NEUROSES OF THE SKIN.

THE

NEUROSES OF THE SKIN:

THEIR

PATHOLOGY AND TREATMENT.

BY

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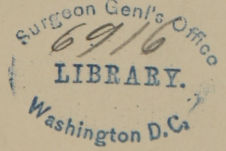

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DEAR PROFESSOR, — Thirty years have elapsed, or more than a quarter of a century, since you began your studies upon the nervous system. The immense progress which has been made, during that period, in our knowledge of this difficult subject, is, in great part, due to your unwearied efforts in search of the truth. This little volume is intended to be the application of your doctrines to the elucidation of several hitherto-unexplained phenomena of cutaneous pathology.

No one can appreciate better than yourself any advancement made in these studies. It is to your kindness and encouragement that I owe whatever success may have attended my labors. Permit me, then, to dedicate to you this monograph upon the Neuroses of the Skin.

HOWARD F. DAMON.

PREFACE.

The present monograph, although constituting an independent treatise, embraces a part of a new system of classification of skin-diseases, based upon anatomical, physiological, and pathological data.

The outlines of this system, and the principles upon which it is founded, will be briefly stated. The skin is an organ of protection for the body. In an æsthetic point of view, it is also designed for ornament. That this membrane may be the better fitted for these purposes, it is endowed with certain properties or functions, such as sensibility, secretion, and the power of repairing its ordinary losses. As an organ of protection for the structures which it incloses, it needs all of these qualities. That a normal condition of them is conducive to health, is but a part of the infinite wisdom in the design of this mechanism. Integrity of structure is essential to the attainment of both objects. This is preserved by a normal condition of the sensibility, secretions, and nutrition of the skin. Any perma-

nent alteration in these is attended by structural changes. Such changes must, therefore, be considered as the widest departures from the normal condition of this membrane. The relative importance of the other lesions is still a matter of some controversy.

Alterations in nutrition are at the foundation of the functional and structural lesions of the skin. Although these lesions are of a purely local character, their origin can frequently be traced to a variety of causes, having their seats in remote parts of the organism, and producing their effects through the channels of the circulating fluids, or the medium of the sympathetic nervous system. This mode of origin gives rise to the distinction of skin-diseases into symptomatic and idiopathic affections. All skin-diseases may be separately included under one or more of the following lesions: sensibility, secretion, nutrition, and structure. Each of these lesions, in our system of classification, constitutes a natural division or class.

The names of several of the classes adopted by Hebra denote only stages in the same pathological process. Thus, hyperæmia, exudation, and ulceration are only different degrees or stages of inflammation; and the transition from one to another is so gradual, in most instances, as not to admit of such wide distinctions as are generally implied by

the division into classes. Anæmia of the skin is only a part of a general condition of the system, and is hardly entitled to the place which Hebra gives it in his classification. The cutaneous hæmorrhages result from hyperæmia of the skin, and rupture of its minute blood-vessels, in consequence of defective nutrition of their tissues. The hypertrophies and atrophies belong to the structural changes; so also do the neoplasmata and pseudoplasmata, or innocent and malignant growths of the skin. These are denominated "pathological new-formations," by such writers as Virchow and Foerster. The neuroses and parasitic diseases are all that remain of Hebra's classes. The parasitic diseases scarcely constitute an independent class of lesions of the skin. Thus, we may reduce the twelve classes of Hebra to less than half that number.

The syphilodermata are now generally described in monographs upon syphilis: they are consequently excluded from ordinary works upon the skin. The following is our own classification of skin-diseases: —

Class I. — Neuroses of the Skin.
,, II. — Functional Diseases of the Cutaneous Glands.
,, III. — Inflammations of the Skin.
,, IV. — Structural Lesions of the Skin.

This monograph is intended to supply all that is now positively known of the first of these classes of cutaneous affections. For this purpose, all accessible sources of information have been consulted; and it is hoped that nothing of importance has been overlooked. Authors have been quoted as freely as the necessity of the case required; and the more so, that no misstatement might be made of their views. These have been examined in a critical manner, and always with the object of arriving at the truth.

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NEUROSES OF THE SKIN.

INTRODUCTION.

Neuroses of the skin are, generally speaking, of two kinds. These are caused by peculiar conditions either of the sensitive or of the vaso-motor nerves. The sensibility of the former may be exalted or diminished to a variable extent. These modifications of sensibility have received the names of "hyperæsthesia" and "anæsthesia." Spasm and paralysis are the peculiar forms of derangement of the vaso-motor nerves.

Hyperæsthesia may be of a painful, pruriginous, or formicative character. There are also sensations of tickling, pricking, burning, and piercing in certain parts of the skin. These sensations exist either with or without the appearance of an eruption. They are sometimes the causes, and at others apparently the concomitants, of eruptive diseases of the skin. Cutaneous neuralgia is produc-

tive of zoster on the peripheral branches of the nerves affected. This is the reason why this eruption always has its origin and termination at the median line of the anterior and posterior portions of the body. When the eruption is slight, and on the filaments of a few branches only of a large cutaneous nerve, the peculiarity of its distribution is liable to be overlooked. Thus, many partial eruptions of zoster have been termed "herpes phlyctænodes," from ignorance of, or inattention to, the laws which govern the distribution of this disease.

Prurigo is consequent upon an intense pruritus, and also upon the mechanical irritation produced by scratching. The other varieties of hyperæsthesia will be noticed in the special pathology of these diseases.

Anæsthesia is of less frequent occurrence than the foregoing cutaneous neuroses. Local varieties of this disease occur in lepra anæsthetica, or elephantiasis; and in some cases of alopecia areata. The syphilitic diseases of the skin are generally without either pain or pruritus.

Dysæsthesia, or perverted sensibility, is only a variety of hyperæsthesia.

Prolonged contraction of the blood-vessels, in consequence of irritation of the vaso-motor nerves, is the cause of some of those gangrenous conditions of the skin which would otherwise be without an explanation.* Paralysis of these nerves gives rise to vascular engorgements and hypertrophies of the skin. Temporary spasm of the blood-vessels of the cutis, from excessive irritation of the vaso-motor nerves, causes the wheals in urticaria to become bloodless; while paralysis of these nerves produces the opposite effect. The sensitive nerves, in this disease, are in a state of hyperæsthesia. The origin of these pathological conditions must be sought in the irritation of some distant organ of the system, and its action upon the nervous centres; of which these are only the reflex phenomena. The condition of the mucous membrane of the intestines will often afford a sufficient explanation for the occurrence of these reflex phenomena.

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* Brown-Séquard, Lectures on the Physiology and Pathology of the Central Nervous System. 8vo. Philadelphia, 1860. See p. 148.

HYPERÆSTHESIA.

HYPERÆSTHESIA of the skin is manifested occasionally in the form of tenderness, or increased sensibility to touch. This variety has received the name of "dermalgia." When the hyperæsthesia is of a pruriginous character, without any eruption, it is known as pruritus. This either constitutes a disease of itself, or is a concomitant symptom of other diseases. When the pruritus is intense or long continued, it causes a papular eruption. This is denominated "prurigo."

Romberg * speaks of pruritus or prurigo as follows: "We cannot, however, doubt that causes and consequences have here been confounded: whoever will take the trouble to observe a simple pruritus of the sole of the foot, may convince himself of this. During the painful restlessness which

* Romberg, Nervous Diseases of Man. Sydenham Society. 8vo. London, 1853.

precedes, and at the time of the occurrence of, the itching, no change whatever could be observed in the skin. If the itching increases, the surface becomes red, its temperature rises, and little nodules make their appearance. These disappear on the decline of the attack; but continue and become torn and bloody, if the patient cannot keep from scratching. Nevertheless, the pruritus ceases to return after a definite or indefinite period. The nodules can scarcely be considered as an idiopathic exanthema; but they arise in consequence of the hyperæsthesia, in the same way as disturbances of the secretion and the like occur in other hyperæsthesiæ."

Urticaria is a form of cutaneous hyperæsthesia, in which the pruritus is of an intense and very general character. It causes hyperæmia and serous infiltration of the papillary layer of the derma. The morbid appearances which result from this state of the tissues are called "wheals." They are oval or longitudinal elevations of the skin. A more detailed account of these will be given hereafter.

Zoster,* or shingles, is a cutaneous neurosis with

* Bärensprung. See British and Foreign Medico-Chirurgical Review, January, 1862, p. 243.

a vesicular eruption. Each of these cutaneous neuroses will now be more thoroughly described, in the order in which they have been mentioned.

DERMALGIA.

Increased sensibility of the skin to touch, or dermalgia,* is generally confined to a limited portion of this membrane. Sometimes, however, it involves the integument of one side of the body, usually the left, or even the whole skin. The skin is either painful to the touch only, or the pain may be spontaneous and independent of contact with any sensible object. In other instances, a draught of air may be sufficient to excite this pain, or the threatened contact with any material substance.

Dermalgia appears to be of two distinct kinds, as regards cause, — the hysteric and the rheumatic. That form of dermalgia which is associated with hysteria is usually confined to the left side, and is often quite extensive. Sometimes, however, only small areas of the skin are endowed with this exquisite sensibility to external impressions. These are veritable neuralgic spots. They occur upon the

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* Axenfeld, Des Névroses. 8vo. Paris, 1864. See p. 234, &c.

scalp and various parts of the body, and are associated with that array of morbid symptoms known as spinal irritation. This irritation may have its origin in unhealthy conditions of the uterine organs, and the sympathetic troubles to which they give rise.

When this hyperæsthesia to touch is more general and of a severe character, it has been regarded as one of the indications of commencing myelitis, or of inflammation of the membranes of the spinal cord.*

There is a rheumatic form of dermalgia which is confined to a limited portion of the skin, and which is encountered frequently in practice. It consists in an excessive tenderness to the touch, and sometimes pain. When the latter symptom is present, alteration in the nutrition of the part speedily takes place. The skin oftentimes becomes red, and there is slight engorgement of its tissues. The tender spot occasionally occupies a portion of the integument supplied by the filaments of some large cutaneous nerve. The disease appears to be due, for the most part, however, to a morbid condition

* Marcé, L. V., Des Altérations de la Sensibilité. 8vo. Paris, 1860. See p. 14.

of the sensory apparatus in the skin. The sensation of the skin not only appears to be increased in dermalgia, but there seems to be a veritable multiplication in the points endowed with tactile sensibility.* At least, points, that were but little or not at all sensible to external impressions in the normal condition of the skin, become exquisitely sensitive to the touch when the part is affected with dermalgia. We have every reason to believe, that disease frequently intensifies the sensations and functions of certain organs. This is undoubtedly true also of the tactile sensibility of the skin. Thus, many sensations, which give rise to pleasurable emotions, may, by becoming more intense, be converted into those of pain.

