eczema remain firmly implanted in the scalp; in tinea tonsurans they are always loose, and can be readily plucked out in numbers without causing pain. In eczema, moreover, the characteristic, thickened, brittle, broken-off and twisted hairs, as well as the peculiar color of the patch, covered with fine, furfuraceous, grayish scales, are absent. In doubtful cases, the microscope will always reveal the presence of the parasite in tinea tonsurans. Itching is, as a rule, a much more prominent symptom in eczema than in tinea tonsurans. In certain cases eczema may supervene upon or be complicated with the disease under consideration; this occurrence, however, is rare.

Tinea tonsurans may be mistaken for seborrhœa of the scalp. There is, however, in this latter affection no history of contagion; the patches, moreover, are seldom circular, nor are the hairs implicated as in tinea tonsurans. The course of these two diseases is very different; seborrhœa is always a more or less chronic disorder.

Psoriasis may at times present an appearance not unlike tinea tonsurans; but the absence of the history of contagion, the healthy state of the hairs, the quantity and character of the scales, as well as its course, will always serve to distinguish it from tinea tonsurans.

Tinea favosa in its earliest stage, before the formation of the crust, may be mistaken for tinea tonsurans; in a short time, however, the characteristic, yellowish crust shows itself, and no further difficulty will be experienced.

Certain cases of alopecia areata may be confounded with tinea tonsurans; this is a mistake of not infrequent occurrence. In typical examples of alopecia areata, the absence of all hair from the patch, and the whitish, smooth, polished surface, will be sufficient to establish the diagnosis; the history, moreover, will be of assistance. In other cases, where the characteristic symptoms are in a measure wanting, recourse must be had to the microscope, which will at once determine the diagnosis: in tinea tonsurans the tricophyton generally exists in profusion; in alopecia areata there is no fungus.

The microscopic examination of the hair offers no difficulty. The parasite is readily detected. One or two of the short, stumpy, broken-off hairs should be placed upon a slide with a drop of dilute liquor potassæ and permitted to stand a few minutes, when, under a power of 300 diameters, the fungus as well as the lesions of the hair will be plainly visible. (See tinea circinata, diagnosis of.)

According to Dr. Duckworth, of London,* the action of chloroform upon patches of tinea tonsurans is specific, and serves as a ready test for this disease. If a few drops be poured upon a patch and allowed to evaporate, a peculiar appearance is observed in the affected hairs and upon the skin at the openings of their follicles; they become whitish or light-yellow in color and remain so, the part looking as if sprinkled with a film of sulphur powder. Chloroform has no such effect upon healthy hair. The same change has been noted in connection with tinea circinata, tinea versicolor, and tinea favosa of the epidermis,† the patches assuming a whitish, powdery appearance.

Treatment.—It will be borne in mind that the same fungus exists here as in tinea circinata, although in a much more luxuriant state of growth; the disease, consequently, is amenable to the remedies referred to in speaking of tinea circinata. The destruction of the parasite, which has its seat in the hair structure as well as in the follicle, is best accomplished by extraction of the hairs, together with the use of suitable parasiticides. As a rule, external remedies are all-sufficient to bring about a cure; in some cases, however, when the affection is of a severe type, and is rebellious to local treatment, constitutional remedies, as iron, arsenic, and cod-liver oil, may be resorted to with advantage. Strict attention to cleanliness is in all cases most important, not only with the view of hastening the cure, but of preventing contagion. The patient should be provided with special wearing apparel, combs, brushes, towels, bed linen, etc.

The patches should first be cleansed as thoroughly as pos-

---

* British Medical Journal, Nov. 1, 1873.

† St. Bartholomew's Hospital Reports, vol. ix.

sible with soft soap and water, and dried. The loose hairs about the edges of the patches, and the stumpy, broken-off hairs over the surface, may now be extracted. The short hairs are best depilated by means of a small, broad-bladed, short forceps, one, two, or three hairs being seized at a time. (See the treatment of tinea favosa.) A portion of the diseased hairs may thus be removed each day until the surface has been well cleared. After each depilation a parasiticide is to be applied, in the form of an ointment, oil, or lotion, as may seem indicated. Corrosive sublimate, as an ointment or lotion, one or two grains to the ounce of simple ointment, water or alcohol, answers very well. It has the advantages of being cleanly, of having no unpleasant odor, of not discoloring the skin, and of being at the same time effective.

Tincture of iodine, of full strength or diluted, will also prove serviceable. A preparation much used in London, by Mr. Coster and others, is the following:

℞ Iodini, ʒii ;
Ol. Picis, fʒi.
Misce et solve.
N.B. The iodine and oil of tar should be gradually and slowly mixed.

A small quantity of the above is painted upon the patches with a brush and allowed to remain on until the crust is cast off, in the course of five or six days, when it may be reapplied. A few applications usually suffice.

Equal parts of tar ointment and sulphur ointment, or sulphur ointment alone, a drachm to the ounce, are useful preparations. The late Mr. Startin, of London, esteemed the following:

℞ Sulphuris Sublimati, ʒss ;
Hydrargyri Ammoniati, gr. x ;
Hydrargyri Sulphureti Nigri, gr. x ;
Misce et adde
Olei Olivæ, fʒii ;
Creasoti, gtt. iv ;
Adipis, ʒvi.
M. Ft. ungt.

Painting the patches with glacial acetic acid or cantharidal

collodion once a week or oftener, and making use of one of the milder parasiticides in the mean time, is also a good method of treatment. Nitrate of silver in solution, a half drachm or a drachm to the ounce of water, is a well-known remedy which may be referred to.

Among the milder remedies sulphurous acid, one part to three or six of water; sulphuret of potassium, fifteen or thirty grains to the ounce of water; hyposulphite of sodium, a half drachm to the ounce of water; may be mentioned as the most useful. Sulphite of sodium, a half drachm or a drachm to the ounce, is also employed advantageously as an ointment. The milder parasiticides, just mentioned, should be used freely; in the case of lotions, they should be applied often, and for ten or fifteen minutes at a time; ointments should be slowly and thoroughly rubbed into the patches, and also around their edges.

Any of the other preparations mentioned in connection with the treatment of tinea favosa or of tinea circinata may also be resorted to.

Prognosis.—In the majority of cases no difficulty is experienced in relieving the disease. The prognosis, however, must depend upon the length of time the affection has continued, the extent of surface involved, the number of patches, and the amount of cutaneous irritation present. The state of the general health and the hygienic condition of the patient must also be taken into account; in children who are dirty, neglected and ill fed, it is generally more rebellious than in the well-cared-for. In asylums and schools it is more difficult to control than in isolated cases. Spontaneous cure may take place, although, as a rule, the disease when left to itself runs on indefinitely.

Tinea Kerion.—Under this name is to be described a peculiar form of tinea tonsurans occasionally met with. It was originally described by Celsus; more recently by Wilson, Tilbury Fox, and others. It may be viewed as an aggravated tinea tonsurans, accompanied by œdema, inflammation, and the exudation of a viscid, glutinous, yellowish secretion from the openings of the hair follicles. The condition is analogous to that seen in tinea sycosis. It may

occur with the usual form of tinea tonsurans or alone. It begins generally as ordinary tinea tonsurans, and is followed in a short time by tumefaction and deep-seated inflammation. When fully developed the patches are reddish or purplish in color; are more or less raised, œdematous, and boggy; are uneven, honeycomb-like (whence the name kerion), and studded with yellowish, suppurative points, or, later, with small cavities, or foramina, the openings of the distended hair follicles deprived of their hairs; and discharge a mucoid, gummy, honey-like fluid, which is observed to ooze from the patulous follicles. The secretion may be copious or scanty, according to the amount of inflammation and cutaneous disturbance. The patches are generally tender and painful, and at times the seat of considerable itching and burning. The course of the affection is chronic; it may continue indefinitely unless checked by appropriate treatment. In severe and protracted cases the hair follicles are destroyed, and there results permanent baldness.

The causes which occasion this form of the disease rather than that usually encountered, namely, ordinary tinea tonsurans, are not known. It is met with in the upper classes as well as among the poor, although without doubt more common among the latter. It is rare in Philadelphia; less so, I believe, in New York. It is to be diagnosed from subcutaneous abscess, which it at times closely resembles. The treatment is that of tinea tonsurans.

TINEA SYCOSIS.

Syn. Sycosis Parasitica; Sycosis Parasitaria; Sycosis Contagiosa; Parasitic Sycosis; Parasitic Mentagra; Barber's Itch; *Germ.*, Parasitäre Bartfinne; *Fr.*, Tricophytie Sycosique; Sycosis Parasitaire.

TINEA SYCOSIS IS A CONTAGIOUS, VEGETABLE PARASITIC AFFECTION, DUE TO THE TRICOPHYTON, CONFINED TO THE HAIRY PORTION OF THE FACE AND NECK IN THE ADULT MALE, CHARACTERIZED BY DISEASE OF THE HAIR AND HAIR FOLLICLE, INFLAMMATION OF THE SKIN AND SUBCUTANEOUS CONNECTIVE TISSUE, AND THE FORMATION OF TUBERCLES AND PUSTULES.

Symptoms.—The disease commonly commences with one or more rounded, circular or semicircular, reddish, slightly

scaly patches, the size of a small coin; in fact, as a tinea circinata. In the course of a few days or a week the redness and desquamation become more marked, and decided swelling and induration are noticed. The hairs also are noted to be affected; they are dry, brittle, incline to break, and are perhaps already loose. This condition of the parts now increases rapidly, from day to day, until in a short time the skin becomes distinctly nodular and lumpy, with points of pustulation about the openings of the hair follicles. Not only the skin but also the deeper tissues are involved, giving rise to thick, bunchy, firm or even quite hard masses of induration. The surface is of a deep-reddish color; has a passively congested appearance; and is studded with variously sized tubercles and pustules, which render the part greatly disfigured. The tubercular formations are a characteristic feature of the disease. They vary as to shape and size, but are for the most part irregularly rounded, and as large as split peas and hazelnuts. Very commonly they coalesce, producing large, uneven, lumpy patches. The amount of suppuration varies, depending upon the irritation of the fungus and the grade of inflammation set up. In certain cases it is an early symptom, and proceeds actively, pustules of all sizes forming about the follicles; at times these break down, and are succeeded by thick crusts similar to those of pustular eczema. Beneath these crusts will usually be found an uneven, moist or raw, red surface, with yellowish points, discharging a glairy, glutinous material, and resembling in appearance the cut surface of a fig (whence the name sycosis). In other cases but slight pustulation takes place, the process being one rather of deep-seated tubercular induration throughout its course.

The hairs are plainly diseased; they are dry and brittle, bent or broken off short either at their exit from the follicles or at a line or two above the level of the skin, and can be extracted without pain. Later, the hairs loosen spontaneously, through suppuration or disintegration from excessive invasion of the fungus, and drop out, leaving the part devoid of hair. In other cases the hair follicles and hairs are involved to a less extent, so that loose hairs are found only

here and there; the disease being one, as it were, midway between tinea circinata and tinea sycosis.

The chin, neck, and the submaxillary region are the localities commonly attacked; the cheeks and upper lip are rarely invaded. The disease may occur on one side of the face only or, as is usually the case, on both sides; as a rule, the whole of the region of the lower jaw is involved.

The amount of itching, burning, and pain varies; at times these symptoms are slight, in other cases quite severe; they are, however, in almost all instances disproportionate to the severity of the lesions and cutaneous disturbance, and are seldom so marked as in non-parasitic sycosis.

The course of the disease is usually chronic. As a rule, a few weeks suffice for it to present its characteristic appearance, after which it may continue spreading, or it may subside into an inactive state, according to circumstances. In the majority of cases it proves obstinate; even under judicious treatment it often shows itself rebellious. When left to itself it may last months or years, relapsing from time to time.

It may develop from a previous tinea circinata of the non-hairy part of the face or of some other region of the body; or it may occur simultaneously with a tinea circinata of the general surface.

Etiology.—The cause is found in the presence and growth of the Tricophyton fungus, which invades the hair follicle and hair. It is the same parasite as that of tinea tonsurans and tinea circinata. Its parasitic nature was pointed out by Gruby, of Paris, in 1842. It is eminently contagious, and is acquired in most cases from the razor or from the hands or toilet articles of the barber. All individuals, however, are not equally susceptible to the influence of the parasite; out of a number who have been exposed to contagion, certain persons only will contract the disease. Like the other vegetable growths it seems to require some peculiar, unknown condition of the skin for its development.

Tinea sycosis is not a common disease. The frequency of its occurrence varies greatly in different countries; it varies, moreover, in different sections of our own country. In Bos-

ton it is about as common as tinea tonsurans; out of 5000 consecutive cases of skin disease met with in dispensary practice, White* reports 38 cases of tinea sycosis and 42 cases of tinea tonsurans. Wigglesworth,† out of 1339 consecutive cases of skin disease, reports 8 cases of tinea sycosis. In New York the disease is of decidedly less frequent occurrence; Bulkley‡ encountered but 2 cases among 1617 cases of cutaneous disease, as met with in dispensary practice. In Philadelphia, in dispensary service, the proportion is even less; out of 1267 consecutive cases of skin disease observed at the Dispensary for Skin Diseases, no cases of tinea sycosis were recorded. The disease in this city, however, is by no means so rare as these figures indicate, for my private practice has recently afforded several typical examples. In Glasgow, Anderson§ reports but 18 cases out of 10,000 consecutive cases of skin disease in dispensary practice; and 6 cases in 1000 cases of skin disease in private practice. In France tinea sycosis is without doubt much more common than in any other country; at the St. Louis Hospital, Paris, cases are of quite frequent occurrence. In Vienna, on the other hand, the disease is very seldom encountered.

It occurs among all classes of men and at all periods of life, although more common between the ages of twenty and forty than later. It is met with in the weakly and in the robust, and does not appear to be in any way dependent upon, or influenced by, the state of the general health.

Pathology.—The fungus finds its way into the hair follicles, as in the case of tinea favosa, penetrates them deeply, and produces its mischief chiefly about the root of the hair. Both the follicle and hair become invaded to such an extent as to bring about inflammation, followed by more or less follicular suppuration and general infiltration of the tissues. The irritation caused by the parasite is very great, occasioning inflammation of the subcutaneous connective tissue, and the well-known tubercular formations. This development

* Boston Medical and Surgical Journal, May 18, 1876.

† Annual Reports of the Dispensary for Skin Diseases, Boston, 1873, 1874.

‡ American Practitioner, May, 1875, and April and May, 1876.

§ The Lancet, Nov. 11, 1871.

is peculiar to the disease under consideration; it is firm, comparatively painless, and manifests but little disposition to undergo change, remaining so long as the fungus luxuriates, finally disappearing gradually without usually leaving scars.

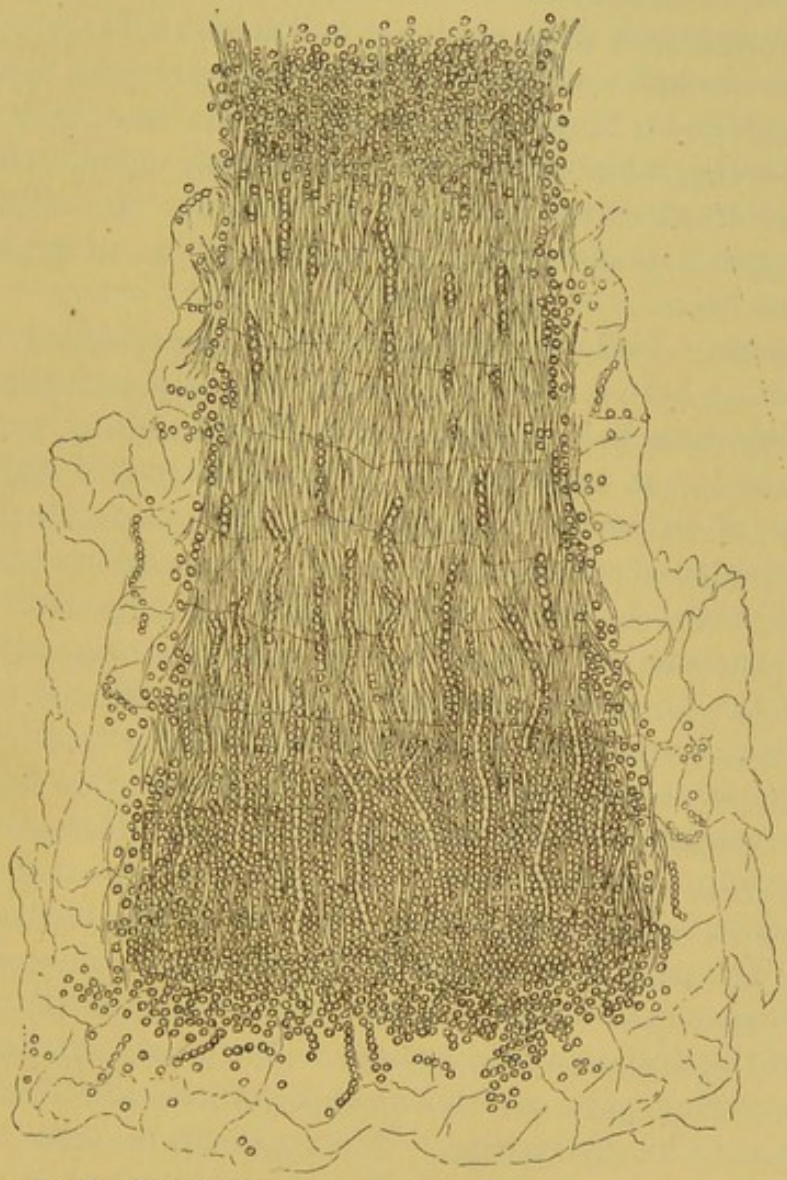


FIG. IX.—TRICOPHYTON, AS FOUND IN TINEA SYCOSIS. (300 Diameters.)
Short, stout hair of beard, with the root sheaths attached to root, showing free spores and chains of spores.