Cold and moisture have a decided tendency to produce dermalgia. Whether there is inflammation of the filaments of the cutaneous nerves, in all cases of rheumatic dermalgia, is a difficult problem to solve. We are inclined to the opinion, however, that this condition of the nerves is not absolutely essential to the production of many of the morbid phenomena observed in cases of dermalgia. It is

* Brown-Séquard, Sur la Sensibilité Tactile, etc., Journal de Physiologie, t. ii. p. 344; and Axenfeld, Des Névroses, p. 239.

impossible, sometimes, to assign any appreciable cause to this form of cutaneous hyperæsthesia.

Dermalgia has been observed to be more frequent in those regions which are occupied by hair, or lanugo, than elsewhere. The arrangement of the hairs, or lanugo, upon the surface of the body, corresponds somewhat with the general distribution of the cutaneous nerves. This, therefore, will account for the above observation.

The tenderness and pain are either fixed or intermittent. When fixed, they are of all degrees of severity. The least pressure from the clothing may excite considerable distress. The patient finds it impossible to rest upon the affected side. In dermalgia of the scalp, the morbid sensibility of the part is increased with the slightest shock to the nervous system. Contact with the hair, or sounds even, will produce this effect. The disease, then, appears to be a part of a general nervous disorder, under which the patient has been sometimes known to succumb.

Rheumatic dermalgia is of an intermittent character; the pain being usually increased towards night. The seat of this cutaneous affection is in the nervous papillæ of the skin. The nerves them-

selves may become implicated in the disease to a greater or less extent. Rheumatic dermalgia lasts only a few weeks; but the patient is liable to subsequent attacks. It is sometimes complicated with muscular pains.

Treatment.

The local application of heat and the use of warm drinks will often be found sufficient to remove the pain. A blister, applied to the painful surface, generally gives immediate relief. The linimentum ammoniæ is also an excellent local remedy. If the painful spot is of small extent, a belladonna plaster or belladonna ointment may be applied occasionally, and allowed to remain upon the affected part until the local symptoms disappear.

The internal use of hyoscyamus, combined with the valerianate of zinc, as in the following formula, has in some cases been productive of relief to the patient, and is worthy of a trial: —

℞.: Extracti Hyoscyami, ℈ij;
Zinci Valerianatis, ℈iss;
M. Ft. pil., No. xxx.

One pill should be taken three times a day.

The valerianate of ammonia is also a valuable

remedy. The dose of this salt is from three to eight grains, dissolved in sweetened water. The syrup of the valerianate may be given where the stomach is particularly sensitive.

The efficacy of the valerianates has been confirmed by many practitioners,* and the form of their administration is simply a matter of choice with the medical attendant.

If the patient is restless, and deprived of sleep, the bromide of potassium should be administered, in doses of considerable size. This has a sedative influence upon the nervous system, and produces drowsiness. From thirty to sixty grains will ordinarily be found sufficient for this purpose, when given at bedtime. We have administered these and much larger doses with the desired effect, — of quieting the nervous excitement of the patient, and thereby insuring rest. This salt should be taken in water, with the addition of simple syrup or the syrup of ginger. The following formula

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* Dr. Silas Durkee, of Boston, informs me that he has used the above remedies frequently, in his extensive cutaneous practice, and commends them very highly. It is just to say, that the author is indebted to the large experience of this skilful dermatologist for many valuable suggestions in the treatment of the cutaneous neuroses and other obstinate affections of the skin.

may be used in prescribing the bromide of potassium: —

℞.: Potassii Bromidi, ʒss;
Syrupi Zingiberis,
Aquæ, āā, ʒij;
M.

A tablespoonful of this preparation contains thirty grains of the bromide of potassium. This should be diluted with water when it is taken.

If the insomnia persists, a quarter of a grain of the sulphate or acetate of morphia may be taken; and repeated in an hour, if this dose proves insufficient. A solution of morphia, injected occasionally beneath the skin, is one of the most effectual methods of allaying its abnormal sensibility, and can in no wise interfere with the employment of any internal medicines. The bromide of potassium and the bromide of ammonium, and the valerianates of ammonia and of zinc, are to be preferred, however, to the continued use of opiates, in nearly all cases. Where there is much debility, the bromide of ammonium should be given; in a sthenic condition of the system, the bromide of potassium is indicated.

PRURIGO.

Prurigo is a form of hyperæsthesia of the skin, in which there is intense itching, together with a papular eruption. The eruption is preceded by the itching; which latter is the immediate cause of the papular condition of the skin. When there is no appearance of papules, the disease is known as "pruritus," or "prurigo sine papulis." This is only an early stage of prurigo. For the purpose of simplicity, we shall use the term "prurigo," as comprehending both of these conditions of the skin. When, therefore, we speak of pruritus, we refer to that stage of the affection in which there is no apparent lesion of the skin. It is a symptom which is common to many cutaneous diseases, and is very frequent in those parts where the skin and mucous membrane become united, so as to form a continuous layer. The anus, the mouth, and nares, and the orifices of the genital organs, are usually described as the seats of this disease. Pruritus may give rise to eczema in these parts, or be associated with the presence of that disease upon some distant region of the integument.

The cause of pruritus is similar to that of urtica-

ria; although the former disease is less intense in its immediate effects upon the skin, and more permanent in its duration, than the latter. Improper food, imperfect assimilation, and excesses of various kinds, are all apt to give rise to this troublesome affection. The presence of the oxyuris vermicularis frequently causes pruritus ani in children; and the ascaris lumbricoides occasions itching of the nose, or pruritus nasi. In these cases, its sympathetic character is established beyond all doubt. In some instances, this disease can be traced to no definite cause. Constipation and hæmorrhoids are often productive of general pruritus of the skin. In persons who are subject to eczema, local pruritus or prurigo is not an uncommon affection.

The itching is subject to remissions at times, and then seems to acquire greater intensity: at night, especially, it is very severe. It appears to be increased at that time by fatigue, the sudden exposure of the body in undressing, the subsequent warmth of the bed, and by the thoughts being then more particularly concentrated upon this annoying symptom. This nocturnal exacerbation is a peculiarity of nearly all neuroses.

Several varieties of pruritus or prurigo have been

described by different writers upon dermatology. When the disease assumes a mild form, it has received the name of "prurigo mitis;" when it is more intense, it is called "prurigo formicans." When it occurs in the aged, it is known as "prurigo senilis." The principal local varieties of prurigo are as follows: Prurigo podicis, scroti, and pudendalis.

Prurigo Mitis. — The mild form of prurigo commonly occurs in young persons. The pruritus is not very severe, and there is no apparent disturbance of the system. When papules appear, they are of nearly the same color as the skin, and but slightly elevated above its general surface. They are thinly scattered; usually occupying the trunk, and the exterior surfaces of the extremities, and but rarely the shoulders, neck, and face. Sometimes, the eruption of papules is more general. They are never in groups or clusters, as in other papular affections. The papules are larger than those of lichen, and are occasionally equal in size to those of lichen urticatus. The patient is subject to attacks and remissions of this form of prurigo. The disease lasts for a few weeks or months, and then often disappears

spontaneously, to return the ensuing season. The papules appear successively, and are but comparatively few in number at any one time. The pruritus, which precedes and attends them, causes the patient to lacerate their summits, from which there escapes a small quantity of serum, mixed with blood. This concretes into thin, black scabs, which are quite characteristic of prurigo. These are cast off in the course of time, and the subjacent cutis returns to its normal condition.

Prurigo mitis frequently occurs in the spring and autumn, although the appearance of this disease is confined to no particular season. Sudden changes, from cold to warm weather, excite the skin to that degree of activity which is productive of disorder in the nutrition and innervation of this membrane. The use of flannel next the skin is an exciting cause of this form of prurigo, in autumn and early winter. The stimulating effects of heat and cold produce this neurosis.

Prurigo Formicans. — This variety of prurigo differs from the preceding by its intensity and duration. The pruritus is of a formicative, piercing, or stinging character. These sensations have been variously described by those suffering

from this affection. They compare them to the stings of myriads of insects, the piercing of needles, and the contact with hot coals. The desire to scratch is irresistible; and patients frequently lacerate their skin with their nails, or with any sharp instrument within their reach. Some persons cut and scrape the skin, and express themselves as delighted with the relief which this affords them. So terrible is the suffering caused by this malady, that the patient can obtain but a few minutes' sleep at a time for several nights in succession. The warmth of the bed increases the pruritus to such a degree, that he often seeks the open air, the cold floor, or hearth, for temporary relief. The general health soon suffers from this nervous irritation, and want of rest. The countenance is careworn and haggard, and its habitual expression is that of despondency. The mind at length becomes the prey of gloomy forebodings and hallucinations; and patients have been known to resort to self-destruction, to end their misery.

The papules in prurigo formicans are somewhat more elevated than those of prurigo mitis. They are nearly of the same color as the surrounding skin. When scratched, they bleed, and become

covered with small black scabs, composed of blood and a little serum. These are detached in the course of a few days, and leave behind them slight yellow or brown stains, due to the deposit of pigment from the blood-corpuscles. When there have been several successive eruptions of these papules, during a period of many months, the skin becomes thick and yellow, and furfuraceous desquammation takes place. Sometimes, an unusual quantity of pigment is deposited in the mucous layer of the skin, in this variety of prurigo.

Prurigo formicans occurs in adults, and persons in advanced life. Those who have prematurely grown old by excesses are usually the victims of this disease. When prurigo occurs in the aged, it is known as "prurigo senilis." Lassitude, headache, dyspepsia, and constipation precede and accompany prurigo formicans. Hepatic derangement is one of the causes of this disease. Improper food and clothing, the use of alcoholic stimulants, grief, and misery provoke prurigo in the poor; while, in the rich, it is among the effects of intemperance, late hours, the use of stimulating condiments, and the gastro-intestinal disturbance to which such irregularities in living not unfrequently give rise.

When prurigo formicans has existed for months or years, or the person has had repeated attacks, the prognosis becomes unfavorable. When the disease depends upon irregularities in the mode of living, there is hope for its alleviation if the patient will institute for himself a radical reform. Where there is organic disease of the liver, the prurigo is often incurable. Debility is a cause of its inveterate nature. Poverty and misery are its subjects; and these conditions are often beyond the control of the sufferer.

Prurigo Senilis. — When this disease occurs in the aged, it has received the name of "prurigo senilis." In other respects, it does not differ from prurigo formicans. The chronicity of prurigo senilis must be attributed to a considerable degree to the depressing influence of age upon the nutrition of the skin. It is not uncommon, in the aged, to find the integuments in those enfeebled conditions which render their diseases much more chronic than those of mature life. The bodily inactivity of that period is the cause of functional derangement of the viscera, and its train of morbid symptoms. In severe cases of prurigo senilis, the itching is intolerable, and life becomes an insupportable burden.

Sometimes pediculi infest old people, and give rise to considerable pruritus. If none of these parasites are found, upon a careful examination of the skin and the clothes, we have no reason to attribute the pruritus to this cause. Whenever these parasites do infest the skin, especially of old people, they multiply so rapidly, that their existence becomes manifest upon the least inspection.

Prurigo Podicis. — When prurigo occurs at the margin of the anus, it is known as "prurigo podicis." This is the pruritus ani of some writers. Its purely local character distinguishes it from the varieties we have hitherto described. Prurigo podicis has all the intensity of prurigo formicans. It is even more severe and chronic in its course. The seat of this affection is the margin of the anus. The pruritus may also extend to the mucous membrane of the rectum. Papules appear about the anus, perineum, and in the commissure between the nates. This disease usually lasts for months. Eczema is at length produced in these parts, in consequence of scratching. The purely nervous character of this affection, at first, is beyond question. The subsequent cutaneous eruptions are the results of the pruritus and scratching.

This variety of prurigo is met with in children and in adults. In the former, it is caused by the presence of the oxyuris vermicularis in the lower part of the intestine; in the latter, it is due to hæmorrhoids. A morbid condition of the secretions of the rectum, and sedentary habits, are also productive of this disease. The greatest annoyance is experienced from the itching, soon after retiring at night. It is then so severe, that the patient is deprived of rest for several hours.

Prurigo Scroti. — Prurigo of the scrotum is frequently only an extension of the variety known as "prurigo podicis." It is attended with severe pruritus and the appearance of papules. The scratching frequently produces an infiltrated or eczematous condition of the tissues. It is generally caused by the presence of the oxyuris vermicularis in the rectum. Hæmorrhoids, constipation, and sedentary occupations, give rise to prurigo of the scrotum.

Prurigo Pudendalis. — This variety of prurigo has for its seat the external genital organs of the female. It attacks the mucous membrane of the vulva, and often extends into the lower portion of the vagina, or to the external labia. This affec-

tion, at first, is of a purely nervous character. The papules are subsequently developed. The burning, pricking, tingling sensations, which are felt in prurigo in other situations, are experienced in all their severity in this peculiarly sensitive region. There is a constant desire to rub the parts, rather than to scratch them. Sometimes the sexual desires are morbidly increased; and the disease known as nymphomania is the result. So imperious do these desires then become, that neither self-respect nor moral considerations avail in restraining the victims of this disease from self-pollution. The mind is continually filled with lascivious ideas, and the attention is fixed upon sensual objects. The lewd conduct of many respectable women at these times might be accounted for, were it known to what extent their desires are heightened by disease. This subject acquires importance, in a medico-legal point of view, in relation to insanity; since nymphomania frequently has its origin in pruritus of the vulva.*

Prurigo of the external genital organs, in woman, is of a sympathetic or local origin. It is pro-

* Legrand du Saulle, La Folie devant les Tribunaux. 8vo. Paris, 1864. See page 513, Opinion Médico-légale sur les Nymphomanes.

duced by disease or irritation of the uterus, bladder, rectum, or vagina; or by acrid discharges, aphthæ and other causes of local irritation of the vagina and vulva. A few paragraphs will be devoted to the different causes of this pruriginous affection, and the symptoms to which they give rise.

Uterine disease, such as inflammation of the cervix and os uteri, produces the sympathetic variety of prurigo of the vulva. This affection is of the most distressing character. It usually occurs during the early part of pregnancy, and has been so severe as to cause miscarriage. The itching is incessant and intense, so that the patient frequently walks the room all night. She becomes irritable or morose, and shuns society. Indeed, the constant temptation to relieve her local suffering compels her to be alone. Thus the mind falls a prey to gloomy or lascivious thoughts, and the worst of habits are indulged in. If, during this disease, an examination be made of the os uteri with the speculum, its cause will be readily discovered. There is generally a congested or ulcerated condition of that organ. When this is relieved by suitable local treatment, there is a cessation of the pruritus.

Sometimes scirrhus of the uterus has caused

pruritus of the vulva. In these cases, there is but little prospect of relief.

Varicose veins of the rectum and of the vagina give rise to prurigo of the vulva. This is a sympathetic variety of the disease. Sometimes the veins of the labia become varicose, and are attended with this form of pruritus. Several instances of varices of these veins are reported by Professor Simpson of Edinburgh, and other writers upon the diseases of women. The blood-vessels of the uterine organs are much enlarged during pregnancy; so also are those of the vagina and vulva. Thus we have conditions which are favorable to this variety of pruritus.

Pruritus of the vulva occasionally makes its attack at puberty, when the genital organs are in a state of vascular turgescence.

The cessation of the menses is another epoch at which this formidable affection is encountered.

Irritation of the rectum, or of the bladder, is a cause of sympathetic prurigo in the vulva. This may be produced by constipation, hæmorrhoids, acrid secretions in the rectum, or large numbers of the oxyuris vermicularis. When the irritation proceeds from the bladder, it arises from a morbid

condition of that organ, or of the urine, or from the presence of a calculus.

Vascular growths in the meatus urinarius have been known to cause this disease.

Diabetes, or glycosuria, was long since discovered to be a cause of pruritus of the vulva. Some writers think, that, in all cases of prurigo of the vulva, the urine should be tested for sugar. Marchal de Calvi * has given an account of this variety of prurigo, in his elaborate work upon diabetes. He gives the history of a case in which the prurigo disappeared when the thirst had abated, and there was no longer any trace of sugar in the urine.

When pruritus of the vulva is caused by the lochial discharge, it is relieved when that ceases. Leucorrhœa and gonorrhœa frequently cause pruritus of the vulva.

Want of cleanliness, in fleshy women, is productive of this disorder.

An acrid condition of the secretions of the vulva causes pruritus in this region.

Aphthæ are liable to form upon the mucous

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* Marchal de Calvi, Recherches sur les Accidents Diabétiques. 8vo. Paris, 1864. See pages 248 and 251.

membrane of the vulva and vagina during pregnancy, and often cause pruritus of these parts.

Venereal warts and ulcers excite prurigo of the pudenda, when they are situated around the anus or vulva.

Soft cushions, feather beds, and great warmth of these parts, are apt to engender this disease.

Treatment.

The treatment of prurigo should be both constitutional and local. The character of the former will depend upon the condition of the system in which this disease is found to exist. When the patient is in a sthenic or plethoric condition, the functions of the bowels and kidneys should be excited to activity by laxative and diuretic medicines. When there is debility and anæmia, tonics are required. The local remedies consist in baths, lotions, and ointments, containing various astringent, emollient, or anodyne substances. In all cases, the digestive organs should be in a condition to promote healthy assimilation.

In a large class of cases of pruritus, dermalgia, and kindred affections, constipation of the bowels is a concomitant and obstinate symptom, which de-

mands attention. Nux vomica is one of the most suitable articles for the removal of this condition of the alimentary canal. It is to be given in small doses, frequently repeated; rather than in larger quantities, at longer intervals.

℞.: Nucis Vomicæ, ℈j;
Extracti Hyoscyami,
„ Gentianæ, āā, ℈ij;
M. Ft. pil., No. xl.

One of these pills should be taken morning and evening, or three may be given a day.

Sulphur, in doses of two to four grains, twice daily, has been used internally with much benefit; especially when combined with about ten grains of calcined magnesia.

In obstinate cases of prurigo, Mr. Milton prescribes strychnia, "in doses of a sixtieth or sixty-fourth of a grain in solution, every three or four hours, till a decided effect is produced upon the disease, or till nervous symptoms show themselves, when it may be left off. A vigorous course of arsenic should follow it." The syrup of the phosphates of iron, quinia, and strychnia can be substituted with advantage in most cases. The formula is as follows: —

℞.: Syrupus Ferri, Quiniæ, et Strychniæ Phosphatum.

The dose is from one-half a teaspoonful to one teaspoonful, after meals.

Colchicum is highly beneficial in prurigo, in persons of a gouty diathesis.

Where constipation exists in plethoric individuals affected with prurigo mitis or formicans, laxatives and purgatives are indicated. When this condition depends upon inactivity of the liver, the secretions of that organ will be promoted by the use of podophyllin in the following manner: —

℞.: Podophyllin, grs. ij;
Extracti Belladonnæ, grs. iij;
M. Divide in pil., No. vj.

One of these pills is to be used every night until the bowels are freely acted on. The use of this remedy is occasionally to be resumed.

Dr. Read, of Boston, has furnished the author with the following formula: —

℞.: Podophyllin, grs. iv;
Leptandrin, grs. xvj;
Pulveris Capsici, grs. ij;
Extracti Cannabis Indicæ, grs. vj;
M. Ft. pil., No. viij.

One of these pills should be taken night and morning at first; afterwards, one at night. This is an admirable remedy, when the prurigo depends

upon hepatic derangement, accompanied with constipation.

When there is great nervous irritability, and the patient is in a sthenic condition, aconite may be administered with caution. The following modification of the formula of Cazenave can be used: —

"℞.: Extracti Aconiti, grs. xv;
Extracti Taraxaci, ʒj;
M. Ft. pil., No. xl." — *Durkee.*

One or two of these pills should be given morning and evening for a short time.

The tincture of aconite will be of benefit, given in from five to ten drops thrice a day. It can be combined with other remedies.

"℞.: Tincturæ Aconiti, ʒj;
Liquoris Ammoniæ Acetatis, ʒviij;
Syrupi Lobeliæ Inflatæ, ʒij." — *Durkee.*
M.