Under the microscope the affected hairs are seen to be swollen, at times twisted, and disintegrated about their roots. Their bulbs are often obliterated. About their exterior, especially around the root, and within their structure,

the fungus is plainly discernible. The growth shows itself, as a rule, abundantly, and consists of both mycelium and spores, the spores predominating over the mycelium, as in the case of tinea tonsurans, although usually to a less extent. It is only occasionally that the spore formation is observed to occur so luxuriantly as in tinea tonsurans. (For a description of the fungus, see tinea circinata and tinea tonsurans, pathology of.) In hairs which have not been destroyed, mycelium may usually be found ramifying over the root, and in the root sheaths, which very often come away upon extraction attached to the root and bulb of the hair. In other cases the fungus is scanty, varying considerably as to quantity in different hairs.

Diagnosis.—Difficulty is occasionally experienced in distinguishing between tinea sycosis and sycosis non-parasitica. The difference between these affections, however, is usually so marked that error can scarcely occur if the distinctive features of either be remembered. In tinea sycosis the skin and subcutaneous connective tissue are extensively involved, as manifested by the induration and the formation of the large, characteristic tubercles. In sycosis non-parasitica the seat of the process is confined to the hair follicles, the surrounding as well as the deeper tissues being implicated to a comparatively slight extent. The inflammation in sycosis non-parasitica is of an active type, and is followed usually by free suppuration; in tinea sycosis it is, as a rule, much less active, is deeper seated, and is attended by less suppuration. The pain, itching, and discomfort of tinea sycosis are seldom severe, and almost invariably less so than the appearance of the disease would indicate. In sycosis non-parasitica the throbbing pain and burning sensations are at times so severe as to be distressing. The upper lip is rarely invaded in tinea sycosis; it is very frequently attacked in sycosis non-parasitica.

The hairs in tinea sycosis are dull in color, dry, swollen, often twisted, and brittle; in sycosis non-parasitica they are generally healthy in appearance. In tinea sycosis they are loose, and may be extracted without pain; in sycosis non-parasitica they are, as a rule, firmly seated in their follicles,

and cannot be extracted without causing pain. In the latter disease, where the suppuration has been very extensive and of long standing, they may become detached from their follicles; but such, in my experience, is only exceptionally the case. In tinea sycosis the microscope reveals the parasite, the presence of which establishes the diagnosis conclusively. (See tinea circinata and tinea tonsurans, diagnosis of.)

Tinea sycosis bears some resemblance to pustular eczema of the face, but the history and course of these diseases are so dissimilar as scarcely to permit of their being confounded. Pustular eczema develops itself, as a rule, rapidly, and is accompanied with itching, burning, discharge, and crusting. The presence of the induration and tubercular formation, and the looseness of the hairs, will also serve to distinguish it from eczema.

Tinea sycosis at times resembles the vegetating syphiloderm as it attacks the face in the form of raspberry-like, hypertrophic, superficially eroded, moist or crusted papules. No true ulceration, however, takes place in tinea sycosis; the microscopic examination of the hairs, moreover, together with the history, will clear away any doubt that may exist.

Chronic, circumscribed cases of tinea sycosis, where perhaps but one patch exists, may be mistaken for epithelial cancer; with attention to the history, course, and clinical features of the disease, error is not likely to occur.

Tinea sycosis is also liable to be confounded with indurated acne. It may be known from this affection by its never appearing upon the non-hairy parts of the face, as the cheeks and forehead, the usual seats of acne. In doubtful cases, where, for example, acne shows itself about the neck, the hairs should be submitted to the microscope, which will determine the presence or absence of the parasite. The hairs are to be examined in the manner indicated for tinea tonsurans.

Treatment.—Depilation and the use of parasiticides are both demanded. Where crusts exist, they should be loosened with inunctions of almond oil or olive oil, and removed by washings with soft soap and warm water, after which shaving is to be instituted. Shaving is an important step in the treatment, and the sooner it is put into practice the better.

The operation should be performed about every other day, allowing time between the shaving for the hair to grow sufficiently to depilate. The process in severe cases is more or less painful at first, but in a short time may, with a little care, be accomplished with but slight inconvenience; the operation is never so painful as one would suppose. The advantages gained by shaving are so great as to outweigh the slight pain and discomfort occasioned. After the first few shavings patients seldom object to continuing with the treatment. The face should now again be cleansed with soft soap and water, and one of the parasiticides applied. The following day depilation is to be performed, in the manner described in connection with the treatment of tinea favosa. The condition of the hairs will be found to vary; at times they are loose over the whole affected part, and may be extracted with ease, while in other cases they are so only here and there. Their state depends altogether upon the manner in which the parasite has attacked the skin and follicles, whether superficially or deeply. Shaving and depilation, upon alternate days, should be perseveringly practiced until the new hairs show themselves to be healthy.

In the choice of a parasiticide one should be guided by the stage of the disease, its extent, and the general condition of the surface of the skin. A weak or a strong preparation may be selected to suit the demands of the case; for the first few days it is well not to employ too stimulating remedies. Corrosive sublimate, with water or alcohol, one or two grains to the ounce, constitutes an excellent lotion, suitable to any stage of the disease; it may also be employed as an ointment in the same strength. The yellow sulphate of mercury, in the form of an ointment, from fifteen to thirty grains to the ounce, may often be used with the best of results. Of the milder yet effective remedies, sulphite of sodium, as an ointment, or as a lotion, a drachm to the ounce; sulphurous acid, one part to two or four of water; must be considered as among the most valuable.

In addition to these remedies, any of those recommeded for the other vegetable parasitic diseases may be made use of. Whichever the remedy selected, it should be applied

once or twice daily in such a manner that it penetrates the hair follicles. In the case of a lotion, it should be sopped upon the part for ten or fifteen minutes at each sitting; or, if one of the milder ointments, it should be slowly and thoroughly rubbed in for about the same length of time.

Prognosis.—The disease is commonly troublesome; two or more months will, in the majority of cases, be necessary to effect a cure. Relapses are liable to occur if the treatment be neglected or discontinued too soon. Shaving should be persisted in for several months after all trace of the disease has disappeared.

TINEA VERSICOLOR.

Syn. Pityriasis Versicolor; Chloasma (Wilson); Mycosis Microsporina; *Germ.*, Kleienflechte; *Fr.*, Pityriasis Versicolor.

TINEA VERSICOLOR IS A CONTAGIOUS, VEGETABLE PARASITIC DISEASE, DUE TO THE MICROSPORON FURFUR, CHARACTERIZED BY VARIOUSLY SIZED, IRREGULARLY SHAPED, DRY, FURFURACEOUS, SLIGHTLY RAISED, YELLOWISH PATCHES, OCCURRING FOR THE MOST PART UPON THE TRUNK IN ADULTS.

Symptoms.—The disease commences by the formation of small, pin-head and split-pea sized, yellowish spots, scattered usually here and there over the affected region. In the course of a few weeks or months they will have increased more or less in size, and will have undergone certain other changes, the disease now presenting the following more definite characters. As the affection is ordinarily encountered, the spots vary considerably in size; at times they are split-pea and finger-nail sized, in other cases much larger. They not infrequently unite and form patches which may occupy a large surface, as, for example, the greater part of the chest. In shape they are at first usually roundish; later, when they incline to run into one another, this form is apt to be lost, irregularly-shaped patches taking their place. The outline of either the early spots or of the larger patches is generally sharply defined against the sound skin, more particularly around that portion of the disease which is spreading and encroaching on new territory. The number of the lesions varies; there may be but two, three or a half-dozen,

or, on the other hand, as is usually the case, a great many. They are pale-yellow, buff-yellow, tawny or brownish-yellow in color; at times they possess a reddish hue, due to hyperæmia; in other cases they have a dirty-yellowish tint. In patients who are stout, and in those who perspire freely, the reddish color of the patches is not infrequently noted. Occasionally, in sensitive skins, the patches become the seat of considerable irritation and hyperæmia, in which case they may assume a variegated, whitish and pinkish aspect, and may be, moreover, considerably raised.

In the usual form of the disease, the patches are but slightly elevated above the level of the surrounding skin; at times so slightly as scarcely to be perceptible. Their elevation depends upon the amount of irritation which the fungus produces. They are the seat of more or less furfuraceous desquamation, varying with the amount of perspiration and the degree of scratching to which they have been subjected. At times they have a smooth appearance and feel, but the scaling may always be detected by rubbing or scraping the surface. The scales are very fine, and are of a powdery, branny, mealy character. The patches are made up entirely of these scales, which, although quite adherent to the skin, may be readily scraped away with the fingernail; if the surface be moist, they cohere, cake, and come away as a soft, cheesy substance.

The disease is peculiar in the regions upon which it shows itself. Its favorite seats are the chest, abdomen, genitalia, axillæ, and arms; it is also met with about the neck, on the back, and on the thighs. On the other hand, it is never encountered on the scalp, face, hands or feet. Practically considered, it is a disease of the trunk. It shows no disposition to attack those regions which are exposed to the light and air. At times, in cases of long standing, the whole trunk, from the neck to the groin, the back as well as the chest, becomes affected, forming an almost continuous coating or sheet of disease. The lesions assume no tendency to symmetry, or to any definite arrangement; they are, indeed, usually very irregularly distributed, and when extensive and in large patches, give to the skin a "mapped" appearance.

Itching, varying, however, considerably in degree, is apt to be present. Its severity depends in a great measure upon the activity of the growth. In some cases it is quite marked, and gives rise to not a little discomfort; it is, as a rule, more pronounced in fleshy persons, and in those who perspire abundantly, than in spare individuals. On the other hand, cases are not rare in which there is no itching whatsoever, no inconvenience in fact being experienced from the affection beyond the disfigurement.

Its course is variable; at times it spreads rapidly, in other cases slowly. It is, as a rule, a persistent disease. Without appropriate treatment it may continue for an indefinite period; examples are not uncommon where the parasite has flourished for fifteen or twenty years. Relapses are of not infrequent occurrence, even in those cases where the treatment has been judicious.

Etiology.—The cause of the disease is found in the presence upon the surface of the skin of a vegetable growth, called the Microsporon Furfur. It was discovered by Eichstedt, of Greifswald, in 1846.*

The affection is contagious, although so only in a low degree, and under peculiar conditions. Cases are occasionally met with in which it has been communicated from husband to wife, and vice versa; also from sister to sister, and from brother to brother, particularly where they have occupied the same bed. Such instances, however, are exceptional; as a rule, it does not show itself in more than one member of a family. Its contagious properties are feeble, differing in this respect from the other vegetable parasitic affections. It is usually met with upon persons between the ages of twenty and forty; it seldom, if ever, occurs before puberty and rarely after fifty; I have never observed it in children. Both sexes are about equally affected.

The general health of those attacked is, as a rule, good. The disease does not appear to be in any way dependent upon a state of ill health. The individuals are very often

* Froriep's Neue Notizen aus dem Gebiete der Natur- und Heilkunde, Bd. xxxix., p. 270.

stout, well nourished, and, otherwise, in perfect health. It attacks the rich as well as the poor, and bathers as well as those who rarely bathe.

Tinea versicolor is a common affection. It is encountered in all parts of the world, although there is considerable variation in the frequency of its occurrence in different countries and places. Wilson,* in London, records 131 cases out of 10,000 cases of skin disease met with in private practice; Anderson,† in Glasgow, only 106 cases out of 10,000 cases of skin disease in dispensary practice. In our own country, White,‡ in Boston, reports 13 cases in 1000 cases of skin disease in private practice, and 14 cases out of 1000 cases among dispensary patients. Bulkley§ gives similar figures for New York, he having encountered but 14 cases out of 1617 cases of skin disease in dispensary service. In Philadelphia, on the other hand, the disease is without doubt of more frequent occurrence than in any of the above-named cities; at the Dispensary for Skin Diseases, 33 cases were recorded out of 1267 consecutive cases of skin disease; at the clinic for diseases of the skin at the Hospital of the University of Pennsylvania, 21 cases were observed among 1205 consecutive cases of skin disease. In India and in the Eastern countries generally the affection is exceedingly common.

Pathology.—The microsporon furfur consists of mycelium and spores. The mycelium is made up of a great number of fine, slender, variously sized, for the most part short threads, which cross one another in all directions, forming an irregular, more or less intricate network. The threads vary considerably in their form; they are straight or curved, stick-shaped, jointed and angular, twisted or looped, fork-shaped, or crooked and wavy. They are simple and empty, or contain here and there spores and granules; the spores, often quite large, are particularly conspicuous about the joints. The ends of the threads are, moreover, often found

* Journal of Cutaneous Medicine, vol. iii. No. 11.

† The Lancet, Nov. 11, 1871.

‡ Third Annual Report of State Board of Health of Mass. Boston, 1872.

§ American Practitioner, May, 1875, and April and May, 1876.

tipped with single spores. The diameter of the mycelium varies from $\frac{1}{1400}'''$ (.001512 mm.) to $\frac{1}{350}'''$ (.003848 mm.).

The spores are small, variously sized and shaped (as in the case of the achorion Schönleinii), round, ovalish or irregularly rounded, highly refractive, grayish or pale-greenish bodies, with or without nuclei, having a marked tendency to aggregate and crowd together here and there in groups or clusters. This arrangement is peculiar; it does not occur in connection with any of the other vegetable parasites.

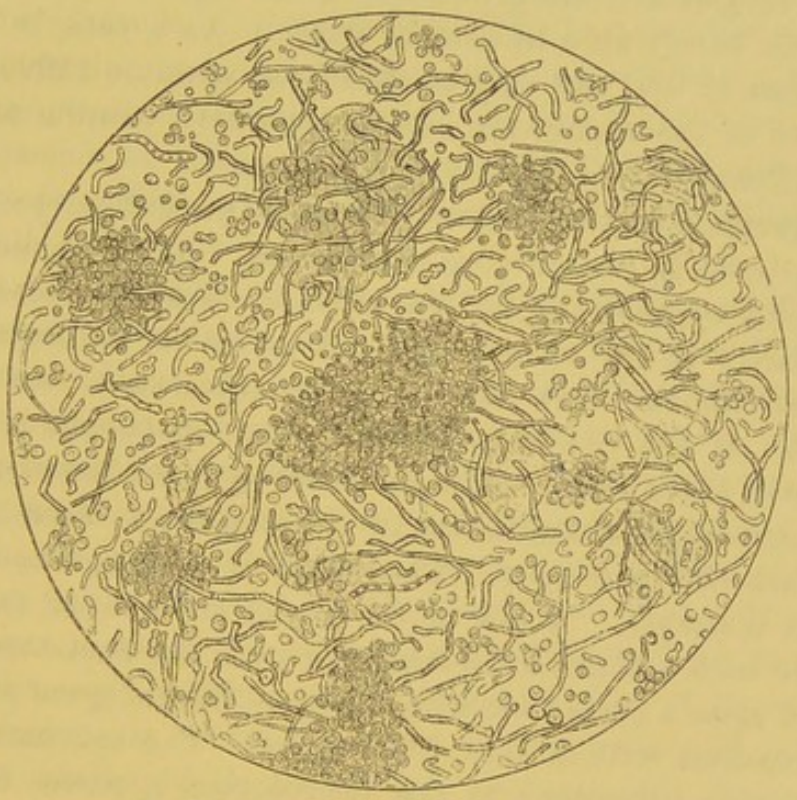


FIG. X.—MICROSPORON FURFUR. (500 Diameters.)
Showing mycelium in various stages of development, groups of spores, and free spores.

Large numbers of spores, closely packed, are often present in these masses. Free spores are also met with everywhere over the field. Their size varies considerably; they measure from $\frac{1}{900}'''$ (.002351 mm.) to $\frac{1}{250}'''$ (.008466 mm.). The growth is found in every stage of development from mycelium to spore, and with a sufficiently high power (500 to 800) presents even more varied forms than the achorion Schönleinii. (See Fig. X.)

The fungus, both mycelium and spores, is luxuriant, and is

always present in such abundance that no difficulty can arise in discovering it. Its habitat is in the horny layer of the epidermis, which it permeates to such an extent as to take complete possession of it. It is the most superficially-seated of all of the vegetable parasites of the skin. It does not invade either the hair or the nail. It gives rise to no marked inflammatory symptoms; where there is much irritation, however, a high degree of hyperæmia not infrequently manifests itself.

The fungus at times grows with great vigor; in other cases it seems barely able to sustain itself. As a rule, it is not tenacious of life, and may be destroyed without difficulty by any one of the numerous substances which exert a destructive influence upon vegetable organisms.

Diagnosis.—In the majority of cases no difficulty will be experienced in recognizing the disease. At the same time, examples occasionally present themselves where, from some peculiarity in the shape, size, coloration or localization of the patches, the true nature of the affection is not entertained. If the patch, however, be but suspected of being parasitic, there can remain no doubt as to its character, for the microscopic examination of the scales will establish the presence of the fungus. The mode of making the examination is simple. A few of the scales are scraped from the surface with a blunt knife-blade or with the finger-nail, and placed upon a glass slide with a drop of dilute liquor potassæ, and covered with a thin glass cover. The specimen may be at once submitted to the microscope, a power of from 300 to 500 diameters being necessary to show the fungus to advantage. It may, however, be detected with a lower power (200). No trouble whatever will occur in finding the growth, for it is always very abundant.

The seat of the affection, almost invariably upon the trunk, especially about the chest and abdomen; the yellowish or brownish color, and the furfuraceous desquamation of the patches, are also to be borne in mind. If a patch be rubbed or scratched with the finger-nail, the scales will fall in the form of a fine dust or powder; or, if the surface be moist from perspiration or other cause, the epidermis

will cake and form into rolls. Beneath the scales the skin will appear pinkish or reddish, according to the amount of irritation.

Care must be observed not to confound the disease with vitiligo, an affection of an entirely different nature, but one, nevertheless, which at times closely resembles tinea versicolor in some of its general features. Vitiligo is an affection of the pigmentary system of the skin, whose seat is confined to the mucous layer of the epidermis; in tinea versicolor the process, it will be remembered, is seated in the horny layer of the epidermis. If a patch of vitiligo be scratched with the finger-nail, no scaling will take place, for the horny layer of the epidermis is normal; while, on the other hand, if the case be one of tinea versicolor, considerable desquamation will occur. This simple test, therefore, is all-sufficient to establish the diagnosis.

Another disorder of the pigmentary system which may be mistaken for tinea versicolor, is the affection known as chloasma. Here the process, as in vitiligo, consists in an anomaly of the pigment deposit of the skin, and is consequently seated in the mucous layer of the epidermis. Chloasma, moreover, as a rule, does not occupy the same regions as tinea versicolor; it is usually encountered about the face, a region never attacked by the disease under consideration.

Certain cases of the erythematous syphiloderm may present a likeness to the small, rounded patches of tinea versicolor often met with; but error in diagnosis can scarcely occur if attention be paid to the characteristic features of the parasitic disease. It must be stated, nevertheless, that tinea versicolor is not infrequently confounded with the erythematous syphiloderm; such cases are certainly not rare in practice.

In tinea versicolor, the yellowish or brownish color, the variable size and shape and the scaly surface of the patches, their course, and their seat, are all to be borne in mind. In syphilis the patches are usually indistinct in outline; are seldom larger than a finger-nail; present a more mottled appearance; are pigmented; are but very slightly if at all raised; are not surmounted with furfuraceous scales; do not

itch; and, finally, are apt to occur upon the face, limbs, hands and feet as well as upon the trunk. The diagnosis may always be definitely established by the microscope. The pigmentary syphiloderm is so peculiar and so rare, that it is not likely to be confounded with the disease under consideration. As a word of caution, it must not be forgotten that tinea versicolor is quite as liable to show itself upon a syphilitic as upon a non-syphilitic person; the fact of an individual being syphilitic by no means precludes the possibility of contracting a vegetable parasitic disease.

Strange as it may sound, I have known cases where the patches of tinea versicolor have been regarded as the macular manifestation of leprosy; such a gross error, however, it need scarcely be remarked, is not likely to occur with one at all familiar with either disease.

Treatment.—The treatment is simple, and is followed by the most satisfactory results. A parasiticide of one kind or another, properly and thoroughly applied, is all that will be found necessary for the complete removal of the disease. In the choice of a remedy care should be exercised in selecting one of suitable strength, and at the same time one which may be conveniently applied by the patient. It should be remembered that the affection is one, as a rule, readily amenable to treatment, and that consequently strong preparations are not called for.

Strict attention to personal cleanliness should in all cases be enjoined. Frequent washings with soft soap and cold water are often alone sufficient to effect a cure in mild cases, where the parasite has a feeble hold upon the skin. Alkaline baths, consisting of two or three ounces each of carbonate of sodium and potassium to thirty gallons of water, are also useful in light cases where the disease is diffused over a considerable surface.

Repeated rubbings with soft soap, after the method practised in the Vienna General Hospital, by Hebra, constitute a ready and useful treatment. It may be directed as follows: a piece of sapo viridis the size of a walnut or larger, according to the amount of surface to be treated, is to be rubbed into the affected skin, in a thorough manner, every

morning and evening for five or six days, one coating of soap being applied over the other. The patient during the period of these rubbings should not be permitted to bathe nor to wash the parts. Four or five days are now allowed to elapse, when the first bath is ordered, after which the disease will be observed in many cases to have disappeared entirely. If certain patches still remain, the same course may be repeated, or the frequent use of soft soap in connection with the plain cold bath relied upon to complete the cure.

Excellent results are also obtained from the employment of ointments and lotions containing sulphite of sodium, to be used twice daily. Both ointment and lotion may be prepared in the strength of one drachm to the ounce of simple ointment or of water. Sulphurous acid is also a valuable remedy; it should be diluted with two or more parts of water, and applied as a lotion morning and evening. Before using these preparations, it is well to have the surface washed and cleansed with water and soft soap. Corrosive sublimate will also be found serviceable in the form of a lotion, two or three grains to the ounce. Anderson* gives the following formula, of which he speaks well:

℞ Hydrargyri Chloridi Corrosivi, ℈i;
Saponis Viridis, ℥ii;
Alcoholis, f℥iv;
Ol. Lavandulæ, f℈ii.
M.

This is to be well rubbed into the affected parts night and morning.

Whatever remedy be employed, it is proper to continue treatment with one of the milder preparations for several weeks after all symptoms have disappeared, to guard against relapses, which are liable to occur if this precaution be not exercised.

Should the patient manifest signs of general ill health and the disease prove intractable, in the form of repeated relapses, internal remedies, as may seem indicated, may at times be resorted to.

Prognosis.—This is always favorable. For an ordinary

* Parasitic Affections of the Skin. Second edition, London, 1868.

case, two or three weeks are usually sufficient to bring about a cure, although much will depend upon the manner in which the applications are made; if carelessly employed, a longer time will often be necessary. As a rule, the disease is very amenable to treatment. The patient should in all cases be warned against the possibility of a relapse.

SCABIES.

Syn. Itch; *Germ.*, Krätze; *Fr.*, Gale.

SCABIES IS A CONTAGIOUS, ANIMAL PARASITIC DISEASE, DUE TO THE SARCOPTES SCABIEI, CHARACTERIZED BY THE FORMATION OF CUNICULI, PAPULES, VESICLES AND PUSTULES, FOLLOWED BY EXCORIATIONS, CRUSTS AND GENERAL CUTANEOUS INFLAMMATION, ACCOMPANIED WITH ITCHING.

Symptoms.—Inasmuch as the disease presents a very different appearance as it is seen in its early or its later stage, it will be necessary to describe its course from the date of contagion. The itch mite no sooner finds itself upon the skin than it begins its work of burrowing; and here it may be mentioned that it is the female only which penetrates beneath the epidermis. Once within the skin, a burrow, or cuniculus, is rapidly formed, in which numerous eggs are deposited, and which, moreover, serves as a habitat for the female during her life. The male is said never to enter the skin, but to live upon the surface. According as the mite penetrates superficially or deeply, and according to the susceptibility of the skin, will one or another lesion be produced. After a certain time from the date of contagion a variable number of mites will have been hatched forth, all of which at once begin to care for themselves and to burrow. Thus the early symptoms of the disease are manifested by the presence of a source of irritation at various points, characterized by the formation of minute inflammatory puncta, papules or vesicles. If the parts be now carefully examined here and there the beginning of a cuniculus may usually be seen, although at this stage of the disease these will scarcely have been formed to any extent. The lesions may be either confined to a small area or quite gen-

eral; they may exist upon the hands alone, the parts of the body usually first invaded, or they may be distributed over various regions. They increase rapidly, and in the course of a fortnight or three weeks the disease generally appears typically developed. The symptoms now consist of distinct cuniculi, numerous small papules, distended vesicles and pustules, varying in size, excoriations, scratch marks, fissures, torn vesicles and pustules with crusts and bloodcrusts, all seated upon a more or less acutely inflamed skin. Not one or two but a number of lesions, it will be seen, go to make up the picture of scabies as it exists when fully developed. It is, indeed, by this multiform character of the lesions that the affection is best known.

The disease spreads day by day, until finally, in the course of a month or six weeks, the whole cutaneous surface is involved, certain regions of the body always suffering more markedly than others, showing at times a very extensive inflammation of the tissues. The older the scabies the greater will be the cutaneous disturbance, although by no means the more distinct the characteristic lesions, for these after a time become almost unrecognizable amid the crusts and extensive excoriations with which the parts are covered.

Having thus described the general course of the disease, it is in place to refer to the individual lesions. The burrow, furrow, or cuniculus, as it is variously termed, is formed by the mite entering the skin and making its way just beneath the horny layer of the epidermis, which is raised very much as a mole undermines the ground. It is to be seen as a slight linear elevation of the epidermis, varying from half a line to four or five lines in length, one or two lines representing the average length. It is usually irregular and tortuous in its course. In color it is whitish or yellowish, with a dotted, speckled look, or blackish, varying with the occupation of the patient and the amount of dirt which has collected upon the surface. At either end it terminates abruptly, exhibiting usually darkish points; the more prominent and usually lighter of these represents the mite, which lies imbedded in the mucous layer of the epidermis. Burrows, such as just described, are commonly seen only about the fingers,

for upon other parts of the body they become torn and scratched before they have had time to arrive at any length.

The papules, vesicles and pustules are peculiar, and differ in their appearance and course from those observed in other diseases. All of these lesions may usually be seen at the same time, in various stages of development. The papules are usually numerous, always small, and are the first lesions to make their appearance. Very often the disease does not get beyond the papular stage. The vesicles may be either minute or quite large; they are ordinarily observed of various sizes and shapes. They usually have an inflamed base, and stand forth prominently. Upon their tops, short cuniculi are very often seen, beneath which, in recent lesions, the itch mite may usually be found. This is a characteristic mark of the scabies vesicle; it also exists in the pustule. The vesicles may remain or they may pass into pustules, which, if not disturbed, may increase to the size of split peas and larger. When large they are apt to be more or less irregular in outline. They show no regularity of distribution.

The scratching of the patient produces secondary lesions, which play a very important part in the disease. These scratch marks consist of excoriations of various kinds; torn papules, vesicles and pustules, lacerations of the epidermis and corium, and wounded hair follicles, being among the most conspicuous. Crusts, composed of blood, serum and pus, of all forms and sizes, follow these lesions, and are usually present in quantity. The amount of matter of this kind will depend upon the length of time the scabies has existed, as well as upon the natural susceptibility of skin and the degree of scratching indulged in by the patient.

Lastly, the general cutaneous inflammation, or dermatitis, accompanied by infiltration, thickening and pigmentation, is to be taken into consideration. As a rule, all of the symptoms referred to are present at the same time, and it will be seen that great tissue disturbance must necessarily be present. As just remarked, however, this varies, according to the natural sensibility of the tissues, general nutrition and health of the individual, mechanical irritation in the form of injudicious treatment, scratching and other circumstances.

The regions of the body attacked are characteristic. The affection usually begins about the hands, and especially the fingers. The wrists, penis in the male, and mammæ in the female, are generally next invaded, followed by more or less eruption about all of the softer tissues of the trunk. The sides of the fingers and the various folds where they join the hands are the particular localities attacked. In the male, the penis, owing to frequent contact with the hands for the purpose of urinating, is almost invariably affected. In the female, the mammæ, notably around and upon the nipples, usually show marked signs of the disease. The umbilicus, axillæ and buttocks in both sexes are commonly invaded. The lower limbs are seldom involved to any great degree, except in cases of long duration; the toes, however, particularly in children, are often the seat of the trouble.

Thus far only the objective symptoms have been referred to; there remain to be referred to those of a subjective nature, characterized mainly by itching which is always present in a greater or less degree. It commences as soon as contagion has taken place, gradually increasing in intensity until it becomes quite severe. It varies greatly, however, with the susceptibility of the skin, as well as with the temperament of the individual. It is constant, but usually very much aggravated at night; sometimes it is felt only very slightly through the day.

In those predisposed to eczema, this disease, in addition to the simple dermatitis, is provoked by the itch mite in the same manner as by any other penetrating irritant; hence in countries where scabies is common, examples of the disease combined with true eczema are by no means rare. The complication is always troublesome, both on account of the difficulty of diagnosis as well as the treatment. On the other hand, where the patient possesses no disposition to the development of eczema, a simple dermatitis results, characterized by the lesions already specified, and which invariably terminates in more or less rapid recovery as soon as the cause has been removed.

Scabies sometimes continues a very long while, not infrequently years, before it is either detected or cured, in which

case the symptoms just detailed are all greatly exaggerated.*

Etiology.—There is one cause only of the disease, namely, the presence of the sarcoptes scabiei. None are exempt from its ravages. It attacks all individuals indiscriminately wherever the opportunity of burrowing itself into the tissues is offered. The affection arises from contagion, and only from contagion. This may be direct or indirect; the former when the mite is transferred directly from one person to another, as by a shake of the hand; the latter when it occurs through the medium of something which for the time holds the mite, as, for example, the bedding or the clothes. Secondarily, very much of the disease which exists is caused by the scratching of the patient.

Scabies occurs in persons of all ages, from infancy to old age, as well as in those in every walk of life; although on account of inattention to cleanliness, the wearing of the same underclothes for a long time, and the more frequent sources of contagion to which the poor are necessarily subjected, it is of much more frequent occurrence among this class. It is commoner in men than in women, from the fact that men among the lower orders are more apt to sleep together than women.

Scabies exists very much more extensively in some communities than in others. It is the most common of all cutaneous diseases in the various countries of Europe. In Glasgow, according to the statistics of Anderson,† it is of unusually frequent occurrence, 2527 cases having been encountered among 10,000 consecutive dispensary cases of skin disease, and 44 cases out of 1000 cases in private practice. In London, Mr. Wilson‡ reports 308 examples among 10,000 cases of cutaneous disease, as observed in private practice. In both Paris and Vienna scabies is exceedingly common, more so in the first named city.

---

* The so-called "Norwegian Scabies" may be cited as an example. Here the disease has often lasted a lifetime, the whole body being in a chronically inflamed state, and covered with pustules, extensive crusts and débris.

† The Lancet, Nov. 11, 1871.

‡ Journal of Cutaneous Medicine, vol. iii., No. 11.

In the United States, at the present time, it is quite rare, varying considerably, however, in the frequency of its occurrence in the different large cities. It is more prevalent in seaport than in inland towns. White,* of Boston, reports 139 cases among 5000 consecutive cases of skin disease, as met with at the out-door department of the Massachusetts General Hospital. Wigglesworth,† at the Dispensary for Skin Diseases, Boston, records but 13 cases out of 1339 consecutive cases of skin disease. In New York, the disease is encountered more frequently; Bulkley‡ gives 62 cases in 1617 cases of skin disease, as observed in dispensary practice. In Philadelphia, at the Dispensary for Skin Diseases, there were but 9 cases out of 1267 consecutive cases of skin disease; while at the clinic for cutaneous diseases at the Hospital of the University of Pennsylvania, only 3 cases were encountered among 1205 consecutive cases of skin disease.

During the period of the late civil war the disease was quite prevalent throughout our country. The so-called "army itch" possesses no peculiarities worthy of remark, and hence is to be viewed simply as ordinary scabies.

Pathology.—Under this head may be described the anatomy of the mite, its habits of life, its habitat, and the lesions to which it gives rise. The sarcoptes scabiei (termed also sarcoptes hominis and acarus scabiei) is a minute insect, barely visible to the naked eye as a yellowish-white, rounded body. The female is usually met with, the male, in all probability, taking no part in causing the cutaneous lesions, and for this reason being very rarely encountered. The adult female is seen under the microscope to have a rounded ovalish body, convex on the back and flat on the belly, marked with two slight indentations on either side, and numerous transverse, undulating lines running over its ventral surface. (See Fig. XI.) On the back are rows of conical, teeth-like prominences, or spines, with on either side of the posterior part of the body

* Boston Medical and Surgical Journal, Jan. 27, 1876.

† Annual Reports of the Dispensary for Skin Diseases, Boston, for 1873 and 1874.

‡ American Practitioner, May, 1875, and April and May, 1876.

a series of larger, spike-shaped processes. The head is small, of a rounded oval shape, and is closely set in the body; it is a complex structure, made up of palpi and mandibles, and is provided with six small hairs. Eyes do not exist. The legs are quite conspicuous and are eight in number, four being situated close to the head, and four posteriorly. The four front legs are short, stout, conical or teat-shaped, jointed bodies, and are provided with stalked, cup-shaped suckers; hairs also come out from the extremities and sides

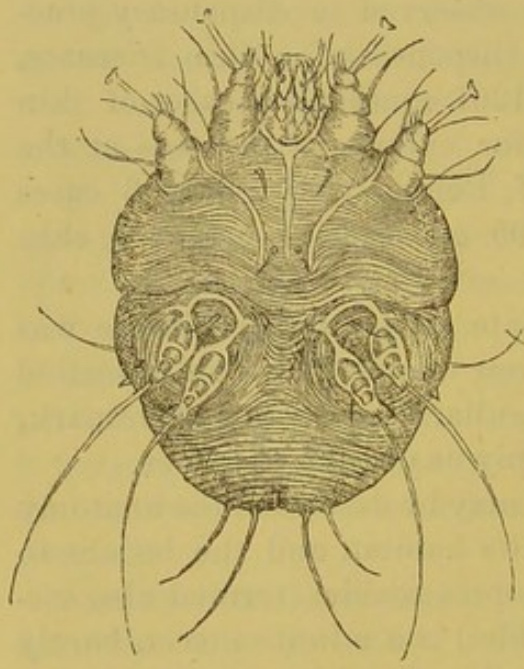


FIG. XI.—SARCOPTES SCABIEI. (125 Diameters.) Female. Ventral surface.

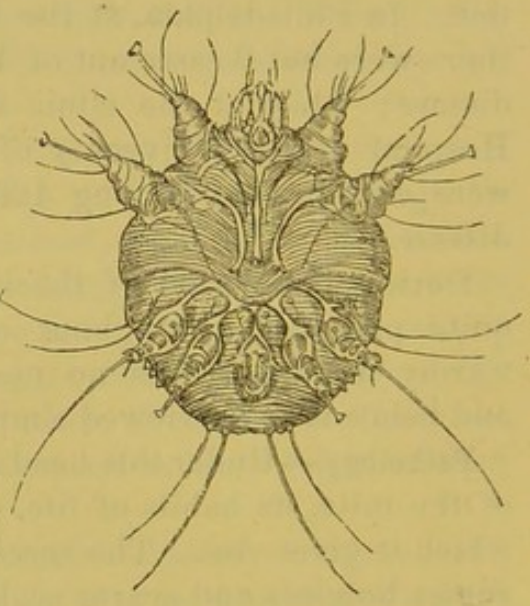


FIG. XII.—SARCOPTES SCABIEI. (125 Diameters. Male. Ventral surface. (After Lanquetin.*)

of these structures. The hinder legs come off from the posterior half of the middle of the body, are less bulky than the front legs, and are each armed at their extremities with a long, curved bristle. In addition to the legs, there are bristles which come off from the body, two on either side and four posteriorly. The female is much larger than the male (almost twice the size), and varies from $\frac{1}{7}'''$ (.3022 mm.) to $\frac{1}{5}'''$ (.4233 mm.) in length, and from $\frac{1}{8}'''$ (.2645 mm.) to $\frac{1}{6}'''$ (.3527 mm.) in breadth. The male in general structure

* Notice sur la Gale et sur l'animalcule qui la produit. Avec planches gravées. Seconde édition. Paris, 1859.

differs but little from the female; the last pair of posterior legs, however, are provided with stalked suckers in the place of bristles as in the female; the organs of generation, moreover, are quite conspicuously marked. (See Fig. XII.) The young, or larvæ, of either sex, may be recognized by their possessing but two hind legs.*

The female finds her way by boring in a perpendicular direction through the horny layer into the mucous layer of the epidermis, and, being impregnated, begins at once laying her eggs and at the same time making her burrow. A variable number of eggs are deposited, usually about a dozen, after which the mite perishes in the skin. They average $\frac{1}{12}'''$ (.1764 mm.) in length. If a cuniculus be carefully excised with a sharp knife or flat scissors, and placed beneath a microscope, it will be found to contain the mite, with usually from ten to fifteen eggs, arranged in a row, egg-shells, more or less broken, and small, roundish, dark-colored specks,—the excrement. The ova hatch out in eight or ten days.