The dose of the above preparation is one teaspoonful in a wine-glass of water, three or four times a day.

If there is insomnia, the bromide of potassium must be used at night, as in the treatment of dermalgia.

℞.: Potassii Bromidi, ʒss;
Syrupi Zingiberis,
Aquæ, āā, ʒij; M.

Dose, one tablespoonful in half a tumbler of cold water, at bedtime.

This should be used instead of opiates, since they often excite pruriginous sensations in the skin.

When the nervous system is in a state of prostration, the bromide of ammonium should be substituted for the bromide of potassium. The liquor ammoniæ acetatis is a very useful nervous stimulant, in combination with other remedies. I am indebted to Dr. Durkee for the following formula:

℞.: Liquoris Ammoniæ Acetatis, ʒiij;
Tincturæ Cantharidis, ʒss;
Mucilaginis Acaciæ, ʒij;
Tincturæ Aurantii,
Syrupi Simplicis, āā, ʒj; M.

Dose, one teaspoonful three or four times a day.

In cases of prurigo mitis, formicans, and senilis, where there is anæmia, the administration of iron is clearly indicated. The following formula for the sulphate of iron will be found useful in counteracting this symptom of debility: —

℞.: Ferri Sulphatis, ℥ij;
Acidi Sulphurici Aromatici, ʒss;
Magnesiæ Sulphatis, ʒss;
Aquæ,
Syrupi Simplicis, āā, ʒiijss; M.

One or two teaspoonfuls of this solution should be taken after each meal.

A drachm of the sulphate of quinia may be added to the above solution, if this remedy is required.

The tincture of the chloride of iron is also a valuable remedy in general prurigo, such as prurigo mitis, formicans, and senilis, when there is great debility. We give it as follows: —

℞.: Tincturæ Ferri Chloridi, ʒj;
Syrupi Simplicis, ʒiij;
M.

A teaspoonful of this tonic must be taken in half a wine-glassful of water after each meal.

The combination of chlorate of soda with the muriated tincture of iron is an excellent one. The soluble nature of the chlorate of soda renders its union with the iron quite perfect. The solution is transparent if properly prepared. The following formula was prepared, and has been used quite extensively, by Dr. Sinclair, of Boston: —

℞.: Sodæ Chloratis (Squibb), ʒj;
Tincturæ Ferri Chloridi, ʒvij;
Syrupi Simplicis,
Aquæ, āā, ʒjss;
M.

The dose is a teaspoonful, in half a wine-glassful of water, after meals.

Nitro-muriatic acid has been found serviceable in the internal treatment of obstinate cases of prurigo. The author can testify to its powerful tonic properties. It improves the digestion, and increases the appetite.

℞.: Acidi Nitro-Muriatici, ℥ij;
Syrupi Simplicis,
Aquæ, āā, ℥ij; M.

Dose, one teaspoonful, in water, three times a day.

The acid may also be used in an infusion of quassia.

When there is no anæmia, arsenic can be used with rapid relief to the pruriginous symptoms. Mr. Hunt* extols this remedy above all others. His method of giving arsenic in diminished doses prevents the dangers which arise when the old plan of increasing the dose is pursued.

Five drops of Fowler's solution may be given with impunity at first, three times a day. In a few weeks the dose should be diminished to three drops

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* Diseases of the Skin. London, 1865.

three times a day. The disease yields rapidly under the effects of arsenic. Cod-liver oil may be used at the same time. It is a powerful tonic, increasing the number and vital properties of the blood-corpuscles. The objections which many patients have to its taste can be obviated by giving it according to the following formula: —

℞.: Olei Morrhuæ,
Spiritûs Hordei, āā, ʒij;
Spiritûs Lavandulæ Compositi, ʒss; M.

This mixture should be taken a short time after the meals. It needs to be shaken very thoroughly. The dose is a tablespoonful. This formula is the result of a number of combinations made by the author while superintendent of the Boston Dispensary, for the purpose of disguising the taste of the cod-liver oil. When thus dispensed, the oil causes less disturbance to the stomach than when it is given in the ordinary way. This method of giving cod-liver oil has been adopted at the Boston City Hospital.

The local treatment of prurigo consists in baths, lotions, and ointments. A brief account will be given of these remedies. Baths are of the greatest value in the treatment of general prurigo.

Emollient baths are made with bran, gelatine, linseed, and other similar substances. These are added to thirty gallons of water at the proper temperature. One to three pounds of either of these substances will be sufficient for a bath.

An alkaline bath should contain from three to six ounces of the carbonate of soda or of potassa.

The nitro-muriatic acid bath requires from one to two ounces of the acid to thirty gallons of water.

Sulphur baths have been used extensively in the treatment of general prurigo; and often with marked success. The sulphuret of potassium is employed in quantities varying from one quarter to one half a pound to thirty gallons of water. The artificial Harrogate bath is much stronger. The formula for this bath is given in the work of Plumbe.*

ARTIFICIAL HARROGATE BATH.

"℞.: Sodæ Muriat. lbij;
Magnes. Sulph. ʒiij;
Potass. Sulphuret. lbj;
Aquæ cong. xxxiv."

"The salts must be first put into two-thirds of the water cold, and, when dissolved, the sulphuret of potash added; then the remainder of the water boiling: to be used at 98° F."— *Wilkinson.*

* Diseases of the Skin. 8vo. London, 1837. Page 308.

Sea-side bathing and warm salt-water baths are beneficial in general prurigo.

The tepid bath and warm sponge bath, with the juniper-tar soap, are excellent remedies in this disease.

Vapor baths, when they produce much sweating, are not so beneficial as those already indicated.

Sulphureous fumigations are useful in chronic prurigo. For this purpose, the patient should be seated; enveloped in blankets, all except his head; and half an ounce of sulphur placed beneath his chair, upon a warm plate, and allowed to evaporate fifteen or twenty minutes.

When the prurigo is local, the greatest benefit is derived from lotions. The effects of these are emollient, astringent, or anodyne. In some there is a mixed effect. Lotions are also used for the purpose of correcting those acrid secretions and irritating discharges which are frequently the cause of prurigo.

Alkaline lotions have long been employed in pruriginous affections; and they deserve the entire confidence of the physician. The carbonate of soda and the carbonate of potassa are those in common use. A solution of either of these salts,

containing a drachm to the pint of water, should be applied to the skin, night and morning, until the itching subsides.

In prurigo of the vulva, scrotum, and anus, the following lotion is to be used:—

℞.: Hydrargyri Bichloridi, grs. iv;
Acidi Hydrocyanici, fl℥j;
Misturæ Amygdalæ Amaræ, ℥viij;
M.

This lotion should be thoroughly applied two or three times a day. It is somewhat stronger than that used by Bateman.

Where the prurigo is caused by venereal warts and ulcers, the ordinary black wash is quite sufficient for a cure.

Aphthæ are occasionally the cause of pruritus of the vulva, especially in pregnant women. In such cases, a lotion containing borax should be used:—

℞.: Sodæ Boracis, ℥ss;
Glycerinæ, ℥j;
Aquæ, ℥iij;
M. Signa, Lotion.

The chlorate of potassa is also excellent in such cases. It is very soluble in glycerine. Sulphate of morphia can be added to the solution.

℞.: Potassæ Chloratis, ʒss;
Glycerinæ, ʒij;
Aquæ, ʒiv;
Morphiæ Sulphatis, grs. iv;
M., Signa, Lotion.

This lotion should be applied frequently to the affected surface.

The three following formulæ, containing pyroligneous acid, the oil of cade, and the acetate of lead, have been kindly furnished me by Dr. Durkee. They are inserted, together with his judicious remarks appertaining to them: —

"As a local application to particular regions, as the vulva, anus, perineal surface, and scrotum, pyroligneous acid, with camphor water, is sometimes perfectly efficacious in quieting the irritation. We submit the annexed prescription, which we occasionally employ with good results: —

℞.: Acidi Pyrolignei, ʒij;
Aquæ Camphoræ, ʒxij; M.

Apply a portion to the affected parts three or four times a day.

"Another valuable topical remedy is the oil of cade, combined with glycerine and camphorated olive oil, as given below: —

℞.: Olei Cadini, ʒj;
Olei Olivæ Camphorati,
Glycerinæ, āā, ʒij; M.
Signa, Liniment.

"The subjoined preparation will be found of utility as a local application in prurigo; and may be employed, with entire freedom, at all times and in all classes of subjects: —

℞.: Plumbi Acetatis, ℥j;
Tincturæ Opii,
Tincturæ Aconiti, āā, ʒj;
Aquæ, ʒxvj; M.
Signa, Lotion."

The alcoholic solution of coal-tar, *liquor carbonis detergens*, is a suitable local remedy in those cases of pruritus of the vulva which are produced by morbid secretions from the cervix uteri and the vagina. Carbolic acid can be used for the same purpose. The concentrated solution of the acid should be diluted with five or six parts of water.

The sulphite of soda has been employed, in cases of pruritus of the vulva, with good results. It can be used as follows: —

℞.: Sodæ Sulphitis, ℥j;
Glycerinæ, ʒss;
Aquæ, ʒj;
M., Signa, Lotion.

This preparation should be applied frequently. The prurigo often disappears in a few days.

Lotions of acetic acid, aromatic vinegar, and the liquid acetate of ammonia, have been prescribed with success, in mild cases of this disorder.

Ointments, containing many of the substances already mentioned, are used in local prurigo. They do not, however, answer the purpose so well as lotions.

Neligan * derived good results, in the treatment of prurigo, from the use of the following ointment, containing chloroform and iodide of lead: —

"℞.: Iodidi Plumbi, grs. xij;
Unguenti Ceræ Albæ, ℥j;
Chloroformi, m. viij, ad m. xij;
Glycerinæ, fl. ℥j; Misce."

The following extract from Mr. Milton's † valuable monograph, upon the treatment of skin diseases, will give additional aid to the practitioner, who often finds himself at a loss what next to prescribe: —

"In the prurigo of old people generally, Mr. Startin's prescription for external use is a liniment of glycerine and trisnitrate of bismuth, or powdered talc rubbed in with a flesh-brush. Dr. Frazer recommends for trial finely-powdered camphor, mixed with six or eight parts of rice or potato starch, and a small quantity of acetate or carbonate of lead. This is dusted on the skin three or four times a day, and

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* Neligan, J. Moore, Diseases of the Skin. 12mo. Philadelphia, 1864. See page 167.