The female may be captured by puncturing the blind end of one of the longer burrows (at which end the mite will always be found, appearing as a whitish or dark point) with a pin or needle. With a little practice no difficulty will be experienced in securing the prize. Before the operation is attempted, however, care should be observed in ascertaining the exact seat of the mite.

Scabies must be viewed as an artificial inflammation of the skin. It is brought about by the peculiar ravages of the insect, together with the scratching on the part of the patient. The lesions produced, both primary and secondary, with the exception of the burrows, are very similar, from an anatomical point of view, to those encountered in certain of the varieties of eczema. The amount of cutaneous disturbance varies considerably; as a rule, it is marked, the degree of inflammation depending upon the duration of the disease,

* For a complete treatise on the anatomy of the sarcoptes scabiei, see the superb and elaborate monograph of M. H. F. Fürstenberg, entitled "Die Krätzmilben der Menschen und Thiere, mit 15 lithographirten Taflen, 10 Umrissfiguren und 3 Holzschnitten. Leipzig, 1861."

and, more particularly, upon the sensibility of the skin. With this latter point will rest not only the grade of inflammation, but also the amount of scratching, a most important feature in the course of the disease. According as the skin is or is not sensitive, will the disease prove comparatively light or severe in type. In cases where there is a predisposition to eczema, this disease will undoubtedly be called forth, seriously complicating the course of the original affection; such instances are sufficiently common in countries where scabies is of frequent occurrence.* In the majority of cases, however, no condition worthy of the name of eczema is present.

Diagnosis.—Bearing in mind the various points which denote the presence of the disease, the diagnosis, as a rule, is easy. At the same time it must not be forgotten that the affection is liable to be encountered in all stages, from the day of contagion to the period of its highest development, and that the symptoms vary greatly according to its age, the influences to which it has been exposed, and other circumstances.

The presence of the burrow suffices for the diagnosis, and should be looked for as soon as the trouble is suspected; but it is by no means always to be found. In the first stage of the affection typical burrows do not exist, for a certain length of time is required for the mite to produce them; after the disease has continued for some time they become, on the other hand, in a great measure obliterated by the scratching of the patient or by strong applications. Thus it will be seen that their demonstration may prove a matter of difficulty. Their remains, however, in old cases may always be noticed. The mite itself may usually be extracted with a pin from a recent vesicle or burrow; but failure in this direction should by no means carry weight in the diagnosis, for it requires sharp eyes and a certain amount of dexterity to capture the intruder, even when in full sight. Moreover,

* In this country it is rare, in my experience, to see true eczema caused by scabies. The affection, as a rule, disappears rapidly upon the employment of a suitable parasiticide, a result which could not be looked for were eczema present.

the supposed burrow may upon closer inspection prove to be but a line of abraded epidermis, more or less filled with dirt or other extraneous matter. They are not always plain to be seen; at times they are rendered obscure by the occupation of the patient, as, for example, in bakers and in blacksmiths. They are most numerous and marked where the skin is thin and protected from external influences. In the majority of cases they are to be readily detected only upon the sides of the fingers.

The region of the body affected must always point strongly to scabies. The hands, wrists, fore-arms, the penis in the male, the mammæ and nipples in the female, the buttocks in both sexes, particularly in children, and the trunk, are all more or less involved. The face and scalp remain free, except in the case of infants.

The multiformity of the eruption, where the disease is well developed, consisting of a generally inflamed surface, papules, vesicles, pustules, scratch marks, excoriations, crusts of blood and pus, should in itself lead to a suspicion of the disease, especially if it occur upon the parts just specified. Scabies may, indeed, usually be recognized by the general picture which it presents. To corroborate the diagnosis, a history of contagion will in the majority of cases be furnished by the patient.

There are, nevertheless, several diseases with which it may be confounded. It is most liable to be mistaken for vesicular and pustular eczema, with which it has many symptoms in common. As has been already stated, the two diseases may exist together as a complication, but such an occurrence is rare. The presence of the mite, the burrows, the acuminated, more or less isolated vesicles and pustules, with irregular dots or lines in their roofs, the regions affected, the gradual accession in the severity of all the symptoms, the steady increase day by day of itching and consequent scratching, and lastly, the proof of contagion, all speak strongly in favor of scabies and directly against eczema.

The affection may be distinguished from phtheiriasis by the character of the anatomical lesions, as well as by the regions involved. Finally, it is to be remembered that

scabies may exist intercurrently, in connection with various skin diseases.

Treatment.—Once recognized, the disease is speedily cured. External means alone are required. Before prescribing, however, there are several points which should always be taken into consideration. The age of the patient, whether an infant, child or adult, is a matter of some importance in deciding upon the remedy to be used. The natural sensitiveness of the skin, whether delicate and fine or coarse and harsh, should also be determined. A knowledge of the duration of the trouble, as well as the amount of secondary disturbance in the form of excoriations, crusts, and infiltration which may exist, is likewise important. If of some weeks' standing, accompanied by extensive vesiculation, pustulation, excoriation, and crusting, with marked inflammation and irritability of the whole surface, the treatment should at first be mild. If, on the other hand, of recent date, unaccompanied by marked secondary products, a more vigorous method may be ordered and the cure hastened.

The objects to be gained in the treatment are twofold, namely, the destruction of the parasite and at the same time relief to the inflamed skin. Ordinarily, the artificially-disturbed tissues recuperate very rapidly after the destruction of the mite, so that no special remedies are demanded for this condition. If eczema, however, exist in connection with the scabies, or if the case be a very severe one of long duration, it is usually weeks or longer before complete recovery takes place.

Sulphur, in one form or another, is the remedy which may be relied upon in all cases. It is best employed as an ointment. The strength should vary somewhat with the case at hand, for, although a very valuable parasiticide, if used too strong, where there is a high degree of inflammation, it acts also as an irritant to the skin. A drachm to the ounce of simple ointment will be found suitable for the majority of cases; in children, a half drachm to the ounce will prove of sufficient strength.

Before applying any one of the sulphur ointments, the patient should receive a thorough washing with soft soap

and water, to be followed if possible by a warm bath of half an hour's duration. After this the ointment should be firmly and slowly rubbed into every portion of the body (except the head in the case of an adult), special attention being devoted to the hands, fingers and other parts usually the seat of the disease. About an ounce of the ointment should be consumed for each application. The rubbings are to be repeated every evening for three days, at the expiration of which time a bath with soap may be taken. Should this not suffice to cure the trouble, the frictions may be again undertaken, and continued for a day or two longer, which in all cases will terminate the disease. The itching will usually abate considerably after the first day, although it will not cease entirely until some days have elapsed after the destruction of the parasites, owing to the general cutaneous inflammation and irritation which always exist. The applications, therefore, are not to be persisted with because the itching continues, but should be stopped after the third day, at least until it be ascertained whether or not the mites have been destroyed. Concerning this point discretion must be used, for much harm may result from too oft repeated inunctions.

Balsam of Peru, in itself a parasiticide, may be advantageously combined with sulphur, constituting an excellent preparation for children, as in the following formula:

℞ Sulphuris Sublimati, ℥ss;
Balsami Peruviani, ℥ss;
Adipis, ℥i.
M. Ft. ungt.

Styrax, also a balsam, is likewise a valuable remedy. It is well spoken of by Anderson,* and is by him even preferred to sulphur; he employs it according to the appended prescription:

℞ Styracis Liquidi, ℥i;
Adipis, ℥ii.
Liquefac et cola.

It possesses the advantages of having a pleasant odor, of being clean, and, moreover, unirritating to the skin.

* Treatment of Diseases of the Skin. London, 1872.

Tar, oil of cade, sapo viridis, carbonate of potassium, lime, petroleum, the essential oils, and staphisagria, are also all successfully employed, with or without sulphur, in various combinations. They constitute the principal ingredients of numerous well-known prescriptions, some which have had considerable repute in the treatment of this disease. A few of these only need be referred to:

℞ Potassii Carbonatis, ʒi;
Sulphuris Sublimati, ʒii;
Adipis, ℥iss.
M. Ft. ungt.

This is Hardy's modification of Helmerich's ointment, and is the preparation used at the St. Louis Hospital, Paris. The patient is well rubbed with sapo viridis for half an hour, when he is placed in a warm bath, and permitted to remain there another half hour, after which the above ointment is thoroughly rubbed into the skin, and the cure thus completed. This course of treatment, though rapid, and as a rule effectual, is at the same time somewhat irritating to the skin; it was first instituted by Hardy, and, for a large hospital service, fulfils its purpose.*

Wilkinson's ointment, as modified by Hebra, is a preparation much in vogue in the Vienna General Hospital; the following is Hebra's formula:

℞ Sulphuris Sublimati,
Olei Cadini, āā ʒiii;
Cretæ Præparatæ, ʒii;
Saponis Viridis,
Adipis, āā ℥i.
M. Ft. ungt.

Patients are rubbed morning and evening for two days, after which nothing is done for a week, when, for the first time, a warm bath is ordered, and the treatment concluded. The preparation, though efficacious, is by no means elegant; it is more suitable for hospital than for private practice.

The patient should always be cautioned concerning the

* At the St. Louis Hospital, Paris, the number of scabies patients is very large; not infrequently as many as forty or fifty new cases per day apply for treatment. They are not admitted into the hospital, but receive the cure described in a department devoted to this purpose.

contagious nature of the disease. It is advisable to wear the same underclothes during the treatment, and afterwards to have them boiled.

Prognosis.—This is always favorable, a week usually sufficing for the cure where the disease is not of long standing. If marked secondary lesions exist, several weeks or longer may be necessary to restore the skin to complete health. Relapses occur only in cases where the treatment has been imperfectly carried out; or, where the individual has re-contracted the disease.

LEPTUS.—Two species of leptus which are known to attack man are described by Prof. Riley,* of St. Louis, as occurring in the United States, both of which are sufficiently common in our southwestern states.

Leptus Americanus, or American Harvest Mite.—This is a minute (barely visible to the naked eye), active, brick-red colored, elongate pyriform creature with six long legs. It is found (more frequently, it is said, upon children than upon adults) upon the scalp, in the axillæ, and on other parts of the body. It does not completely bury itself in the flesh, but insinuates the anterior portion of the body only beneath the skin, causing a small inflammatory papule.

Leptus Irritans, or Irritating Harvest Mite.†—This is the better known of the two, and differs from the preceding merely in having a roundish oval form. It gives rise to considerable trouble, burying itself in the skin and causing irritation and inflammation characterized by papules, vesicles and pustules. It attacks especially the ankles and legs. It is met with in the summer and autumn in the corn-fields, upon low bushes, in the grass and weeds along the banks of rivers, and in swampy places. It is said to be very common along the Mississippi river. The little red mite encountered in the swamps and on the low ground of

* American Naturalist, vol. vii. p. 16.

† This is very closely allied to the species met with in various parts of Europe, and known as leptus (or acarus) autumnalis (also termed harvest-bug and mower's mite).

New Jersey and Delaware is, in all probability, the same species.

Either species are best treated with mild parasiticides, as, for example, a weak sulphur ointment, after the manner of scabies.

Pulex Penetrans, or Sand Flea.—The sand flea (called also chigoe, chigger, and jigger) is a small, almost microscopic creature, similar in its general anatomy to the common flea. It possesses, however, a proboscis which is as long as its body. It perforates and burrows into the skin, and in the course of a few days produces a painful inflammation accompanied with swelling, large vesicles or pustules, and, at times, extensive ulceration. The impregnated female alone enters the skin and causes the mischief. It attacks the feet, and more particularly the toes, beneath and alongside of the nail, where the ova are deposited.

The sand flea is met with in tropical countries only; it is common in the West Indies, and in Central and South America. It is said to exist also in Florida.* The treatment consists in extracting the intruder, which comes away in the form of a sac or bag as large as a small pea, being the abdomen enormously distended with ova. The various essential oils are used about the feet as a preventive against the attacks of the animal.

Filaria Medinensis.—This parasite (known also as the Guinea-worm and dracunculus) is found only in tropical countries, and more particularly along the coast of Africa, and in Egypt, Persia, and India. It attacks the skin, giving rise to marked inflammation, which manifests itself in the form of a species of boil or painful tumor. The full-grown worm is about a half or three-quarters of a line in thickness, and varies from several inches to three feet in length according to its age. It has a roundish flattened form, tapers at either end, and is of a milk-white color.

* In our southern states there is a little creature, termed by the natives also "jigger," which is not to be confounded with the sand flea; it is a red mite, and is in all probability the leptus irritans above described.

The young worm, when of microscopic size, finds its way by boring into the skin and deeper tissues, and there takes up its habitat. It remains in the integument in, as it were, a latent state for a long period, usually months, during which time it grows to the size above indicated. Sooner or later local inflammation is set up in the form of a pointed tumor, accompanied by more or less swelling and pain, which breaks, showing the presence of the worm. One worm only is present in each tumor, although a number of them may infest different regions of the body at the same time. The lower extremities, especially the feet, are the parts generally attacked. The disease is usually contracted in swampy places and on low grounds.

The treatment consists in extracting the worm inch by inch, from day to day, as soon as it makes its appearance at the surface of the skin, care being taken not to break the creature in the operation.

Œstrus, or Bot Fly.—This parasite not infrequently attacks man in Central and South America. It is also met with elsewhere. The ova are deposited by the fly in the skin, and there form inflammatory tumors or swellings, with a central point or aperture which discharges a sanious fluid. In the course of time the presence of the worm, grub, or bot, is discovered, which may be squeezed out or extracted.

The various exposed portions of the surface are liable to be attacked, particularly the neck, back, and extremities. The fly very often deposits the ova unknown to the individual. There are several species of Œstrus which infest the human skin, of which Œ. bovis is the most common. There is probably no species Œ. hominis.

Demodex Folliculorum.—This minute animal (also designated steatozoon, entozoon, and acarus, folliculorum) inhabits the sebaceous follicles of healthy, normal skin, and consequently gives rise to no symptoms whatsoever of disease. It is microscopic, varying in length from $\frac{1}{12}'''$ to $\frac{1}{6}'''$, and has an elongated, rounded, worm-like form, made up of a head, thorax, and a long abdomen. Other, shorter, forms

are also found. From the thorax come off eight, short, stout, conical legs, all of the same size. The larva has only six legs. The abdomen is usually from two to three times the length of the thorax, and tapers off to a rounded point.

Fig. XIII.—Demodex Folliculorum. (300 Diameters.)
Ventral surface. (After Simon.)

The parasite exists in the sebaceous glands of the skin, in both sexes, especially about the face, nose, ears, back, and chest, and lives on sebaceous matter. It is said not to occur in infants. It is entirely inoffensive, and is met with in healthy skin quite as often as in those cases where the sebaceous glandular system is markedly disturbed, as, for example, in acne or in comedo. All persons, however, do not seem to possess the creatures; they are more apt to be present in thick, greasy skins than in thin, dry skins. They occur as often, at least, as two or three times in ten persons. Two, three or more of them often exist in one follicle. They are found imbedded in the sebaceous matter, lying lengthwise with the follicle, with the head directed inwards.

No difficulty is experienced in obtaining them from a

likely subject. A prominent or patulous follicle or a comedo upon the nose or forehead may be squeezed out, and the contents placed on a glass slide with a drop of olive oil and covered with a thin glass, when with a power of from one to three hundred diameters, one or more of them will be usually found. The parasite was discovered by Henle, in 1841, and also, at about the same time, by Gustav Simon, of Berlin.*

PHTHEIRIASIS.

Syn. Phthiriasis: Morbus Pedicularis; Pedicularia; Pediculosis; Malis Pediculi; Lousiness; *Germ.*, Läusesucht; *Fr.*, Maladie Pediculaire.

PHTHEIRIASIS IS A CONTAGIOUS, ANIMAL PARASITIC AFFECTION, CHARACTERIZED BY THE PRESENCE OF PEDICULI AND THE LESIONS WHICH THEY PRODUCE, TOGETHER WITH SCRATCH MARKS, EXCORIATIONS, AND ITCHING.

Symptoms.—Three varieties of the disease are encountered, which are designated according to the names of the species of pediculi which have their habitat upon the human body. The parasites are named pediculus capitis, pediculus corporis, and pediculus pubis, frequenting, respectively, the head, body, and pubis. Their ravages are often very extensive, always occasioning more or less discomfort, and at times great distress. The symptoms which they give rise to are somewhat different, and hence call for separate consideration.

PHTHEIRIASIS CAPITIS.—This is due to the presence of the pediculus capitis, or head louse. (See Fig. XIV.) It is found upon the scalp, and, as a rule, only upon this region of the body; occasionally, however, in elderly, bedridden subjects, it is met with on the general surface. It has an elongate ovalish shape, consisting of head, thorax, and abdomen, the latter of which is marked on either side with seven clearly defined, deep, angular notches, and a blackish linear margin. Six legs, similar in size and general features, strongly jointed, and armed with stout claws and hairs, come off from the thorax. The head is of a rounded acorn shape,

* See Simon, loc. cit., p. 312.

and is furnished with two five-jointed antennæ, and a pair of large, black, prominent eyes. The animal has an ashy-white or grayish color. It varies in length from $\frac{2}{3}'''$ (1.4110 mm.) to $1\frac{1}{2}'''$ (3.1749 mm.). The female is larger than the male. Upon the back of the male is seen a conspicuous and disproportionately large, conical or wedge-shaped structure, the penis. The ova, commonly termed "nits," are remarkably large (about a quarter of a line), pyriform or ovalish, whitish bodies, which are glued securely to the hairs. One, two, or more may be deposited on one hair. According to Küchenmeister,* the young are hatched forth in six days.

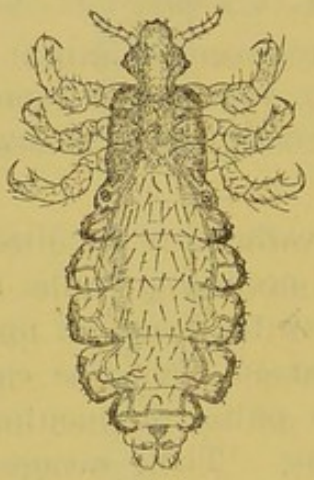


FIG. XIV.—PEDICULUS CAPITIS. (20 Diameters.)
Female. Dorsal surface.

The parasites may be present in small or in very great numbers, according to the length of time the affection has existed as well as other circumstances. They are found upon all portions of the head, their favorite seat being the occipital region. They are met with either upon the scalp itself, or upon the hairs at a considerable distance from the scalp. The ova are found deposited along the shaft of the hair.

Pediculi capitis are encountered for the most part in children; they are, however, also met with in adults, especially women. They are of not infrequent occurrence among the children of the poorer classes, and in public schools. They

* The Animal and Vegetable Parasites of the Human Body, vol. ii. Syd. Soc. Translation. London, 1857.

attack the scalp and give rise to considerable irritation, itching, and consequent scratching, which is indulged in to such an extent that the scalp soon becomes wounded, and oozes a serous or purulent fluid mixed with blood, which in time mats the hair and forms into crusts. The greater the number of pediculi, and the longer they are permitted to exist, the more extensive will be the lesions. The state of the general health of the patient will also influence the course of the affection; the parasites will, as a rule, cause much more mischief in those who are under bad hygienic influences, improperly cared for, and ill nourished, than in the healthy. In those predisposed to eczema the scalp will, in most cases, show marked symptoms of true eczema itself. Pediculi are, without doubt, accountable for a large share of the artificial eczema of the head met with in children among the poorer classes.

Together with the pediculi, which may always be seen upon investigation crawling upon the hair, are found the ova, or nits. Very large numbers of these may usually be seen throughout the hair, at a distance often resembling in appearance the fine scales of dry seborrhœa. Numerous ova may generally be found even in cases where the pediculi themselves are few.

Where phtheiriasis capitis has existed for some time, the head usually presents a disgusting appearance, as well as an offensive, nauseous smell. As the disease continues the itching becomes intolerable, and the patient is unable to refrain from constant scratching; sleep is interfered with; the mind is harassed, and the general health more or less disturbed.

Phtheiriasis Corporis.—The parasite here is the pediculus corporis, or body louse (termed also, more properly, the pediculus vestimenti, or clothes louse). (See Fig. XV.) As regards its anatomical structure, it is very similar to the pediculus capitis, although it is considerably larger; it varies in length from $\frac{3}{4}'''$ (1.1576 mm.) to $2'''$ (4.2332 mm.). The female is larger than the male. It has an elongate, oval-ish shape, with seven well-marked indentations on either side of the abdomen, which are less angular and more

rounded than in the case of the pediculus capitis. The abdomen of the female is broader than that of the male, is more deeply notched upon the sides, and possesses a triangular-shaped notch at the end. The penis in the male is a remarkably large, wedge-shaped structure, situated on the back, and arising from the posterior portion of the middle of the abdomen. From the thorax spring the legs, three on either side, which are long, jointed, and provided with heavy claws and numerous small hairs. The head protrudes, is of a rounded acorn shape, and is armed with two hairy, five-

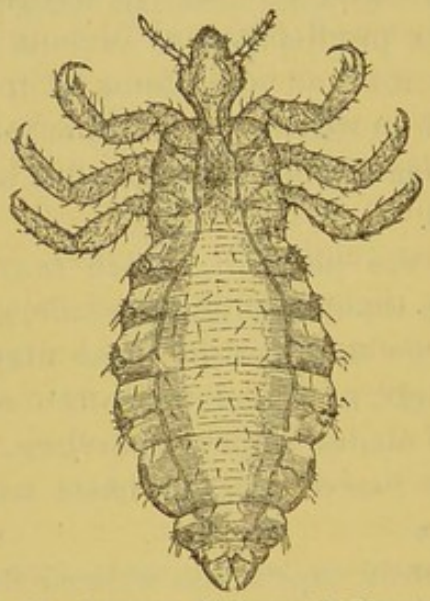


FIG. XV.—PEDICULUS CORPORIS. (20 Diameters.)
Female. Dorsal surface.

jointed antennæ, and prominent eyes. The color of the louse, when devoid of blood, is dirty-white or grayish, with a dark line around the margin of the abdomen.

Its habitat is the clothes covering the general surface of the body and limbs; for it lives in the garments, only remaining upon the skin long enough to obtain its sustenance. Its ova are deposited and hatched in the clothing, usually beneath the seams. Where the pediculi are present in large numbers, some few may usually be observed upon the skin, either crawling about or in the act of drawing blood; the vast majority, however, will be found upon the clothes next to the surface, especially about the folds and seams of the undergarments. As they move about over the surface or attack

the skin for food, they give rise to intensely disagreeable, itching sensations. The patient scratches, but obtains no permanent relief; as the parasites multiply, the itching becomes so violent that the distress is almost unendurable. The scratching on the part of the patient is always severe, and is productive of scratch lines and marks, excoriations, bloodcrusts, pigmentation, thickening of the skin, and pustules with inflammatory bases and more or less crusting.

The lesions are characteristic. They are peculiar in being multiform; the scratch marks are here and there long and streaked, in other places short and jagged; the excoriations and bloodcrusts are of all sizes, from a pin-head to a split pea and larger, and the pustules irregular in outline and without definite shape. They vary in severity with the duration of the affection and the general condition of the patient. Upon close inspection, in addition to the scratch marks and other secondary symptoms are seen the primary lesions, consisting of minute reddish puncta, or spots, with slight areolæ, denoting the points at which the parasite has attacked the skin and drawn blood.

The chief seats of the lesions are the back, especially about the scapular region, the chest, abdomen, hips and thighs; other portions of the general surface are also more or less involved. Where the affection has existed for months or years, as at times happens, a brownish pigmentation of the whole skin takes place, the result of long-continued irritation and scratching.

Phtheiriasis corporis is encountered for the most part in the middle-aged and elderly, although none are exempt from its invasion. Children, however, owing to the care which they usually receive, are seldom attacked. The complaint is a very frequent one among the poorer classes of all countries.

Phtheiriasis Pubis.—The pediculus pubis, or crab louse (known also as phthirius inguinalis, phthirius pubis, and morpio), although having its seat of predilection about the pubis, may also infest the axillæ, sternal region in the male, beard, eyebrows, and even eyelashes. (See Fig. XVI.) It is smaller than either the head louse or the body louse, measuring from $\frac{1}{2}'''$ (1.0583 mm.) to $1'''$ (2.1166 mm.). It has a

short, broad, flat, roundish or shield-shaped form, with a large, "fiddle-shaped" head, with two, stout, five-jointed antennæ, and a pair of small, rather inconspicuous eyes. The thorax is short and passes imperceptibly into the abdomen; from the sides of the thorax come off six, jointed, hairy legs provided with powerful claws; the first pair are light, the second and third pair thick and heavy. The margin of the abdomen is slightly indented, and armed with eight, stout, conical or teat-shaped, prehensile feet, each with from four to ten bristles. The creature has a yellowish-gray color, and is more or less transparent. The female is larger than the male, and has a triangular-shaped notch at the termination of the abdomen.

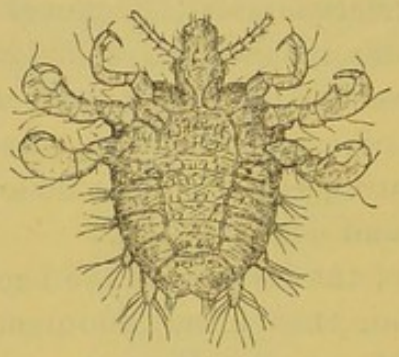


Fig. XVI.—Pediculus Pubis. (20 Diameters.)
Female. Dorsal surface.

They may be found either crawling about the hairs or adhering closely to the surface of the skin. By means of the legs and bristles they cling with remarkable tenacity to the parts with which they may be in contact. The ova are small, whitish or yellowish bodies, and are found glued to the hairs, as in the case of those of the pediculus capitis. Here and there upon the skin, especially about the roots of the hairs, minute reddish particles may be seen,—the excrement of the parasite.

Pediculi pubis infest adults chiefly, and occasion symptoms similar to those described in connection with the other species. They are usually contracted through sexual intercourse; at the same time, it must be stated, cases occasionally present themselves in which they have not been got in

this way, and where no explanation as to the mode of contagion can be suggested. The amount of irritation to the skin which they produce varies; at times it is quite severe, in other cases it is comparatively insignificant.

Etiology.—The cause of phtheiriasis is always to be found in the presence of the parasites. All individuals, the rich as well as the poor, the robust as well as the weakly, are equally liable to be attacked. As in scabies, contagion, direct or indirect, is the only possible source from which the disorder may be contracted; now and then, through inaccurate observation, it becomes a matter of no little difficulty to account for the mode of contagion.*

In this connection the primary lesion produced by the pediculus, as well as the secondary lesions, may be briefly referred to. Considerable attention has been devoted to the minute anatomy of the head of the pediculus corporis by Landois† and Schiödte‡. The latter of these investigators, whose studies are the more recent, has arrived at the conclusion that pediculi are provided with a sucking apparatus, or haustellum, as originally suggested by Swammerdam, and not with a mouth and mandibles, as has been commonly supposed. Such being the anatomy, it is obvious that the pediculus does not bite, but, inserting the haustellum into a follicle, obtains blood by a process of sucking, producing a lesion which must be regarded in the light of a minute hemorrhage. This view is entertained also by Fox§ and others, and is without doubt correct.

The secondary lesions are usually conspicuous, and are the effects of scratching upon skin which has been subjected to the ravages of the parasite. The longer the affection has existed, and the more numerous the pediculi are, the more

* Views such as have from time to time been suggested, pointing to the "spontaneous generation" of pediculi, as well as to their having originated within the skin, it need scarcely be remarked, are without foundation and devoid of reason.

† Zeitschrift für Wissenschaftliche Zoologie, Bd. xiv. and xv.

‡ Naturhistorisk Tidsskrift, ser. 3, vol. iii., Copenhagen, 1864–65; for translation, see Annals and Magazine of Natural History, ser. iii., vol. xvii., 1866.

§ Loc. cit., p. 413.

marked will these lesions be. The attacks of the pediculus, especially in the case of pediculi capitis and corporis, bring about a peculiarly irritable state of the skin which renders the desire for scratching one not to be resisted. As a consequence, scratching is indulged in, at first to a slight extent, but later to an inordinate degree, so that in the course of a few weeks the surface is, as a rule, well excoriated and lacerated from the effects of the finger-nails. In certain subjects, in addition to the excoriations, ecthymatous pustules are produced, which run the course of similar lesions due to other causes. The amount of pigmentation varies with the duration of the affection, and with other circumstances.

Diagnosis.—The pediculi may always be found if sufficient care be taken to discover them. Frequently they are in small numbers, when considerable research and close observation may be required for their detection. After they have existed for some time, characteristic symptoms upon the skin manifest themselves; they may now readily be found if they are but suspected. When violent itching exists in a case without marked eruption, the possibility of their presence should always be at least entertained and an investigation made.

Phtheiriasis Capitis.—They are less liable to escape notice here than upon other regions of the body. The ova, or nits, which may be recognized even at a distance, serve as a valuable diagnostic mark. The occipital region of the head especially is always more or less invaded, and by separating the hairs here they may generally be seen without further search. Scratch marks, serous or bloody oozing, matting of the hair, and crusts are also usually present. The affection is very apt to be mistaken for vesicular or pustular eczema. In this connection it is not to be forgotten that eczema is not infrequently complicated with phtheiriasis, and is to be explained in one of two ways; either the parasites have brought about the eczema, or, on the other hand, they have been contracted after the eczema, the diseased scalp constituting a favorable abode for them; the former course, however, is the more usual. In either case it is very important to arrive at a conclusion as to the primary trouble.

Phtheiriasis Corporis.—Pediculi of the body very often escape detection for the reason that their presence is not suspected. As already stated, their habitat is in the clothing, and it is therefore to the undergarments that attention should be directed in looking for them. The seams and folds, especially of the undershirts and drawers, are to be examined, for it is here that the ova will be found. The extensive excoriations and bloodcrusts upon the shoulders and back, and the marks of the finger-nails upon various regions, will also aid in the diagnosis; they are, indeed, in severe cases characteristic. The minute, reddish, hemorrhagic spots, indicating the points where the parasites have drawn blood, may also be recognized.

Phtheiriasis of the body has long been seriously confounded with two very different diseases, namely, prurigo and pruritus. (See these diseases, diagnosis of, pp. 254 and 517.) Suffice it to say that an error in diagnosis cannot take place if the symptoms of the diseases in question be borne in mind. It may at times be encountered in connection with other diseases, as, for example, scabies; in such cases, however, it is to be regarded simply as a complication. The symptoms of scabies are so different from those of phtheiriasis as to call for no remark.

Phtheiriasis Pubis.—Itching about the genitalia in either sex should always lead to a careful examination of the parts. The diagnosis will in all probability be one of three diseases, namely, eczema, pruritus, or phtheiriasis pubis. The pediculi of this region, on account of their transparency and flatness, are at times difficult of recognition; they are, moreover, apt to adhere closely to the roots of the hairs and to the skin, when they present an appearance not unlike freckles or dirt specks. The excrement of the parasite will be found here and there about the roots of the hair and on the skin, in the form of minute reddish particles. The ova are readily seen as small, whitish or yellowish bodies, glued to the hairs. It will also be remembered that pediculi pubis not infrequently infest the axillæ. Existing in either region they usually give rise to more or less irritation and annoyance, especially at night; at times, however, they cause remarkably little cutaneous disturbance and discomfort.

Treatment.—This is simple, the main object being the destruction of the parasites and their ova. The secondary lesions seldom demand attention; as a rule, they disappear without special treatment. The various remedies used comprise the mercurial preparations, staphisagria (seeds of Delphinium staphisagria), pyrethrum (flowers of Pyrethrum carneum and P. roseum), sulphur, sabadilla, cocculus Indicus, tobacco, carbolic acid, and petroleum. They are employed in the form of ointment, powder or lotion, as may be deemed most desirable and convenient. It need scarcely be added that strict regard to cleanliness, both of the person and with reference to the clothing and the toilet, should be enjoined.

Phtheiriasis Capitis.—One of several plans may be employed. The head may be well saturated with petroleum, enough being used to bathe the scalp, after which a bandage should be applied and the dressing kept on for twelve hours, as, through the night. In the morning the head should be thoroughly washed with hot water and soft soap. Where the parasites have not been completely destroyed the petroleum should be again applied in the same manner. One or two applications suffice. Care should be observed to prevent the petroleum from trickling down the neck, as it is liable to produce upon tender skin erythema or even blebs and excoriations.

Powdered sabadilla or staphisagria may be sprinkled throughout the hair with good result. Decoction, infusion or tincture of cocculus Indicus is also a well known and reliable remedy. Where there is not much excoriation of the skin, a lotion of corrosive sublimate, two grains to the ounce of water, or with alcohol and one of the essential oils, may be used; it is a cleanly and at the same time an efficacious mode of treatment.

Ointments are not so advantageously employed as lotions, on account of their liability to mat the hair; nevertheless, where the excoriations are extensive, or where eczema is present, they may very often be applied with decided benefit. White precipitate, ten or fifteen grains to the ounce of simple ointment, in these cases will be found valuable.

The nits are to be removed by repeated washings with

alkaline or acid lotions. Soda or borax washes, soft soap, vinegar, dilute acetic acid, and alcohol, will all prove of service in getting rid of these troublesome little bodies. It is seldom, if ever, necessary to cut off the hair. In young children, in cases where the ova exist in enormous numbers, there is perhaps no reason why the hair should not be cut, for the cure is without doubt thereby hastened; but in women with long hair the sacrifice is great and the operation unwarrantable. With patience and time there is no difficulty whatever in relieving the hair of both pediculi and nits.

Phtheiriasis Corporis.—In pediculi of the body the first and all-important step to be undertaken is to provide for the clothes, which always contain both the parasites and their ova. It is, indeed, the clothes (including *all* the wearing apparel of the individual), rather than the skin, that require treatment. Unless these can be changed and cared for, no satisfactory result need be looked for. They are to be either boiled or baked at a temperature sufficiently high to destroy life. In cases where it is impossible for the patient to have the clothes baked or boiled immediately, an ointment of powdered staphisagria, one or two drachms to the ounce, applied freely to the skin, has the effect of causing the parasites to disappear temporarily, and affords very decided relief for the time.

Frequent baths of hot water and soap, and of bicarbonate of sodium, four ounces to the bath, are also important in relieving the excoriations, as well as the disagreeable itching, which is apt to continue even after the parasites have been destroyed. Lotions of carbolic acid, from one to two drachms to the pint of water with an ounce of glycerine, will also be found useful in allaying the irritability of the skin which is often encountered in cases of long standing. But, to repeat, it is to the clothes that the whole attention should be devoted. The undergarments should in all cases be changed quite frequently for the first few days, and immediately boiled. They should be carefully examined from time to time, and if a single pediculus be found they should be submitted again to treatment; unless these precautions receive minute attention the parasites are very apt to reappear. The

lack of proper scrutiny upon this point will account for the cases of chronic phtheiriasis of the body, who wander about for years laboring under the impression that they never can be permanently relieved. Instances of this kind are, even at the present day, still met with. Patients should invariably be informed as to the nature of their trouble, and assured further that by heed to the treatment and instructions given a short time will suffice for entire relief.

Phtheiriasis Pubis.—This requires very simple measures for its cure. Any of the ointments or lotions already spoken of may be applied morning and evening, care being observed to have them well rubbed into the skin. The tincture of cocculus Indicus, full strength or diluted, and corrosive sublimate lotion, already referred to, will be found both clean and effectual remedies. Infusion of tobacco will also answer the purpose. The parts should be well washed twice daily with soft soap and water, and the remedy applied for several days after the pediculi have been destroyed, to insure complete destruction of the ova, which otherwise are apt to hatch out. White precipitate ointment and mercurial ointment, both considerably weakened, are well known and effectual remedies which may be mentioned.