† Milton, J. L., On the Modern Treatment of some Diseases of the Skin. 8vo. London, 1865.

calamine ointment is used at the same time. Latterly, Dr. Neligan confined himself almost entirely to chloroform ointment, which seems one of the best, if not the best, ever introduced. It is made by mixing half a drachm with an ounce of cold cream."

Mr. Milton's treatment consists of the pure soft soap of the British Pharmacopœia, well rubbed into the skin, which is bathed directly afterwards with hot water; or the patient is placed in a hot bath. Whatever be the cause of the pruritus, it may be allayed in this manner. If the itching is due to the pediculus corporis or pubis, or to the sarcoptes hominis, vulgarly known as the "itch-insect," the soap is an efficacious remedy. A faithful trial of the soft soap made from the ashes of the hard woods of America, has shown it to be one of the best parasiticides, in scabies, now in use.*

A few superficial applications of the sulphate of copper, or of lunar caustic, will also allay the irritation, in severe cases of pruritus of the vulva.

Simultaneously with the general and local treatment, the condition of the rectum, os uteri, and meatus urinarius, should be ascertained. The oxy-

* Durkee: Contributions to Dermatology, Boston Medical and Surgical Journal, 1867.

uris vermicularis should be expelled, if present, by internal remedies, or by the injection of an infusion of quassia, or a solution of common salt and water. Excrescences in the meatus urinarius should be removed with the scissors, or by caustics or ligature. The condition of the vagina, os or cervix uteri, may require special treatment before the cause of the pruritus can be removed.

Douches, fomentations, and suppositories are other means of treatment, in pruritus of the vulva, anus, or scrotum.

URTICARIA.

Urticaria, or nettle-rash, is a pruriginous neurosis of the skin, with an eruption of wheals. It has been aptly named after the affection produced by the urtica or stinging nettle. It attacks the whole surface at once, or different regions of the body simultaneously or in quick succession. This disease is of short duration; seldom lasting more than one or two days, and often only a few hours. The premonitory symptoms are sometimes very slight; at others, there is a sense of fulness and weight at the stomach. This is followed by giddiness, nausea, faintness, vomiting, or diarrhœa.

The seat of excitement is soon transferred from the mucous membrane to the surface of the body. The disease is produced usually by excessive irritation of the digestive organs. The cutaneous manifestations are of a purely sympathetic character. The wheals appear very rapidly upon different parts of the body, preceded by a stinging sensation, which increases in severity every moment until the pruritus becomes intolerable. The patient endeavors to allay the intense burning and tingling sensations, not so much by scratching as by burying the pulps of his fingers in the skin or drawing them firmly over the pruriginous surface. This excites the morbid irritability of the integument, and causes momentary cutaneous spasm. The part becomes bloodless. We have here the white wheals of urticaria produced artificially. This spasm of the blood-vessels of the skin is soon followed by their paralysis or dilatation. There is then an opposite condition of things. The wheals become congested from the rapid influx of blood into the dilated vessels. Redness is the result. The same phenomena occur independently of any mechanical irritation of the surface.

In addition to the vascular fulness, there is serous

engorgement of the cellular tissue of the derma. This excessive nutrition of the cells is produced by the local nervous irritation. The infiltrated serum occupies the superficial or papillary portion of the derma, and the deeper layers of the epiderma. It is rapidly absorbed into the general circulation, after the more intense nervous symptoms of this affection have subsided. If the congestion has been severe or long-continued, it may be followed by a slight furfuraceous desquamation. This process is of exceedingly short duration. Some authors deny that there is any desquamation at all; but this is wholly unphilosophical. Occasionally there is a yellowish tinge left in the skin, as after other cutaneous congestions. This stain is due to the pigment of the blood corpuscles.

The varieties of urticaria have been named from their appearance, their duration, and their febrile and other concomitant symptoms. Thus the terms "conferta" and "tuberosa" are applied; the former to the wheals when they are thickly clustered together, and the latter to these swellings when they resemble the prominences of erythema tuberosum.

Urticaria subcutanea is a name given by Willan to an affection which presents all of the subjec-

tive symptoms of the disease. The characteristic wheals, however, are absent. This neurosis holds about the same relation to urticaria that pruritus does to prurigo. Indeed, these are only different stages of the same diseases.

As regards its duration, urticaria has received the titles of "ephemera" or "evanida," "recidiva," and "perstans." These relate either to the evanescence of the eruption, its relapsing, or its chronic character. When the constitutional symptoms are of unusual severity, there is a febrile state of the system. This variety of the disease is known as "urticaria febrilis."

If urticaria is complicated with lichen, it gives rise to a combination of diseases which is very properly denominated "lichen urticatus." Urticaria also occurs during the acute period of many febrile diseases. Its connection with the hot stage of intermittent fever has been mentioned by several observers.

The causes of urticaria are those articles of diet which produce more or less general disturbance of the digestive organs. Certain kinds of animal food, such as shell-fish, pork, and wild game, occasionally excite this disease. Some fruits have the

same effect: thus currants and strawberries are productive of urticaria. Irritation of the mucous membrane of the uterine system has been noticed by Scanzoni* as one of the causes of urticaria. This variety is exceedingly rare: we have, however, seen a few cases. Intestinal worms are also mentioned as an exciting cause of urticaria.

The cutaneous phenomena in this affection are the results of irritation conveyed to the nervous centres, and its reflex influence upon the sensibility and nutrition of the skin. The three prominent symptoms produced in the latter organ are increased sensibility, vaso-motor spasm, and vaso-motor paralysis. The wheals, at successive stages, present one or more of these conditions.

Treatment.

The only treatment necessary, in acute urticaria, is to remove the cause of disturbance from the stomach or bowels, and to avoid it, if possible, in future. The skin should be sponged with a weak alkaline lotion, and all kinds of irritation of its surface be avoided. The disease is generally of so short duration as to admit of but little opportunity for its treatment.

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* See Edinburgh Medical Journal, October, 1850.

Chronic urticaria generally requires a tonic course of medicine. The bowels must be regulated by effervescent saline aperients. The mineral acids, iron, and quinine may all be requisite to effect a cure.

ZOSTER.

Synonyms. — *Herpes Zoster; Zona; Shingles.*

The definition of herpes, as given by Willan,* must be somewhat modified; since it is no longer the exact expression of our ideas of the nature of this disease. The regular course of herpes, as now understood, is as follows : —

A slight erythematous blush appears upon the skin, preceded or accompanied by a painful tingling or burning sensation. This morbid sensation is felt in the part affected, or in the course of the cutaneous nerves distributed to that region, and is the earliest and most characteristic symptom of herpes. Nor does it always cease on the appear-

* Delineations of Cutaneous Diseases; exhibiting the characteristic appearances of the principal genera and species comprised in the classification of the late Dr. Willan, and completing the series of engravings begun by that author. By Thomas Bateman. 4to. London, 1817.

ance of the eruption, or at its decline. The situation and severity of this neurosis cause it, in some instances, to be mistaken for pleurisy.

The eruption of herpes zoster, or shingles is preceded by languor, anorexia, nausea, and headache; or nervous agitation, chills, and pain in the epigastrium and the part about to be affected. There is either a single erythematous patch, of a circular, oval, or irregular outline ; or there are several patches, varying in breadth from an inch to the width of the hand. Simultaneously, or in a few hours, numerous thickly clustered vesicles make their appearance upon these erythematous patches. In four or five days, the vesicles are fully developed, elevated, and globular, and measure from half a line to a line or more in diameter. Their contents become cloudy after this period, and they rapidly form into scabs. These usually fall on the twelfth or fourteenth day from the commencement of the eruption. Decrustation takes place in the same order in which the vesicles appeared ; the oldest patch being the first to lose its scabs. The redness soon disappears, and the skin returns to its normal condition.

Alibert * never saw zoster form a complete circle

* Traité Complet des Maladies de la Peau. Folio. Paris, 1833.

around the body. He has mentioned, however, the not less curious circumstance of two zones, situated one upon either side, like two horse-shoes, with a vacant space in front and behind. In another instance, he saw the same disposition of this disease around the neck, in the form of a vesicular cravat. He cites a case in which the eruption spread from the attachment of the deltoid to the neighborhood of the wrist. He says it often manifests itself in a cluster upon one of the hips.

Alibert remarks, that this cutaneous neuralgia, in always being limited by the median line, resembles the hemiplegias. He assigns two or three weeks as the ordinary limit for the duration of zoster; and describes the smarting, lancinating pains, and the intolerable prickling sensations, which increase with the progress of the disease. These pains, he says, are either constant, or declare themselves by accesses which last many hours. The same author mentions the case of a man in whom an insupportable pruritus remained for two years in the part where the eruption had been; and that of a young woman who had a lancinating pain for six months after the disease disappeared; and, finally, that of an old woman much more unfortunate than these,

as the zone had been, in a manner, permanent since her critical epoch.

In the first of these cases, the local pruritus was probably awakened by the previous inflammation of the skin. This occurs quite often in parts that have been the seat of an exudation or hyperæmia. Examples of this mode of origin of pruritus are common after eczema and chilblains. The persistence of the neuralgia, in the other cases, was probably due to chronic neuritis.

In regard to those affected by zoster, Alibert has observed it in hysterical women and in those having suppression of the menses. He also assigns cold and moisture as the most frequent causes of this eruption.

Rayer* says that herpes zoster, or zona, may occur on any region of the body, but is seen most frequently upon the trunk. He speaks of the general disturbance of the system which precedes its eruption, and of the burning pain in the region in which it is about to appear. He has never met with zona as a chronic disease. Herpes phlyctænodes, according to Rayer, appears ordinarily as a

* Traité Théorique et Pratique des Maladies de la Peau. 8vo. Paris, 1835.

critical eruption, terminating acute catarrhal affections or those in which there is excessive perspiration. It is described as having its situation upon any part of the body, but more particularly upon the face.

Cazenave * adopts the nomenclature of Willan, in treating of the herpetic eruptions. He describes herpes labialis as consisting of small groups of vesicles, more or less numerous and distinct, ordinarily very small, and disposed irregularly around the mouth. These sometimes appear spontaneously; but are often preceded by pungent and burning heat, and followed by a well-marked swelling and redness, upon which numerous vesicles are soon developed. Cazenave thinks this variety of herpes is produced by acrid substances, the impression of cold, an angina, a stomatitis, or in the course of a pneumonia. His opinions concerning herpes circinatus, tonsurans, and iris, need not be dwelt upon here, since we shall exclude them entirely from the neuralgic varieties of herpes.