Prognosis.—After the remarks which have been made, little need be said concerning the termination of the disease. It is always satisfactory, provided the patient is able to follow the necessary instructions. It is here that the trouble at times arises in relieving certain cases; circumstances will not permit of the treatment. The affection may continue indefinitely unless properly treated.

Cimex Lectularius, Acanthia Lectularia, or Common Bedbug.—This insect is not infrequently the cause of mischief upon the skin. It is found in beds, about the joints, grooves and crevices, and in the bedding and bedclothes, about the seams and folds; also in the cracks of old floors and walls, wall-paper, and furniture, and in other like places. It lives upon human blood. It is very tenacious of life, and is said to be able to live without food for a very long period. It possesses a strong and offensive "cinnamon-like" odor,

which is particularly noticeable when the insect is crushed. The bedbug exists quite universally; according to Küchenmeister it is not found in South America, Australia, nor in the Polynesian islands.

The cutaneous lesion which it produces is of the nature of an urticarial wheal, consisting of a circumscribed, slightly raised, split-pea sized, erythematous spot with a whitish centre, and at times attended with considerable swelling. The lesion is a hemorrhage, which remains as a reddish point after the wheal has subsided. The sensation accompanying the act of drawing blood is that of a very slight prick, followed in a few minutes by decided itching and burning almost identical with that of urticaria. Scratching usually takes place, followed at times by extensive excoriations and bloodcrusts.

Among the lower classes in over-crowded, old frame houses, these pests very often exist in great numbers and at times occasion much suffering, especially in children. The bedbug is said to have a foe in the cockroach; also, according to Prof. Riley,* in the "two-spotted corsair" (Pirates biguttatus) met with in beds infested with bedbugs in southern Illinois, and in Louisiana, Texas, California, and Mexico.

According to the same authority, the "blood-sucking cone-nose," or "big bedbug" (Conorhinus sanguisuga), has been found in beds in southern Illinois and Ohio; it probably does not occur further north. This species is said to produce lesions followed by quite severe inflammation of the skin.

The bites of the bedbug are relieved by lotions containing alcohol, cologne water, carbolic acid, vinegar, dilute acetic acid, corrosive sublimate, lead water, water of ammonia, and similar remedies, sponged upon the parts. The best preventives against bugs in beds and other haunts are corrosive sublimate and pyrethrum powder.

Pulex Irritans, or Common Flea.—This little pest is

* American Entomologist, vol. i. p. 85.

found quite universally. It is, however, more common in warm than in cold climates. Although it provokes no serious cutaneous disturbance, it is nevertheless, in certain parts of the world, especially in tropical countries, the source of much discomfort to man.

The lesion which it produces is an erythematous spot with a minute, central, dark, hemorrhagic point. Flea-bites may be mistaken for purpura simplex; the areola with which the central point of the bite is surrounded will, however, suffice to establish the diagnosis.

Culex, or Mosquito.—This insect (of which there are many species, *e.g.* C. pipiens), common to almost every section of our country, is not infrequently the source of considerable irritation upon the skin, causing an urticarial lesion, or wheal, varying in its general features with the sensitiveness of the skin. (See foot-note, p. 321.) The itchiness of the bites is best relieved with a lotion of ammonia water.

The "midge" and "black fly" of the northern states and Canada (both species of Simulium) also give rise to much annoyance during the early summer months, occasioning lesions similar to those of the mosquito.

Ixodes, or Tick.—There are several species of tick which are met with in our woods, and which are liable to attach themselves to the human skin. They insert their proboscis and head deeply into the tissues, and suck blood until they not infrequently swell up to many times their natural size. They should never be extracted with violence, but should be induced to relinquish their firm hold upon the skin by dropping upon them some oily substance, as olive oil or one of the essential oils.

BIBLIOGRAPHY.

Anderson, M'Call.—A Practical Treatise upon Eczema, including its Lichenous and Impetiginous Forms. Third edition, with illustrations. Philadelphia, 1875.

Anderson, M'Call.—On the Parasitic Affections of the Skin. Second edition. London, 1868.

Anderson, M'Call.—On Psoriasis and Lepra. London, 1865.

Anderson, M'Call.—On the Treatment of Diseases of the Skin, with an Analysis of Eleven Thousand Consecutive Cases. London, 1872.

Bazin.—Affections Cutanées de Nature Arthritique et Dartreuse. Deuxième édition. Paris, 1868.

Bazin.—Affections Génériques de la Peau. Paris, vol. i., 1862, vol. ii., 1865.

Bazin.—Affections Cutanées Parasitaires. Deuxième édition. Paris, 1862.

Bazin.—La Scrofule. Deuxième édition. Paris, 1861.

Bumstead.—The Pathology and Treatment of Venereal Diseases. Third edition. Philadelphia, 1870.

Devergie.—Traité Pratique des Maladies de la Peau. Deuxième édition. Ouvrage accompagné de planches coloriées. Paris, 1857.

Fournier.—Leçons sur la Syphilis étudiée plus particulièrement chez la Femme. Paris, 1873.

Fox, Tilbury.—Skin Diseases: their Description, Pathology, Diagnosis, and Treatment. Second American from third English edition. New York, 1873.

Hardy.—Leçons sur les Maladies Dartreuses. Troisième édition. Paris, 1868.

Hardy.—Leçons sur les Maladies de la Peau. Deuxième édition. Paris, 1863.

Hardy.—Leçons sur la Scrofule et les Scrofulides et sur la Syphilis et les Syphilides. Paris, 1864.

Hebra.—Handbuch der Speciellen Pathologie und Therapie. Dritter Band. Acute Exantheme und Hautkrankheiten. Erlangen, 1860.

Hebra (and Kohn).—Handbuch der Speciellen Pathologie und Therapie. Dritter Band, zweiter Theil, erste Lieferung. Erlangen, 1870.

Hebra (and Kaposi).—Handbuch der Speciellen Pathologie und Therapie. Dritter Band, zweiter Theil, zweite Lieferung. Erlangen, 1872.

Hebra (and Kaposi).—Handbuch der Speciellen Pathologie und Therapie. Dritter Band, I. Abtheilung, zweite Auflage. Erlangen, 1874.

Hebra (and Kaposi).—On Diseases of the Skin, including the Exanthemata. New Sydenham Society's Translation, vols. i.–iv. London, 1866–1875.

KAPOSI.—Syphilis der Haut und der angrenzenden Schleimhaüte, mit Tafeln in Chromolithographie ausgeführt von Dr. Carl Heitzmann. In drei Lieferungen. Wien, 1873, 1874, 1875.

KÜCHENMEISTER.—On Animal and Vegetable Parasites of the Human Body. Sydenham Society's Translation, vol. ii. London, 1857.

MILTON, J. L.—The Pathology and Treatment of Diseases of the Skin. London, 1872.

NELIGAN.—A Practical Treatise on Diseases of the Skin. Dublin, 1852.

NEUMANN, I.—Lehrbuch der Hautkrankheiten. Dritte Auflage. Wien, 1873.

NEUMANN, I.—Hand-book of Skin Diseases. Translated from the Second German edition, with Notes, by Lucius D. Bulkley, A.M., M.D., New York, 1872.

RAYER.—A Theoretical and Practical Treatise on the Diseases of the Skin. Second edition, with an Atlas. (Translated from the French, by R. Willis, M.D.) London, 1835.

SIMON, GUSTAV.—Die Hautkrankheiten durch Anatomische Untersuchungen erläutet. Zweite Auflage. Berlin, 1851.

THOMSON, A. T.—A Practical Treatise on Diseases affecting the Skin. London, 1850.

WILSON, ERASMUS.—On Diseases of the Skin, a System of Cutaneous Medicine. Sixth edition. London, 1867.

VAN BUREN AND KEYES.—A Practical Treatise on the Surgical Diseases of the Genito-Urinary Organs, including Syphilis. New York, 1874.

INDEX.

A.

Acanthia lectularia, 598.
Acarus autumnalis (note), 583.
folliculorum, 585.
scabiei, 575.
Achorion Schönleinii, 530.
Achroma, acquired, 381.
congenital, 380.
Acne, 257.
artificialis, 260.
atrophica, 259.
cachectic, 261.
diagnosis of, 262.
disseminata, 257.
etiology of, 260.
hypertrophica, 259.
indurata, 259.
papulosa, 259.
pathology of, 262.
prognosis of, 268.
punctata, 259.
pustulosa, 259.
symptoms of, 257.
treatment of, constitutional, 263.
local, 266.
Acne albida, 119.
boutonneuse, 257.
bromine, 260.
iodine, 260.
mentagra, 277.
vulgaris, 257.
Acne rosacea, 269.
diagnosis of, 273.
etiology of, 271.
pathology of, 273.
prognosis of, 277.
symptoms of, 269.
treatment of, 275.
Acne sebacea, 102.
sébacée, 102.
syphilitica, 463.
tar, 260.
varioliformis, 121.
Acneform syphiloderm, 463.
Acquired achroma, 381.
leucasmus, 381.
Acquired leucopathia, 381.
piebald skin, 381.
Acuminated pustular syphiloderm, small, 462.
large, 463.
Addison's disease, bronzing of skin in, 339.
Adipose tissue, 23.
Age, in diagnosis, 74.
influence of, in etiology, 56.
Albinism, 380.
Albinismus, 380.
Albinos, 380.
Aleppo boil, 317.
bouton, 317.
evil, 317.
Algidité progressive, 365.
Algor progressivus, 365.
Alopecia, 391.
congenital, 391.
idiopathic premature, 392.
senile, 391.
simplex, 392.
symptomatic premature, 392.
syphilitic, 393.
treatment of, 394.
Alopecia areata, 395.
diagnosis of, 398.
etiology of, 396.
pathology of, 397.
prognosis of, 401.
treatment of, 399.
Alopecia circumscripta, 395.
Alphos, 291.
American harvest mite, 583.
Anæmia, 65.
Anæsthesia, 525.
dolorosa, 526.
Anæsthetic leprosy, 435.
Analgesia, 526.
Anatomy of the bloodvessels, 24.
corium, 21.
epidermis, 19.
hair follicle, 35.
hairs, 33.
lymphatics, 24.
muscles, 29.

Anatomy of the nails, 38.
nerves, 25.
Pacinian corpuscles, 27.
pigment, 29.
sebaceous glands, 31.
skin, 17.
subcutaneous connective tissue, 23.
sweat glands, 30.
tactile corpuscles, 26.
Angioma lipomatodes, 499.
Anidrosis, 131.
treatment of, 132.
Anodynia, 525.
Anomaliæ secretionis, 98, 102.
Anthrax, 318.
diagnosis of, 320.
etiology of, 319.
pathology of, 319.
prognosis of, 321.
symptoms of, 318.
treatment of, 320.
Aperients, in treatment, 88.
Aplasie lamineuse progressive, 385.
Appendages of the skin, 18.
Area Celsi, 395.
Army itch, 575.
Arsenic, in treatment, 85.
Artificial acne, 260.
eruptions, 327.
Asiatic pills, 303.
Atheroma, 124.
Atrophia cutis, 385.
linearis, 386.
propria, 385.
Atrophiæ, 100.
Atrophic lines and spots, 386.
Atrophies, 100, 379.
Atrophy, 69.
of the face, unilateral, 385.
hair, 401.
hair pigment, 384.
nail, 403.
skin, 385.
senile, 390.
Aussatz, der, 432.

B.

Baldness, idiopathic premature, 392.
of old age, 391.
Barbadoes leg, 367.
Barber's itch, 553.
Bartfinne, 277.
Bath, continuous (note), 245.
Baths, in treatment, 89.
Bedbug, common, 598.
Bibliography, 601.
Biskra bouton, 317.
Black fly, 600.
Blanching of the hair, 384.
Blasenausschlag, 237.
Bläschen, 43.
Blasen, 44.
Blebs, 44.
Blood-sucking cone-nose, 599.
Bloodvessels, 24.
Bloody sweat, 335.
Blutfleckenkrankheit, 330.
Blutschwär, 314.
Body louse, 589.
Boil, 314.
Aleppo, 317.
Delhi, 317.
Borken, 47.
Bot fly, 585.
Boucnemia tropica, 367.
Bouton, Aleppo, 317.
Biskra, 317.
Brandschwär, 318.
Broad condyloma, 453.
Bromidrosis, 129.
symptoms of, 129.
treatment of, 130.
Bromine acne, 260.
Bullæ, 44.
Bulles, 44.
Bullous syphiloderm, 468.

C.

Cachectic acne, 261.
Calculi, cutaneous, 119.
Callositas, 343.
Callosity, 343.
Callus, 343.
Calvities, senile, 391.
Cancer, epithelial, 486.
Cancroid, 486.
Cancroide, 404.
Cancroïde, 486.
Canities, 384.
Carbolic acid, in treatment, 87.
Carbuncle, 318.
Carcinoma cutis, 486.
epitheliale, 486.
Cauliflower excrescence, 350.
Cause of the disease, in treatment, 82.
Causes of disease, external, 60.
internal, 57.
Caustics, in treatment, 93.
Chaps, 165.
Charbon, 322.
Cheloide, 404.
Chigger, 584.
Chigoe, 584.
Chloasma, 338.
diagnosis of, 340.
etiology of, 340.

Chloasma, pathology of, 340.
symptoms of, 338.
treatment of, 340.
uterinum, 339.
Chloasma (Wilson), 561.
Chromidrosis, 130.
pathology of, 130.
symptoms of, 130.
treatment of, 131.
Cicatrices, 50.
Cimex lectularius, 598.
Cingulum, 220.
Claret stain, 498.
Classification, 98.
Clavus, 345.
etiology of, 345.
pathology of, 346.
treatment of, 346.
Climate, influence of, in etiology, 56.
Clothes louse, 589.
Clothing, influence of, in etiology, 60.
Cod-liver oil, in treatment, 84.
Color of disease, in diagnosis, 77.
Comedo, 116.
diagnosis of, 117.
etiology of, 116.
pathology of, 117.
prognosis of, 119.
symptoms of, 116.
treatment of, 118.
Common bedbug, 598.
flea, 599.
wart, 349.
Conditions influencing disease, 56.
Condylom, spitze (note), 350.
Condyloma, broad or flat, 453.
pointed (note), 350.
subcutaneum, 121.
Congenital achroma, 380.
alopecia, 391.
leucasmus, 380.
leucoderma, 380.
leucopathia, 380.
syphilis, 469.
Connective tissue, subcutaneous, 23.
Conorhinus sanguisuga, 599.
Constitutional diseases, influence of, in etiology, 57.
disturbance, in diagnosis, 74.
treatment, 83.
Contagion, influence of, in etiology, 61.
Contagious impetigo, 285.
molluscum, 121.
Continuous bath (note), 245.
Cor, 345.
Corium, 21.
papillary layer, 22.
pars papillaris, 22.
pars reticularis, 22.
reticular layer, 22.
Corn, 345.
Corn, hard, 345.
soft, 345.
Corne de la peau, 347.
Cornu cutaneum, 347.
etiology of, 348.
pathology of, 348.
symptoms of, 347.
treatment of, 349.
Cornu humanum, 347.
Corpuscles of Meissner, 26.
of Vater, 27.
of Wagner, 26.
Pacinian, 27.
tactile, 26.
Corsair, two-spotted, 599.
Couperose, 269.
Crab louse, 591.
Croûtes, 47.
Crusta lactea, 161.
Crustæ, 47.
Crusted ringworm, 528.
Crusts, 47.
Culex, 600.
pipiens, 600.
Cuniculus, 570.
Cutaneous calculi, 119.
horn, 347.
tumors, 47.
Cuticle, 19.
Cutis, 21.
anserina, 29.
pendula, 371.
tensa chronica, 361.
unctuosa, 102.

D.

Dandriff, 102.
Dandruff, 102.
Dartre rongeante, 421.
Décrépitude infantile, 365.
Defluvium capillorum, 393.
Delhi boil, 317.
Demodex folliculorum, 585.
Dentition, influence of, in etiology, 59.
Derma, 21.
Dermalgia, 510.
Dermalgie, 510.
Dermatalgia, 510.
diagnosis of, 512.
etiology of, 511.
pathology of, 512.
prognosis of, 513.
symptoms of, 510.
treatment of, 512.
Dermatite exfoliatrice généralisée (note), 313.
Dermatitis, 323.
calorica, 328.

Dermatitis traumatica, 324.
venenata, 325.
Dermatitis circumscripta herpetiformis (note), 219.
contusiformis, 144.
exfoliativa, 311.
Dermatolysis, 371.
diagnosis of, 373.
etiology of, 373.
pathology of, 373.
symptoms of, 371.
treatment of, 373.
Dermatosclerosis, 361.
Dermatosyphilis, 446.
Diachylon ointment, 188, 193.
Diagnosis, 72.
age in, 74.
constitutional disturbance in, 74
distribution of the disease in, 77.
examination in, 73.
general features of the disease in, 77.
habits in, 75.
inspection in, 73.
light in, 72.
occupation in, 76.
sex in, 75.
temperature of the apartment in, 72.
Discoloration, 41.
Disorders of internal organs, influence of, in etiology, 58.
Disorders of secretion, 102.
Dissection wounds, 322.
Distribution of disease, in diagnosis, 77.
Diuretics, in treatment, 88.
Dracunculus, 584.
Dusting powders, in treatment, 90.
Dysidrosis, 236.

E.