Cazenave's description of herpes phlyctænodes leaves no doubt of its being a variety of zoster. He says it is characterized by the eruption of one

* Leçons sur les Maladies de la Peau. Folio. Paris, 1856.

or two groups of globular vesicles, from the size of a crown-piece to that of the hand, and separated by an interval of healthy skin. These appear either simultaneously or in quick succession. He has seen this variety upon all parts of the body, and having the same constitutional and local symptoms as zoster. As regards its causes, he has seen herpes phlyctænodes occur, in a great number of cases, in consequence of sorrow or vivid moral emotions; and, above all, in young persons of a blonde complexion and delicate skin, in women, and in sensitive people.

Cazenave speaks justly of the error of considering zoster a bullous variety of erysipelas, on account of the heat, pain, and volume of its vesicles. He has observed its frequency upon the thorax; and that it always forms a half-zone. He alludes to its appearance upon the extremities as rare. Such also are the results of our own observations.

This author gives some interesting examples of the distribution of zoster upon different parts of the body. In one instance, the eruption commenced upon the lumbar region, surrounded the hip, and terminated in the groin and upon the anterior portion of the thigh. In other instances, it had its

origin upon the upper part of the back, and spread to the shoulder, which it surrounded, and then terminated upon the anterior portion of the arm; in one case, at the elbow, and, in another, near the wrist. Cazenave once saw a zona upon the trunk, from which clusters of vesicles, in the form of bands, extended simultaneously to the upper and the lower extremity of the same side. He cites a case of double zona. The one on the left side commenced at the upper dorsal spinous processes, and extended below the shoulder and axilla, as far as the middle of the sternum. That on the right followed a similar course, except that it occupied a plane nearly four inches lower than the other zona.

When, according to Cazenave, this eruption attacks those whose constitutions are much impaired, as old people, the vesicles become voluminous, rupture, and produce painful and chronic ulcers and cicatrices. Under these conditions, he has seen the patches of zona become gangrenous, and the patient die.

There is a characteristic symptom which he considers more important than any of the external features of zona, and which has been pointed out in all times. This is the local pain which accompanies

each vesicular group, and which occasionally survives it during a very long time. He considers this pain a neuralgia which belongs, not only to zona, but to herpes phlyctænodes, which is only a variety of zona. He has seen these diseases so frequently, under certain atmospheric conditions, that they appeared almost epidemic.

M. Parrot * has given the subject of zona a very elaborate consideration. He has collected several cases to show its neuralgic origin; and his conclusions are as follows: —

"1. That, in zona, the predominant symptom is pain;

"2. That this pain belongs to the class of neuralgias."

As regards the cause of this disease, he expresses himself thus: —

"Zona is always a secondary manifestation, subordinate to the existence of neuralgia of a rheumatic or dyspeptic nature."

We have seen the above conclusions verified in a number of instances, and concur with this writer in most of his deductions..

Erasmus Wilson † considers the inflammation

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* Considérations sur le Zona. 8vo. Paris, 1857.

† On Diseases of the Skin: a System of Cutaneous Medicine. 8vo, London, 1867.

and its vesicular development, in herpes zoster, as due to the irritation of the cutaneous nerves. He retains the name of "herpes phlyctænodes" for those varieties which appear upon the extremities, the head, neck, and face; and his descriptions of them are very minute and accurate. He thinks that cold and dampness are the chief causes of herpes.

The most systematic account which has been given of herpes is by Professor Von Bärensprung.* He shows that the distribution of this disease is upon the principal cutaneous nerves, and their branches. We will give the names of his varieties, and the nerves upon which they are distributed, in a somewhat condensed form. He has evidently made this subject a very careful study, and there is but little room for improvement upon what he has done.

Varieties of Zoster.	Distribution.
Zoster facialis	Branches of the fifth pair of nerves.
,, *occipito-collaris* . .	Occipitalis minor, auricularis magnus, and superficialis colli nerves.

* See British and Foreign Medico-Chirurgical Review, January, 1862.

Varieties of Zoster.	Distribution.
Zoster cervico-subclavicularis	Supra-sternal, supra-clavicular, and supra-acromial.
,, *cervico-brachialis* . .	Brachial plexus.
,, *dorso-pectoralis* . .	Third to seventh dorsal nerve.
,, *dorso-abdominalis*. .	Eighth dorsal to first lumbar vertebra.
,, *lumbo-inguinalis* . .	Branches of the upper lumbar nerves.
,, *lumbo-femoralis* . .	External cutaneous, genito-crural, anterior crural, and obturator branches of lumbar plexus.
,, *sacro-ischiadicus* . .	Cutaneous branches of sacral plexus.

Hebra * has given a somewhat lengthy historical account of herpes, in which he arrives at the following conclusions: —

"First, it has been used as a comprehensive name for chronic skin affections in general, or, as they were called, 'flechtenübel,' 'dartres,' 'tetters,' 'erpeti,' &c.

"Secondly, it has been applied to an acute disease of the skin, attended with the formation of vesicles, and occupying particular regions of the body. In this case, it is made a generic term, including several species, among which is zoster.

* On Diseases of the Skin, including the Exanthemata. Vol. I. 8vo. New Sydenham Society. London, 1867.

"Thirdly, it has been employed to designate an affection caused by the growth of a vegetable parasite, and taking the form of red scaly patches, or groups of vesicles and rings, or, again, leading to the loss of the hair: this last variety being that which was formerly known as 'tinea tondens,' and which has been termed by Willan, 'porrigo scutulata;' by other English writers, 'ringworm;' by Gruby, 'rhizophito-alopecia;' by Köbner, 'mycosis tonsurans;' by Bazin, 'teigne tonsurante;' and by Cazenave, 'herpes tonsurans.' Malmsten gave to the vegetable parasite found in this disease the name of 'trichophyton tonsurans."

Hebra regards this multiplication of terms as of no advantage to dermatology; and thinks that Willan and Cazenave might have easily chosen others to designate the affections which they described. Nevertheless, as these terms are already established, he would adhere to them, rather than produce confusion in medical nomenclature by the invention of new ones. He therefore adopts the definition of "herpes" as given by Willan, which he (Hebra) understands to be a term applied to a skin disease characterized as follows: —

"It is benign, runs an acute course, and is attended with the formation of miliary papules, which are arranged in groups, and generally undergo development into vesicles and pustules as large as lentils, or even still bigger. It is never distributed over large tracts of the cutaneous surface, being

always confined to certain definite regions. After remaining a few days, or as long as four weeks, this eruption dries up into flat crusts, which often leave scars when they fall off."

Furthermore, Hebra says, —

"This definition, however, requires to be modified to a certain extent, according to the seat of the affection. In different parts of the body, there are differences in the relative importance of its symptoms, as well as in the way in which the vesicles are grouped, and in the *pattern* of the disease.

"It is therefore necessary to divide the genus Herpes into several species, which require separate description. I accordingly distinguish the following: —

"*a*. Herpes labialis, or, as I prefer to term it, H. facialis.

"*b*. H. præputialis, or, rather, H. progenitalis.

"*c*. H. zoster.

"*d*. H. iris et circinatus."

As the writings of Hebra have opened a new era in dermatology, it is proper that his views upon herpes should be given at length. We do not hesitate, therefore, to transfer to these pages a large portion of his article upon this subject. We do this, moreover, because it will give the reader a better opportunity to compare the statements of this writer with those of other dermatologists; and to see for himself what advancement has been made in these studies, and to whom we are so largely in-

debted for the increased attention which is now daily being given to them. Each extract will be accompanied by explanatory and critical remarks. The first paragraph which we are about to quote embodies the views of Bärensprung in regard to herpes labialis, præputialis, and zoster: it is as follows: —

"In the important work to which I have already referred, and which has hardly received the attention which it deserves, v. Bärensprung suggests, that the first three of these species of herpes are, in reality, but one affection, and should be included under the name of 'zoster.' The reasons which he gives for this opinion are, that they are all found in regions supplied by particular nerves, and that the development of the vesicles is, in all of them, due to some morbid condition of the nerve. When such vesicles occupy the whole extent of the part to which the affected nerve is distributed, a H. zoster is the result. He supposes that the H. labialis is an incomplete Z. facialis (answering to the infra-orbital and mental branches of the second and third divisions of the fifth nerve), and that the H. progenitalis is a rudimentary Z. sacro-ischiadicus et sacro-genitalis, due to a morbid condition of the inferior pudendal nerves, and of branches of the pudic nerves, arising from the sacral plexus, and supplied to the penis and scrotum, or to the labia."

Against the above theory, Hebra presents numerous objections. They are stated in the following extracts: —

"But plausible as this view is, and supported by anatomical considerations, it nevertheless appears to me to be not altogether consistent with clinical observations. To the practical physician, a diagnosis, resting upon an anatomical basis of a conjectural kind, has no weight, if it is in any way opposed by the symptoms of the patient. In determining the essential nature of a disease, we should certainly not attach more importance to its mere anatomical characters, than to the results of observation at the bedside concerning its seat and distribution, its course, and the complications by which it is attended; particularly if these features are uniform at all times and in every country in which the complaint is met with. Indeed, in the case of zoster, it was the clinical physician who drew the attention of the anatomist to the fact, that the disease is accompanied with a special nervous affection; and surely we ought to listen to the opinion of the former with regard to the relation between zoster and the H. facialis and H. progenitalis, before doing away with the separate existence of the last-mentioned species of herpes.

"Now, clinical observation furnishes us with many reasons for retaining the distinctions hitherto admitted between these forms of herpes. Among these reasons are the following: —

"1. In the H. labialis and the H. præputialis, there is generally only one group, or but a very small number of groups, of vesicles; whereas, in zoster, this is the case only in very exceptional instances, several clusters being developed in succession.

"2. Zoster seldom returns: it generally appears only once in the life of an individual; whereas, in H. labialis and H. progenitalis, the re-appearance of the disease is the rule.

"3. It is a well-known fact, that herpes labialis occurs in the train of febrile complaints: it has even received the name of 'hydroa febrilis.' Hence this affection appears to be symptomatic, and due to some past or actually existing disease, attended or unattended with fever; whereas zoster is to be regarded as the result of a morbid condition, more or less accurately confined to the tract supplied by a particular cerebro-spinal nerve.

"4. Neuralgic pains precede the eruption of zoster, accompany it, and often remain for a long time after its disappearance. This symptom is never observed in the H. labialis or the H. præputialis.

"5. The H. labialis and H. progenitalis are not generally unilateral, but more often affect both sides, or appear in the middle line of the body. V. Bärensprung, indeed, disputes the complete accuracy of this; but, as it appears to me, he is wrong in doing so."

The first objection of Hebra, as regards the limited number of groups of vesicles in H. labialis and H. præputialis, can be explained by *the limited distribution of the nerves in these cases;* whereas, in the event of a zoster upon the thorax, many nerve-branches usually become the seats of the eruption.

The second objection, that zoster seldom appears more than once in the lifetime of the same individual, can be satisfactorily accounted for, when we consider the rarity of this affection upon the larger cutaneous nerves. But few dermatologists have

seen many cases of zoster, however extensive their observations may have been. In proportion, therefore, to the rarity of this, as compared with other diseases which are occasionally known to return, we should be much less liable to see a repetition of zoster than we might at first suppose. The fact that zoster seldom occurs twice in the same individual, is no proof at all that the person having it becomes thereby exempt from a second attack. The much greater frequency with which herpes labialis and herpes præputialis occur, is one reason why they attack the same individual more than once. It is fair to suppose, also, that herpes in these regions is produced by a greater variety of causes than when it is distributed upon the filaments of the larger cutaneous nerves.

The third objection, that herpes labialis is a symptom of febrile diseases, while zoster is due to a morbid condition of a particular cerebro-spinal nerve, contains no evidence of dissimilarity in the nature of these affections. In many cases, herpes labialis is sympathetic in its origin. The same may be said of zoster. Cold gives rise to both of these varieties of herpes; so also do affections of the internal organs. We have twice observed herpes

labialis and herpes præputialis simultaneously upon the same person.

The fourth objection is, that the neuralgic pains which precede, accompany, and often remain after the disappearance of, the eruption in zoster, are never observed in herpes labialis and herpes præputialis. This objection is in part contradicted by a subsequent statement, in the description of herpes facialis. Hebra describes this affection thus: "The outbreak of a H. facialis is often preceded by a burning pain in the part; but this finally disappears when the vesicles have become fully developed."

The fifth objection of Hebra is, that "H. labialis and H. progenitalis are not generally unilateral, but more often affect both sides, or appear in the middle line of the body." The accuracy of this statement is disputed by Bärensprung. We have observed many cases of herpes labialis and herpes præputialis in which there was a manifest unilateral distribution of the vesicular groups. No satisfactory explanation has yet been given why herpes facialis should not always be unilateral. The cause of the eruption has probably much to do with the local manifestations in these cases.

Hebra's division of zoster into varieties is more general than that of Bärensprung; and his names are shorter, and easier to be remembered. His varieties of zoster are as follows: —

"Zoster capillitii.
,, faciei.
,, nuchæ (s. H. collaris).
,, brachialis.
,, pectoralis.
,, abdominalis.
,, femoralis."

Previous to his description of the local varieties of zoster, Hebra remarks, "that, in every one of them, a regular form may be distinguished from certain modifications of it which are abnormal." We shall arrange his descriptions of these two forms of development of zoster side by side, in order that the contrast may be the more striking: —

"The following are the characters which I consider to belong to this disease in its normal form: —

"1. The vesicular eruption presents the appearance which I have described as belonging to herpes in general. It passes through certain

"On the other hand, I regard as anomalous, —

"1. Those cases in which some part of the eruption (or the whole of it) presents characters differing from the normal type which I have

changes, and subsides; leaving no cicatrices. I may also remark, in this place, that the first-formed clusters of vesicles are always nearest the nervous centres; and that those which subsequently develop themselves lie more towards the remote peripheral distribution of the corresponding nerves.

described. Thus, the rash sometimes remains in the papular stage; while, in other instances, bullæ arise, or pustules, which attack the deeper structures of the skin, and are followed by cicatrices.

"2. The rash is confined to one half of the body; but clusters of the vesicles exist over the whole of the region which should present them, according to the definition of the local variety of herpes zoster to which the case belongs.

"2. Those exceptional instances in which herpes zoster arises symmetrically on both sides of the body; and likewise those in which only a few clusters of vesicles attain their full development, the others being altogether absent, or appearing merely as minute points (Pünktchen), which soon abort, and die away.

"3. No extraordinarily severe pain precedes the appearance of the rash, nor is its subsidence followed by any intense or long-continued suffering.

"3. Those in which severe neuralgia accompanies the attack of shingles, preceding the eruption, or continuing even after the vesicles have dried up into crusts. It often happens that the persistence and the intensity of this symp-

tom render the disease a very painful one; and, in some cases, the functions of the motor nerves, also, are interfered with.

"4. The vesicles contain merely transparent serum, or, in some cases, a puriform fluid."

"4. Those, lastly, in which blood is mixed with the fluid contained in the vesicles, or in which hæmorrhage even occurs into their floors. The eruption then has an appearance very different from that which it usually presents; it is the seat of most severe pain, and is always followed by the formation of cicatrices."

The exceptional forms of development of zoster may be expressed in the following condensed statement: —

1. Papules, bullæ, or pustules are formed, instead of the normal vesicles of zoster.

2. The eruption of zoster is bi-lateral.

3. The neuralgia is intensely severe, before, during, and after the eruption.

4. Hæmorrhage takes place into the vesicles.

Hebra describes the local varieties of herpes zoster as follows: —

"(*a.*) *H. zoster capillitii.* — This often appears on the forehead and scalp, in the course of the supra-orbital, a branch of the first division of the fifth nerve, passing from the supra-orbital notch upwards to the top of the head. In some of these cases, the eye, also, is affected; the vessels of the conjunctiva and those which supply the cornea being injected, and severe pain being complained of by the patient. Under these circumstances, indeed, the mobility of the iris may be so much impaired, that the disease may simulate an iritis.

"In other instances, the eruption begins at the back of the head; spreads, in the form of an arch, over one parietal bone; and terminates in the neighborhood of the coronal suture. This variety of herpes zoster is well seen only in persons who are bald; and such a case may he found in the first number of Boeck's 'Atlas der Hautkrankheiten.' In a patient whose head is thickly covered with hair, it is difficult to detect this form of shingles.

"(*b.*) *H. zoster faciei.* — In this variety, numerous clusters of vesicles develop themselves on the cheek, whence they pass over the side of the nose towards its bridge; gradually becoming smaller as they approach this point. I have twice seen this affection bi-lateral. It then appeared quite symmetrically on the two sides of the face, and gave the patient scarcely any pain.

"(*c.*) *H. zoster nuchæ* (the *H. collaris* of Plenck, the *Z. occipito-collaris* of v. Bärensprung). — In this form of shingles, the eruption first makes its appearance on the side of the neck, over the second and third cervical vertebræ, and extends thence upwards towards the lower jaw and face,

forwards over the larynx, and, lastly, downwards, — a few clusters reaching even as far as the second rib.*

"(*d.*) *H. zoster brachialis.* — In this variety, the first vesicles appear opposite the fifth, sixth, and seventh cervical, and the first dorsal, vertebræ; and the affection then passes down the arm, occupying both the extensor and flexor surface (but especially the latter), and extending down to the elbow, or even along the fore-arm, as far as the little finger. The whole of the skin supplied by the brachial plexus, down to the peripheral distribution of the radial and ulnar nerves, may thus be the seat of shingles.

"(*e.*) *H. zoster pectoralis.* — When herpes zoster breaks out on the surface of the chest, its distribution in general corresponds with the inclination of the ribs; for the groups of vesicles run parallel with them, or rather with the intercostal nerves, the direction of which is the same as that of the ribs. Near the spinous processes, where the earliest clusters make their appearance, the vesicles cover an area answering to two or three vertebræ. From this point, the eruption, at first, passes downwards over the side of the thorax, but afterwards ascends on approaching the anterior wall of that region, and terminates, over the sternum, in the median line of the body.

"In its progress round the chest, the herpes zoster does not spare the skin over the breast, as has been erroneously asserted by some writers. Another point which may be mentioned is, that, in this form of shingles, the pain is frequently so severe and so intensified by the movements of

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* Vide Cazenave, Leçons sur les Maladies de la Peau. Paris, 1856. P. 41, planche 8.

respiration, that it gives rise to dyspnœa. Indeed, the affection may, in this case, be easily mistaken for a pleurisy in its early stage.

"(*f.*) *H. zoster abdominalis.* — This variety corresponds to the distribution of the lower dorsal and lumbar nerves, which supply the muscles and the skin of the abdominal wall. The eruption passes forwards, round the abdomen, and terminates in the median line; a few clusters of vesicles often appearing on the mons veneris. In many cases of this affection, the movements of inspiration and expiration, and all straining efforts of the abdominal muscles, give rise to pain, as in the H. zoster pectoralis, though not to the same degree as in that form of the disease.

"(*g.*) *H. zoster femoralis.* — This appears sometimes on the anterior, sometimes on the posterior, surface of the thigh; and, in the latter case, may extend down as far as the ham, or even to the calf of the leg. The first cluster of vesicles is generally observed on the buttock; indeed, the affection often remains limited to this part, instead of spreading downwards."

Examples of the above varieties of herpes zoster are given in Hebra's Atlas of Skin Diseases.*

Mr. Hutchinson † has lately paid considerable attention to the study of herpes zoster. He arrives

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* Atlas der Hautkrankheiten. Sechste Lieferung. Folio. Wien, 1866.

† Clinical Lectures and Reports by the Medical and Surgical Staff of the London Hospital, vol. iii., 1866; and Dublin Quarterly Journal of Medical Science, November, 1867.

at the following conclusions in regard to this disease: —

"1. That herpes zoster may occur at almost any age; and, if we except early infancy, it is equally frequent at all periods of life. . . .

"2. That the two sexes are equally liable to its attacks. . . .

"3. That it is not possible to denote any special condition of general health which predisposes to its attacks. . . .

"4. Herpes zoster is not contagious. . . .

"5. As a general rule, herpes zoster does not occur twice in the same individual.

"6. In true herpes zoster, the eruption is (with the very rarest exceptions) never symmetrical.

"7. Herpes zoster occurs with equal frequency on the two sides. . . .