Ecchymomata, 329.
Ecchymoses, 329.
Ecthyma, 288.
diagnosis of, 290.
etiology of, 289.
pathology of, 289.
prognosis of, 291.
treatment of, 290.
Ecthyma syphiliticum, 464.
Ecthymaform syphiloderm, 464.
Eczema, 156.
acute, 165.
ani, 209.
articulorum, 208.
artificial, 169.
aurium, 207.
barbæ, 205.
Eczema capitis, 198.
chronic, 165.
constitutional causes of, 167.
treatment of, 182.
crurum, 211.
diagnosis of, 174.
diagnosis from artificial inflammations, 181.
erysipelas, 176.
erythema simplex, 177.
herpes, 177.
lichen planus, 178.
pemphigus, 177.
pityriasis rubra, 179.
psoriasis, 178.
scabies, 180.
scarlatina, 176.
seborrhœa, 177.
sycosis, 179.
syphilis, 181.
tinea circinata, 179.
tinea favosa, 180.
urticaria, 177.
erythematosum, 158.
etiology of, 166.
faciei, 203.
fendillé, 165.
fissum, 165.
genitalium, 208.
impetiginosum, 161.
intertrigo, 170, 209.
labiorum, 203
local causes of, 169.
treatment of, 184.
acute, 185.
chronic, 189.
varieties of, their diagnosis and treatment, 197.
madidans, 163.
mammarum, 210.
manuum, 213.
mercuriale, 169.
palmarum et plantarum, 214.
palpebrarum, 204.
papulosum, 162.
pathology of, 171.
prognosis of, 196.
pustulosum, 161.
rimosum, 165.
rubrum, 163.
sclerosum, 165.
solare, 170.
squamosum, 164.
symptoms of, 156.
treatment of, 181.
umbilici, 211.
ungaium, 215.
universale, 197.
verrucosum, 165.
vesiculosum, 159.
Eczema marginatum (note), 538.

Eczemaform syphiloderm, 464.
Electricity, in treatment, 94.
Elephant leg, 367.
Elephantiasis Arabum, 367.
diagnosis of, 370.
etiology of, 369.
pathology of, 369.
prognosis of, 371.
symptoms of, 367.
treatment of, 370.
Elephantiasis Græcorum, 432.
anæsthetica, 435.
diagnosis of, 440.
etiology of, 436.
pathology of, 438.
prognosis of, 443.
symptoms of, 432.
treatment of, 441.
tuberculosa, 433.
Encysted tumor, 124.
Endemic verrugas, 433.
Entozoon folliculorum, 585.
Ephidrosis, 125.
cruenta, 335.
Epidermis, 19.
horny layer of, 19.
mucous layer of, 20.
stratum corneum of, 19.
stratum mucosum of, 20.
Epithelial cancer, 486.
Epithelialkrebs, 486.
Epithelioma, 486.
deep-seated, or infiltrating variety of, 487.
diagnosis of, 493.
etiology of, 490.
papillary variety, 489.
pathology of, 491.
prognosis of, 496.
superficial, or flat variety of, 486.
symptoms of, 486.
treatment of, 494.
Equinia, 323.
Erbgrind, 528.
Erectores pili, 29.
Erythema, 41.
Érythème centrifuge, 415.
Erythema intertrigo, 137.
etiology of, 138.
symptoms of, 137.
treatment of, 138.
Erythema multiforme, 141.
annulare, 141.
diagnosis of, 143.
etiology of, 142.
iris, 141.
marginatum, 141.
papulatum, 141.
pathology of, 143.
prognosis of, 144.
Erythema multiforme, symptoms of, 141.
treatment of, 143.
tuberculatum, 141.
Erythema nodosum, 144.
diagnosis of, 145.
etiology of, 145.
pathology of, 145.
prognosis of, 146.
symptoms of, 144.
treatment of, 146.
Erythema simplex, 135.
diagnosis of, 136.
from caloric, 135.
poisons, 136.
traumatism, 135.
idiopathic, 135.
symptomatic, 136.
symptoms of, 135.
treatment of, 137.
Erythematous eczema, 158.
syphilide, 448.
syphiloderm, 448.
Érythème noueux, 144.
Esthiomène, 421.
Etiology, 55.
age in, 56.
climate in, 56.
clothing in, 60.
conditions influencing disease, 56.
constitutional diseases in, 57.
contagion in, 61.
dentition in, 59.
disorders of internal organs in, 58.
external causes in, 60.
food in, 58.
hereditability in, 57.
internal causes in, 57.
irritants in, 61.
medicine in, 59.
occupation in, 60.
predisposition in, 57.
pregnancy in, 59.
scratching in, 61.
seasons in, 56.
sex in, 56.
uncleanliness in, 61.
vaccination in, 59.
Evil, Aleppo, 317.
Examination of patient, in diagnosis, 73.
Excessive sweating, 125.
Excoriationes, 48.
Excoriations, 48.
Excrescence, cauliflower (note), 350.
Exsudationes, 99, 140.
Extent of disease, in diagnosis, 77.
External causes of disease, 60.
Exudation, 66.
Exudations, 99, 140.

F.

Farcy, 323.
Favus, 528.
Febris urticata, 146.
Feuergürtel, 220.
Fever blister, 216.
Fibroma molluscum, 407.
Fibrous molluscum, 407.
Fig wart (note), 350.
Filaria medinensis, 584.
Finnen, 257.
Fischschuppenausschlag, 353.
Fish-skin disease, 353.
Fissures, 49.
Flat pustular syphiloderm, small, 464.
large, 464.
condyloma, 453.
Flea, common, 599.
Flecke, 40.
Fleckenmal, 342.
Fluxus sebaceus, 102.
Fly, black, 600.
bot, 585.
Follicular elevations, 119.
tumor, 124.
Food, influence of, in etiology, 58.
in treatment, 84.
Fragilitas crinium, 402.
Fragility of the hair, 402.
Frambœsia, 443.
Freckle, 336.
Fressende flechte, 421.
Furoncle, 314.
Furuncle, 314
Furunculosis, 314.
Furunculus, 314.
diagnosis of, 316.
etiology of, 315.
pathology of, 315.
prognosis of, 317.
symptoms of, 314.
treatment of, 316.

G.

Gale, 570.
General considerations, 17.
features of the disease, in diagnosis, 77.
Geschwüre, 50.
Glanders, 323.
Glands, sebaceous, 31.
sweat, 30.
Gneis, 102.
Goose-flesh, 29.
Graying of the hair, sudden, 384.
Grayness of the hair, 384.
Greisenhaftigkeit der kinder, 365.
Grutum, 119.
Guinea worm, 584.
Gumma, 467.
Gummatous syphilide, 467.
syphiloderm, 467.
Gummy tumor, 467.
Gürtelkrankheit, 220.
Gutta rosacea, 269.
rosea, 269.

H.

Habits, in diagnosis, 75.
Hæmatidrosis, 335.
Hæmidrosis, 335.
Hæmorrhagiæ, 100.
Hair, sudden graying of, 384.
follicle, 35
Hairs, 33.
Harvest mite, American, 583.
irritating, 583.
bug (note), 583.
Hautabschürfungen, 48.
Hauthorn, 347.
Hautpapillom (note), 353.
Hautschrunden, 49.
Hautsclerem, 361.
Head louse, 587.
Heat, prickly, 230.
Hemorrhage, 68.
idiopathic, 329.
symptomatic, 330.
Hemorrhages, 100, 329.
Hemorrhœa petechialis, 330.
Hereditability, influence of, in etiology, 57.
Hereditary syphilis, infantile, 469.
Herpes circinatus, 227, 537.
bullosus (note), 218.
circiné, 537.
esthiomenos, 421.
Herpes febrilis, 216.
facialis, 216.
labialis, 217.
progenitalis, 217.
præputialis, 217.
symptoms of, 216.
treatment of, 218.
Herpes gestationis, 218.
impetiginiformis, 219.
Herpes iris, 227.
diagnosis of, 229.
etiology of, 228.
pathology of, 229.
prognosis of, 230.
symptoms of, 227.
treatment of, 230.
Herpes zoster, 220.
diagnosis of, 224.
etiology of, 222.
pathology of, 223.
prognosis of, 227.
treatment of, 225.

Honeycomb ringworm, 528.
Horn, cutaneous, 347.
Horny excrescence, 347.
layer of epidermis, 19.
tumor, 347.
Hühnerauge, 345.
Hydroa, 227.
febrilis, 216.
vésiculeux, 227.
Hydroadenitis, 317.
Hygiene, in treatment, 83.
Hyperæmia, 64.
Hyperæmiæ, 99, 134.
Hyperæmias, 99, 134.
Hyperæsthesia, 509.
Hyperidrosis, 125.
diagnosis of, 127.
etiology of, 127.
pathology of, 127.
prognosis of, 129.
symptoms of, 125.
treatment of, 127.
Hypertrichosis, 373.
Hypertrophiæ, 100.
Hypertrophic papules, 454.
Hypertrophies, 100, 336.
Hypertrophy of the hair, 373.
etiology of, 375.
treatment of, 375.
Hypertrophy of the nail, 376.
treatment of, 378.
of the skin, 371.

I.

Ichthyose, 353.
Ichthyosis, 353.
diagnosis of, 358.
etiology of, 356.
hystrix, 354.
nigricans, 356.
pathology of, 357.
prognosis of, 359.
simplex, 354.
symptoms of, 353.
treatment of, 358.
Ichthyosis congenita, 353.
sebacea, 102.
vera, 353.
Idiopathic diseases, 55.
Idrosis, 125.
Ignis sacer, 220.
Impetigo, 281.
diagnosis of, 284.
etiology of, 283.
pathology of, 283.
symptoms of, 281.
treatment of, 285.
Impetigo contagiosa, 285.
diagnosis of, 287.
Impetigo contagiosa, etiology of, 286.
pathology of, 286.
prognosis of, 288.
symptoms of, 285.
treatment of, 288.
Impetigo syphilitica, 464.
Impetigoform syphiloderm, 464.
Individual lesions of disease, in diagnosis, 77.
Indurâtio telæ cellulosæ neonatorum, 365.
Inflammation, 66.
product of, 66.
Inspection of patient, in diagnosis, 73.
Internal causes of disease, 57.
Intertrigo, 137, 170, 209.
Iodide of potassium, in treatment, 88.
Iodine acne, 260.
Iron, in treatment, 84.
Irritants, influence of, in etiology, 61.
Irritating harvest mite, 583.
Itch, 570.
army, 575.
mite, 570.
Ixodes, 600.

J.

Jigger, 584.
Juckblattern, 250.

K.

Kelis, 404.
Keloid, 404.
cicatricial, 406.
diagnosis of, 406.
etiology of, 405.
pathology of, 406.
prognosis of, 407.
spontaneous, 405.
symptoms of, 404.
treatment of, 407.
Keloid of Addison, 387.
Keratoses, 348.
Kerion, 552.
Kleienflechte, 561.
Knollen, 47.
Knollenkrebs, der, 404.
Knötchen, 41.
Knoten, 46.
Krätze, 570.
Krusten, 47.
Kupferrose, 269.
Kupfrige gesicht, das, 269.

L.

Land scurvy, 332.
Lanugo, 33.

Läusesucht, 587.
Leichdorn, 345.
Lenticular papular syphiloderm, 452.
Lentigo, 336.
etiology of, 337.
pathology of, 338.
symptoms of, 336.
treatment of, 338.
Leontiasis, 432, 435.
Lepra, 291, 432.
alphos, 291.
Arabum, 432.
Lèpre, la, 432.
Leprosy, 432.
anæsthetic, 435.
tubercular, 433.
Leptus, 583.
Americanus, 583.
autumnalis (note), 583.
irritans, 583.
Lesions of the skin, 40.
color of, 54.
configuration of, 52.
distribution of, 52.
locality of, 53.
primary, 40.
secondary, 47.
symmetry of, 53.
Leucasmus, acquired, 381.
congenital, 380.
Leucoderma, acquired, 381.
congenital, 380.
Leucopathia, acquired, 381.
congenital, 380.
Lice, 587.
Lichen hypertrophique (note), 353.
Lichen pilaris, 359.
diagnosis of, 360.
symptoms of, 359.
treatment of, 361.
Lichen planus, 246.
diagnosis of, 249.
etiology of, 248.
pathology of, 248.
prognosis of, 250.
symptoms of, 246.
treatment of, 249.
Lichen ruber, 246.
Lichen scrofulosus, 256.
diagnosis of, 257.
etiology of, 256.
pathology of, 256.
symptoms of, 256.
treatment of, 257.
Lichen simplex, 162.
syphiliticus, 451.
tropicus, 230.
urticatus, 148.
Light, in diagnosis, 72.
Lineæ albicantes, 387.
Linear atrophy, 386.
Local treatment, 89.
Lotions, in treatment, 91.
Louse, body, 589.
clothes, 589.
crab, 591.
head, 587.
Lousiness, 587.
Lupus erythematodes, 415.
Lupus erythematosus, 415.
diagnosis of, 417.
etiology of, 416.
pathology of, 417.
prognosis of, 420.
symptoms of, 415.
treatment of, 418.
Lupus exedens, 421.
sebaceus, 415.
superficialis, 415.
vorax, 421.
Lupus vulgaris, 421.
diagnosis of, 423.
etiology of, 422.
exedens, 421.
exfoliativus, 421.
exulcerans, 421.
hypertrophicus, 421.
pathology of, 423.
prognosis of, 429.
treatment of, 425.
tuberculosus, 421.
Lymphadénie cutanée, 503.
Lymphadenoma cutis, 503.
pathology of, 504.
symptoms of, 503.
Lymphadenoma of the skin, 503.
Lymphangioma cutis, 502.
Lymphatics of the skin, 24.

M.

Maculæ, 40.
Maculæ et striæ atrophicæ, 386.
Macular syphilide, 448.
syphiloderm, 448.
Macules, 40.
Maladie pediculaire, 587.
Malignant pustule, 322.
Malis pediculi, 587.
Medicine, influence of, in etiology, 59.
Melanoderma, 338.
Melasma, 338.
Melitagra, 160.
Mentagra, 277.
Mercury, in treatment, 87.
Method of treatment, 83.
Microsporon furfur, 563.
Midge, 600.
Miliaria, 230.

Miliaria alba, 231.
diagnosis of, 233.
etiology of, 232.
papulosa, 230.
pathology of, 233.
prognosis of, 236.
rubra, 231.
symptoms of, 230.
treatment of, 235.
vesiculosa, 231.
Miliaria crystallina, 132.
Miliary fever (note), 230.
papular syphiloderm, 451.
pustular syphiloderm, 462.
Milium, 119.
diagnosis of, 120.
etiology of, 120.
pathology of, 120.
symptoms of, 119.
treatment of, 120.
Mineral spring waters, in treatment, 88.
Moist papule, 453.
wart (note), 350.
Mole, pigmentary, 342.
Molluscum contagiosum, 121.
Molluscum fibrosum, 407.
diagnosis of, 409.
etiology of, 408.
pathology of, 409.
prognosis of, 410.
symptoms of, 407.
treatment of, 410.
Molluscum non-contagiosum, 407.
pendulum, 407.
Molluscum sebaceum, 121.
diagnosis of, 122.
etiology of, 121.
pathology of, 122.
prognosis of, 124.
symptoms of, 121.
treatment of, 123.
Molluscum sessile, 121.
simplex, 407.
Morbus maculosus Werlhoffii, 332.
pedicularis, 587.
Morphœa, 387.
diagnosis of, 389.
etiology of, 388.
pathology of, 389.
prognosis of, 390.
symptoms of, 387.
treatment of, 390.
Morphœa of leprosy (note), 387.
Morpio, 591.
Mosquito, 600.
Mower's mite (note), 583.
Mucous layer of epidermis, 20.
papule, 453.
patch, 453.
Muscles of the skin, 29.

N.

Nævus flammeus, 498.
pigmentaire, 342.
Nævus pigmentosus, 342.
pilosus, 342.
sanguineus, 498.
spilus, 342.
vascularis, 498.
Nævus vasculosus, 498.
pathology of, 498.
treatment of, 499.
Nævus verrucosus, 342.
Nails, 38.
Narben, 50.
Nature of the disease, in treatment, 82.
Neoplasmata, 101.
Nervenschmerz der haut, 510.
Nerves of the skin, 25.
medullated, 26.
non-medullated, 28.
Nesselausschlag, 146.
Nettle rash, 146.
Neuralgia of the skin, 510.
Neuroma cutis, 505.
multiplex (note), 505.
of the skin, painful, 505.
Neuroses, 101, 509.
New growths, 70, 101, 404.
Noli me tangere, 421.
Non-parasitic sycosis, 277.
Norwegian scabies (note), 574.

O.

Objective symptoms, 40.
Occupation, influence of, in etiology, 60.
in diagnosis, 76.
Odor hircinus, 130.
Œstrus, 585.
Oils, in treatment, 91.
Oily seborrhœa, 104.
Ointment, diachylon, 188, 193.
rumex (note), 276.
Ointments, in treatment, 92.
Onychauxis, 377.
Onychia, 377.
syphilitic, 378.
Onycho-gryphosis, 377.
Onycho-mycosis, 378.
Osmidrosis, 129.

P.

Pachydermatocele, 371.
Pachydermia, 367.
Pacinian corpuscles, 27.

Painful neuroma of the skin, 505.
tubercle, subcutaneous, 508.
Panniculus adiposus, 23.
Papillæ, 22.
Papillary layer of corium, 22.
Papilloma area-elevatum (note), 353.
Papilloma cutis, 353.
Papulæ, 41.
Papular acne, 259.
eczema, 162.
miliaria, 230.
syphilide, 451.
syphiloderm, 451.
large, 452.
miliary, 451.
small, 451.
urticaria, 148.
Papule, moist, 453.
mucous, 453.
Papules, 41.
hypertrophic, 454.
vegetating, 454.
Papulo-squamous syphiloderm, 454.
Parasitæ, 101.
Parasitäre bartfinne, 553.
Parasites, 70, 101, 527.
Parasitic mentagra, 553.
sycosis, 553.
Parasiticides, in treatment, 94.
Paronychia, 377.
Pars papillaris, 22.
reticularis, 22.
Patch, mucous, 453.
Pathology, 63.
anæmia, 65.
atrophy, 69.
hemorrhage, 68.
hyperæmia, 64.
hypertrophy, 69.
inflammation, 66.
new growths, 70.
parasites, 70.
Pedicularia, 587.
Pediculosis, 587.
Pediculus capitis, 587.
corporis, 589.
pubis, 591.
vestimenti, 589.
Peliosis rheumatica, 331.
Pellagra, 445.
Pemphigus, 237.
acutus, 239.
cachecticus, 239.
chronicus, 239.
diagnosis of, 242.
etiology of, 240.
feigned (note), 243.
foliaceus, 239.
gangrænosus, 239.
malignus, 239.
pathology of, 241.
Pemphigus, prognosis of, 246.
pruriginosus, 239.
symptoms of, 237.
treatment of, 243.
vulgaris, 238.
Pemphigus prurigineux (note), 218.
syphiliticus, 468.
Pendulous growth, 371.
Perspiration, sensible, 18.
insensible, 18.
Pessema (note), 353.
Petechiæ, 329.
Phosphorus, in treatment, 87.
Phtheiriasis, 587.
capitis, 587, 594, 596.
corporis, 589, 595, 597.
diagnosis of, 594.
etiology of, 593.
prognosis of, 598.
pubis, 591, 595, 598.
symptoms of, 587.
treatment of, 596.
Phthiriasis, 587.
Phthirius inguinalis, 591.
pubis, 591.
Phymata, 47.
Pian, 443.
Piebald skin, acquired, 381.
Pigment of the skin, 29.
Pigmentary mole, 342.
Pigmentmal, 342.
Pirates biguttatus, 599.
Pityriasis, 102.
pilaris, 359.
Pityriasis rubra, 311.
diagnosis of, 313.
etiology of, 312.
pathology of, 312.
symptoms of, 311.
treatment of, 313.
Pityriasis versicolor, 561.
Plantar syphiloderm, 455.
Plaque muqueuse, 453.
Plica, 374.
Polonica, 374.
Pointed condyloma (note,) 350.
wart (note), 350.
Poison dogwood, dermatitis from, 325.
ivy, dermatitis from, 325.
sumach, dermatitis from, 325.
vine, dermatitis from, 325.
eczema from, 169.
Poisoned wounds, 321.
Polytrichia, 373.
Pomphi, 45.
Pompholyx, 237.
Porcupine disease, 355.
Pore, 30.
Porrigo decalvans, 395.
favosa, 528.
furfurans, 544.

Port wine stain, 498.
Poultices, in treatment, 90.
Predisposition, influence of, in etiology, 57.
Pregnancy, influence of, in etiology, 59.
Present general condition, in treatment, 81.
Previous history, in treatment, 81.
Prickle cells, 20.
Prickly heat, 230.
Primary lesions, 40.
Production cornée, 347.
Prognosis, 96.
Prurigo, 250.
diagnosis of, 253.
etiology of, 252.
pathology of, 252.
prognosis of, 255.
symptoms of, 250.
treatment of, 255.
Pruritus, 513.
diagnosis of, 516.
etiology of, 515.
pathology of, 516.
prognosis of, 521.
symptoms of, 513.
treatment of, 517.
Pruritus hiemalis, 521.
Psora, 291.
Psoriasis, 291.
circinata, 294.
diagnosis of, 297.
from eczema, 298.
lupus erythematosus, 300.
seborrhœa, 300.
syphilis, 298.
tinea circinata, 300.
diffusa, 294.
etiology of, 295.
guttata, 293.
gyrata, 294.
nummularis, 294.
pathology of, 296.
prognosis of, 310.
punctata, 293.
symptoms of, 291.
treatment of, 300.
Psoriasis of the mouth and tongue (note), 295.
syphilitica, 454.
Pterygium of the nail, 377.
Pulex irritans, 599.
penetrans, 584.
Purpura, 330.
hemorrhagica, 332.
pathology of, 333.
prognosis of, 335.
rheumatica, 331.
simplex, 330.
symptoms of, 330.
Purpura, treatment of, 334.
Purpura urticans, 149.
urticata, 149.
Pusteln, 45.
Pustula maligna, 322.
Pustulæ, 45.
Pustular acne, 259.
eczema, 161.
eczemaform syphiloderm, 464.
syphilide, 461.
syphiloderm, 461.
large acuminated, 463.
large flat, 464.
miliary, 462.
small acuminated, 462.
small flat, 464.
Pustules, 45.
Pustulo-crustaceous lesions, 461.

Q.

Quaddeln, 45.
Quinine, in treatment, 85.

R.

Rete Malpighii, 20.
mucosum, 20.
Reticular layer of corium, 22.
Rhagades, 49.
Rheumatism of the skin, 510.
Rhinosclerom, 412.
Rhinoscleroma, 412.
diagnosis of, 414.
etiology of, 413.
pathology of, 413.
prognosis of, 414.
symptoms of, 412.
treatment of, 414.
Rhinophyma, 271.
Rhus toxicodendron, dermatitis from, 325.
venenata, dermatitis from, 325.
Rib cells, 20.
Ringworm, 528.
Burmese (note), 538.
Chinese (note), 538.
crusted, 528.
honeycomb, 528.
of the body, 537.
of the scalp, 544.
Rodent ulcer, 487.
Rosacea, 501.
Roseola, 136.
syphilitica, 448.
Rumex ointment (note), 276.
Rupia, 465, 468.

S.

Sand flea, 584.
Sapo viridis, 192.
Sarcoma cutis, 497.
Sarcoptes hominis, 575.
scabiei, 575.
Satyriasis, 432.
Scabies, 570.
diagnosis of, 578.
etiology of, 574.
Norwegian (note), 574.
pathology of, 575.
prognosis of, 583.
symptoms of, 570.
treatment of, 580.
Scales, 48.
Scars, 50.
Scherende flechte, 544.
Schmeerfluss, 102.
Schuppen, 48.
Schuppenflechte, 291.
Sclerem der neugeborenen, 365.
Sclerema, 361.
Sclerema neonatorum, 365.
diagnosis of, 366.
etiology of, 366.
pathology of, 366.
symptoms of, 365.
treatment of, 366.
Sclerema of the newborn, 365.
Sclérème des adultes, 361.
Scleriasis, 361.
Scleroderma, 361.
diagnosis of, 364.
etiology of, 362.
pathology of, 362.
prognosis of, 364.
symptoms of, 361.
treatment of, 364.
Scleroderma neonatorum, 365.
Sclérodermie, 361.
Scleroma adultorum, 361.
Sclerostenosis, 361.
Scratching, influence of, in etiology, 61.
Scrofula, 429.
Scrofulide boutonneuse bénigne (Bazin), 250.
érythémateuse, 415.
tuberculeuse, 421.
Scrofuloderma, 429.
diagnosis of, 431.
etiology of, 431.
pathology of, 431.
symptoms of, 429.
treatment of, 432.
Scrofulosis, 429.
Scurvy, land, 332.
Seasons, influence of, in etiology, 56.
Sebaceous cyst, 124.
Sebaceous cyst, diagnosis of, 125.
pathology of, 125.
symptoms of, 124.
treatment of, 125.
Sebaceous glands, 31.
matter, 33.
tumor, 124.
Seborrhagia, 102.
Seborrhœa, 102.
capitis, 105.
corporis, 107.
diagnosis of, 110.
etiology of, 108.
faciei, 105.
genitalium, 107.
nasi, 106.
oleosa, 104.
pathology of, 109.
prognosis of, 115.
sicca, 104.
symptoms of, 102.
treatment of, 111.
Seborrhœa congestiva, 415.
Sebum, 33.
Secretion, disorders of, 102.
Senile atrophy, 390.
calvities, 391.
Sex, influence of, in etiology, 56.
in diagnosis, 75.
Shingles, 220.
Simulium, 600.
Skin, anatomy of, 17.
appendages, 18.
bloodvessels, 24.
corium, 21.
epidermis, 19.
hair follicle, 35.
hairs, 33.
horny layer, 19.
lanugo, 33.
lymphatics, 24.
medullated nerves, 26.
mucous layer, 20.
muscles, 29.
nails, 38.
nerves, 25.
non-medullated nerves, 28.
Pacinian corpuscles, 27.
papillary layer, 22.
pigment, 29.
reticular layer, 22.
sebaceous glands, 31.
sebaceous matter, 33.
subcutaneous connective tissue, 23.
sweat glands, 30.
tactile corpuscles, 26.
Smegma, 103.
Soaps, in treatment, 89.
Sommersprosse, 336.
Spargosis, 367.

Special diseases, 102.
Spedalskhed, 432.
Spitze condylom (note), 350.
Spots, 40.
Squamæ, 48.
Squames, 48.
Squamous papule, 43.
papules, 454.
syphilide, 454.
syphiloderm, 454.
Stage of disease, in diagnosis, 77.
Stain, claret, 498.
port wine, 498.
Stearrhœa, 102.
Steatoma, 124.
Steatorrhœa, 102.
Steatozoon folliculorum, 585.
Stone pock, 257.
Stratum corneum of epidermis, 19.
mucosum of epidermis, 20.
Striæ et maculæ atrophicæ, 386.
idiopathic, 386.
symptomatic, 387.
Strophulus albidus, 119.
Strophulus prurigineux (Hardy), 250, 252 (note).
Struma, 429.
Subcutaneous connective tissue, 23.
painful tubercle, 508.
Subjective symptoms, 54.
Sudamina, 132.
etiology of, 132.
pathology of, 133.
symptoms of, 132.
Sudamina (Hebra), 230.
Sudatoria, 125.
Sudden graying of the hair, 384.
Sweat, bloody, 335.
colored, 130.
Sweat glands, 30.
Sweating, excessive, 125.
Sycosis, 277.
contagiosa, 553.
non-parasitaire, 277.
Sycosis non-parasitica, 277.
diagnosis of, 279.
etiology of, 278.
pathology of, 278
prognosis of, 281.
symptoms of, 277
treatment of, 280.
Sycosis parasitaire, 553.
parasitaria, 553.
parasitica, 553.
Symptomatic diseases, 55.
Symptomatology, 40.
bullæ, 44.
color in, 54.
configuration in, 52.
crusts, 47.
distribution in, 52.
Symptomatology, excoriations, 48.
fissures, 49.
general symptoms in, 51.
locality in, 53.
maculæ, 40.
objective symptoms, 40.
papulæ, 41.
primary lesions, 40.
pustulæ, 45.
scales, 48.
scars, 50.
secondary lesions, 47.
subjective symptoms, 54.
symmetry in, 53.
tubercula, 46.
tumors, 47.
ulcers, 50.
vesiculæ, 43.
wheals, 45.
Symptoms, general, 51.
objective, 40.
subjective, 54.
Syphilide, acneform, 463.
bullous, 468.
ecthymaform, 464.
erythematous, 448.
gummatous, 467.
herpetiform (note), 462.
impetigoform, 464.
large acuminated pustular, 463.
large flat pustular, 464.
large papular, 452.
lenticular papular, 452.
macular, 448.
miliary papular, 451.
miliary pustular, 462.
palmar, 455.
papular, 451.
papulo-squamous, 454.
pigmentary, 460.
plantar, 455.
pustular, 461.
pustular eczemaform, 464.
serpiginous tubercular, 466.
small acuminated pustular, 462.
small flat pustular, 464.
small papular, 451.
squamous, 454.
tubercular, 465.
varicellaform, 459.
variolaform, 463.
vesicular, 459.
Syphilides, 446.
Syphilis, congenital, 469.
hereditary, 469.
infantile, 469.
of the skin, 446.
Syphilis cutanea, 446.
bullosa, 468.
erythematosa, 448.
gummatosa, 467.

Syphilis cutanea maculosa, 448.
papillomatosa, 466.
papulosa, 451.
pustulosa, 461.
squamosa, 454.
tuberculosa, 465.
vegetans, 454.
vesiculosa, 459.
Syphilitic acne, 463.
alopecia, 393.
coryza, 470.
ecthyma, 464.
impetigo, 464.
lichen, 451.
pemphigus, 468.
psoriasis, 454.
roseola, 448.
Syphiloderm, acneform, 463.
bullous, 468.
ecthymaform, 464.
erythematous, 448.
gummatous, 467.
herpetiform (note), 462.
impetigoform, 464.
large acuminated pustular, 463.
large flat pustular, 464.
large papular, 452.
lenticular papular, 452.
macular, 448.
miliary papular, 451.
miliary pustular, 462.
palmar, 455.
papular, 451.
papulo-squamous, 454.
pigmentary, 460.
plantar, 455.
pustular, 461.
pustular eczemaform, 464.
serpiginous tubercular, 466.
small acuminated pustular, 462.
small flat pustular, 464.
small papular, 451.
squamous, 454.
tubercular, 465.
varicellaform, 459.
variolaform, 463.
vesicular, 459.
Syphiloderma, 446.
absence of itching in, 448.
bullosum, 468.
color of, 448.
concomitant symptoms in, 447.
configuration of the lesions in, 448.
constitutional treatment of, 475.
course of, 448.
erythematosum, 448.
general symptoms in, 446.
gummatosum, 467.
hæreditarium infantile, 469.
local treatment of, 485.
Syphiloderma, multiformity of the lesions in, 447.
papulosum, 451.
pathology of, 473.
pigmentosum, 460.
pustulosum, 461.
seat of, 447.
treatment of, 475.
tuberculosum, 465.
vesiculosum, 459.
Syphiloma, 467.

T.

Taches, 40.
Tactile corpuscles, 26.
Tar acne, 260.
Tar, in treatment, 87.
Teigne faveuse, 528.
tondante, 544.
tonsurante, 544.
Telangiectasis, 500.
Temperament, in diagnosis, 75.
Temperature, in diagnosis, 72.
Tetter, 156.
Tick, 600.
Tinea amiantacea, 102.
asbestina, 102.
Tinea circinata, 537.
diagnosis of, 541.
etiology of, 539.
pathology of, 539.
prognosis of, 544.
symptoms of, 537.
treatment of, 543.
Tinea decalvans, 395.
Tinea favosa, 528.
diagnosis of, 533.
etiology of, 530.
pathology of, 531.
prognosis of, 536.
symptoms of, 528.
treatment of, 534.
Tinea furfuracea, 102.
kerion, 552.
Tinea sycosis, 553.
diagnosis of, 558.
etiology of, 555.
pathology of, 556.
prognosis of, 561.
symptoms of, 553.
treatment of, 559.
Tinea tondens, 544.
Tinea tonsurans, 544.
diagnosis of, 548.
etiology of, 546.
pathology of, 546.
prognosis of, 552.
symptoms of, 544.
treatment of, 550.

522

Tinea tricophytina, 536.
unguium, 538.
Tinea versicolor, 561.
diagnosis of, 566.
etiology of, 563.
pathology of, 564.
prognosis of, 569.
symptoms of, 561.
treatment of, 568.
Tissue, adipose, 23.
subcutaneous connective, 23.
Treatment, 80.
cause of the disease in, 82.
constitutional, 83.
aperients in, 88.
arsenic in, 85.
cod-liver oil in, 84.
diuretics in, 88.
food in, 84.
hygiene in, 83.
iodide of potassium in, 88.
iron in, 84.
mercury in, 87.
mineral spring waters in, 88.
phosphorus in, 87.
quinine in, 85.
tar, carbolic acid in, 87.
local, 89.
baths in, 89.
caustics in, 93.
dusting powders in, 90.
electricity in, 94.
lotions in, 91.
oils in, 91.
ointments in, 92.
parasiticides in, 94.
poultices in, 90.
soaps in, 89.
method of, 83.
nature of the disease in, 82.
present general condition in, 81.
previous history in, 81.
Trichauxis, 373.
Trichiasis, 374.
Trichonosis cana, 384.
discolor, 384.
furfuracea, 544.
Trichorexis nodosa, 402.
Tricophytie circinée, 537.
sycosique, 553.
Tricophyton, 536, 539, 540, 547, 557.
tonsurans, 546.
Tricoptilosis, 402.
True skin, 21.
Tubercle, subcutaneous painful, 508.
Tubercles, 46.
Tubercula, 46.
miliaria, 119.
sebacea, 119.
Tubercular leprosy, 433.
syphilide, 465.
Tubercular syphiloderm, 465.
serpiginous, 466.
Tumeurs, 47.
Tumeurs folliculeuses, 121.
Tumor, encysted, 124.
follicular, 124.
gummy, 467.
sebaceous, 124.
Tumores, 47.
sebipari, 121.
Tumors, 47.
Two-spotted corsair, 599.
Tyloma, 343.
Tylosis, 343.

U.

Ulcer, rodent, 487.
Ulcers, 50.
Uncleanliness, influence of, in etiology, 61.
Urticæ, 45.
Urticaire, 146.
Urticaria, 146.
acute, 149.
bullosa, 149.
chronic, 149.
diagnosis of, 152.
etiology of, 150.
hæmorrhagica, 149.
papulosa, 148.
pathology of, 151.
prognosis of, 155.
symptoms of, 146.
treatment of, 152.

V.

Vaccination, influence of, in etiology, 59.
Varicellaform syphiloderm, 459.
Variolaform syphiloderm, 463.
Varus, 257.
Vegetating papules, 454.
syphiloderm, 454.
Végétation dermique (note), 350.
Venereal wart (note), 350.
Vernix caseosa, 103.
Verruca, 349.
acuminata, 350.
digitata, 350.
etiology of, 351.
filiformis, 349.
pathology of, 351.
plana, 349.
prognosis of, 352.
symptoms of, 349.
treatment of, 352.
vulgaris, 349.

Verruca elevata (note), 350.
Verrugas, endemic, 443.
Verue, 349.
Vesicles, 43.
Vesiculæ, 43.
Vesicular eczema, 159.
  miliaria, 231.
  syphilide, 459.
  syphiloderm, 459.
Vibices, 329.
Vitiligo, 381.
  diagnosis of, 382.
  etiology of, 382.
  pathology of, 382.
  prognosis of, 383.
  symptoms of, 381.
  treatment of, 383.
Vitiligoidea, 410.
Vleminckx's solution, 309.

W.

Wart, 349.
  fig (note), 350.
  moist (note), 350.
  pointed (note), 350.
  venereal (note), 350.
Warze, 349.
Wen, 124.
Werlhoffii, morbus maculosus, 332.
Wheals, 45.
Whelk, 257.
Whiteness of the hair, 384.
Wounds, dissection, 322.
  poisoned, 321.

X.

Xanthelasma, 410.
Xanthoma, 410.
  etiology of, 411.
  pathology of, 411.
  symptoms of, 410.
  treatment of, 412.
Xeroderma, 353, 354.
  ichthyoides, 353.

Y.

Yaws, 443.

Z.

Zellgewebsverhärtung der neugeborenen, 365.
Zona, 220.
Zoster, 220.

THE END.

WELLCOME LIBRARY INSTITUTE

ERRATA.

In the chapter upon the Anatomy of the Skin the measurement 1‴ should have been valued at 2.116 mm. instead of 2.136 mm.

On page 336, for Summersprosse read Sommersprosse.

On page 385, for Eulenberg read Eulenburg.

On page 531, for 1826 read 1876.

Riley Dunn & Wilson Ltd
EXPERT CONSERVATORS & BOOKBINDERS
ISO 9002