"8. That herpes zoster generally observes closely the recognized anatomical distribution of some nerve. . . .

"9. That the nerve affected is usually a cutaneous one; but that this is not invariably nor exclusively the fact. . . .

"10. That there is no reason for supposing that herpes zoster can be produced by artificial irritation of nerve-trunks. . . .

"11. That the disease runs a definite course. . . . "

We have numbered these propositions, for convenience of reference.

We do not know whether Mr. Hutchinson claims any originality in these statements: certainly, every experienced dermatologist must have been con-

vinced of the truth of the majority of them, at least, by his own observations.

Mr. Hutchinson suspects that herpes zoster is sometimes produced by the use of arsenic, in the treatment of other skin-affections. He asks for the reason of the greater frequency of herpes upon certain cutaneous nerves than upon others. He mentions, as instances of this, the third or fourth dorsal, and certain branches of the first division of the fifth, nerve. He alludes to the rarity of herpes upon the second and third divisions of the fifth nerve, and also upon the fore-arms and the legs. He inquires whether the nerve-irritation is of central origin, or whether it begins in some part of the trunk of the nerve; and also what share the vaso-motor nerve has in the production of the symptoms. This writer believes, from the foregoing propositions and inquiries, that herpes zoster is neither an exanthem nor a simple neurosis.

From a careful study of these writers, together with our own observations of numerous cases, we feel assured, that herpes zoster, phlyctænodes, labialis, and præputialis are only local varieties of a vesicular eruption which is distributed upon the tracks and terminal filaments of the different cutaneous nerves.

The immediate cause of this eruption is irritation, or inflammation, of the cutaneous nerves, especially at the points where they emerge to become distributed to the skin. This neurosis may be of a painful, burning, tingling, or pruriginous character. It not unfrequently originates from some disturbance of the internal organs. Irritation of the mucous membrane, at or near any of its apertures, such as the mouth, nares, and urethra, sometimes produces an eruption of herpes. Thus, we have observed that herpes labialis and herpes nasalis are frequently associated with catarrhal inflammation of the throat and nares. Herpes præputialis is produced, in most instances, by local irritation of the genital organs. An elongated and narrow prepuce may be the cause of this eruption, in consequence of the retention by this means of an excessive quantity of sebaceous substance behind the glans. Herpes præputialis has also been observed in cases of acute gonorrhœa.

The emotions, however strange it may appear, are, in some instances, the indirect causes of zoster. The injurious influence which they have been known to exert on the secretion of milk, and on the functions of the digestive organs, cannot be

denied. When the mind is the prime mover in this series of morbid phenomena, the irritation which it conveys to the viscera causes derangement in their nutrition. This influence is felt in the central nervous system, and reflected upon some one of the peripheral nerves. Nutritive changes in the skin are the consequence. Zoster is one of the phenomena of this reflex action of the nervous system upon the nutrition of the skin. Cases are recorded in which the pain of zoster has announced itself immediately after some exciting moral emotion, and the disease has run its usual course. We have seen such instances in our own practice, and need no more evidence to convince us of this fact.

For good reasons, we shall exclude herpes iris and herpes circinatus from the genus now under consideration. We have then a disease which exhibits great uniformity in the symptoms, appearances, distribution, and development of its different local varieties. The nervous origin of these is also similar, whatever may have been the exciting causes. This disease is zoster; and we shall divide its different forms into the following local varieties: —

Zoster facialis.
„ cervicalis.
„ brachialis.
„ thoracicalis.
„ abdominalis.
„ lumbalis.
„ sacralis.

Zoster facialis is either partial or complete in its distribution, although the latter variety is a very rare form of the disease. When partial, the lips, nose, chin, cheek, or forehead may separately be the seat of the eruption. When the lips only are affected, the distribution is not so strictly unilateral. When the eruption is situated on the forehead, it occupies the region of the supra-orbital nerve and its branches; and the mastoid and occipital nerves of the same side are sometimes affected. This variety of zoster seems to be a combination of a partial zoster facialis and of zoster upon the ascending or mastoid and occipital branches of the cervical plexus of nerves. Zoster auricularis, which is only a part of zoster cervicalis, may exist either alone, or with a more or less extensive eruption of the latter. From the anastomosis which exists between the auricular and facial nerves, we some-

times find zoster auricularis in connection with zoster facialis. In zoster facialis, a cluster of vesicles will frequently be seen at a little distance below the outer angle of the eye. This cluster is situated either upon the malar, or inferior palpebral branches of the facial, nerve. There is another cluster belonging to zoster facialis, which is of more frequent occurrence, although it has not yet received special notice from writers on skin diseases. It is situated a few lines from the outer angle of the mouth, and a little above it, on the extensive anastomosis of the buccal nerves. It is circular, or obliquely elliptical when extensive; the longer axis of the cluster being in the course of the nervous twigs which supply the angle of the mouth and the integument of the chin. This partial variety of zoster facialis is generally associated with zoster labialis and zoster nasalis. As a sub-variety, it may be properly named "zoster buccalis." Zoster nasalis consists of an eruption of herpetic vesicles, either on the side of the nose, or a few lines above its tip or lobe. It occurs alone, or associated with zoster labialis, buccalis, and frontalis. In a few instances, we have noticed zoster labialis, nasalis, and præputialis simultaneously on the same person.

Several cases of zoster of the ophthalmic region have recently been reported by Mr. Bowman and Mr. Hutchinson.* The latter writer has noticed, in cases of zoster frontalis, a singular coincidence between the eruption of vesicles upon the region supplied by the oculo-nasal nerve and the inflammation which takes place in the corresponding eye. We will quote the remarks of this admirable observer: —

"All the cases that I have yet seen support the opinion I have expressed, that it is only when the side of the nose is affected that any serious inflammation of the eye ensues, and that, in the worst cases, the vesicles will be found on the tip of the nose, the part supplied by the oculo-nasal nerve. In most of the cases which I have seen recently, the eruption was on the forehead only, and in none of these did the eye suffer."

Professor Brown-Séquard † has collected many instances of irritation or inflammation of the eye and amaurosis, due to neuralgia of the trigeminal nerve. He thinks that the most positive facts may be adduced, from recent works on diseases of the

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* The Royal London Ophthalmic Hospital Reports, vol. vi., part 1. 8vo. London, 1867.

† Lectures on the Physiology and Pathology of the Central Nervous System. See pp. 157, 158.

eye, to show that several kinds of affection of this organ "may be the result of an injury to the frontal or other branches of the trigeminal nerves." The information which he has gathered upon this subject is of much importance, in respect to the disease under consideration. It is embraced in the following concise paragraph: —

"A paper of Mr. Notta, on Neuralgia, shows that this kind of irritation very often causes congestion of the eye, and photophobia. Out of a hundred and twenty-eight cases of neuralgia of the trigeminal nerve, the eye was congested *thirty-four* times; and, in most of these cases, the nerve attacked was the supra-orbitalis. Photophobia existed in *eighteen* cases; and a real ophthalmia has sometimes been observed. Mr. James, a pupil of Magendie, has seen amaurosis caused by a neuralgia. Mr. Notta mentions ten cases of amaurosis due to neuralgia. The short duration of this amaurosis, its relapsing character, and, moreover, its appearance during, or immediately after, an attack of neuralgia, and the fact that it was cured when the neuralgia was cured, prove that it resulted from the irritation of the trigeminal nerve. Alterations in the cornea have been observed in a very curious case of neuralgia of the face, by Mr. Mazade. In a case of hyperæmia of the eye, which had resisted for a year many kinds of treatment, Dr. Emmerich, quoted by Schiff, states that an immediate cure was obtained after the extraction of a tooth. Professor Paul F. Eve, of Tennessee, U.S., suggested the idea of the extirpation of a carious tooth to Dr. H. F. Campbell, in a case of ophthalmia, and,

the operation having been performed, the patient was at once cured. In a case recorded by Vallez, quoted by Schiff, there was strong hyperæmia of one eye, with abundant mucous secretion, followed by an ulceration of the cornea, in a man who had received a deep wound in the face, dividing the supra-maxillary nerve. Dr. Alcock, in his important article on the Fifth Pair of Nerves, relates experiments on animals, in which an injury to the infra-orbitalis nerve had produced inflammation and suppuration of the eye. It is worthy of remark, that in these experiments, when the wound healed, the eye returned to its normal condition. Morgagni says, that Valsalva has seen amaurosis instantly produced in a woman whose eyebrow had been struck by the beak of a cock."

The ophthalmic nerve is divided into three branches, — the lachrymal, nasal, and frontal. Zoster frontalis is caused by irritation, or inflammation, of the frontal nerve only. When zoster nasalis occurs in conjunction with zoster frontalis, there is, generally speaking, irritation or inflammation of all the branches of the ophthalmic nerve. This is, in these cases, the most probable explanation of the lachrymation and inflammation of the eye. When, however, zoster nasalis is associated with zoster labialis, the disease is of a superficial character. We have seen several cases in which the eruption of vesicles appeared simultaneously upon

the lips and nose; and in none of these was there any apparent affection of the eye.

Dr. Salomons, now of Boston, U.S., not long since saw a case of zoster frontalis, attended by ocular inflammation, in the clinic of Professor Tilanus, at Amsterdam. There was no eruption of herpes upon the nose.

Dr. Williams, of Boston, has observed a case of inflammation of the eye from zoster frontalis. The neuralgia was of an intense and persistent character. There was no eruption on the integument of the nose supplied by the nasal branch of the ophthalmic nerve.

Dr. Durkee, of Boston, has recently had a patient affected with zoster of the frontal region, and in whom there was no inflammation of the corresponding eye. The integument of the nose was, in this case, exempt from the eruption of herpes.

As the oculist is generally consulted in those cases of zoster frontalis and zoster nasalis, in which there is inflammatory trouble with the eye, while the dermatologist seldom sees the same cases, these two independent observers thus very naturally draw different conclusions in regard to the origin and import of zoster nasalis, and its connection with the disturbance of the organ of vision.

We conclude, from such observations as these, that the eye becomes inflamed, in herpes frontalis, only when the ophthalmic nerve is deeply affected; and that this condition of the nerve is indicated by the appearance of the eruption upon its nasal, as well as upon its frontal, branch.

Zoster cervicalis is that variety of the disease which is found distributed upon those parts of the integument supplied by the different branches of the superficial cervical nerves. The point of emergence of these nerves is near the middle and lateral portion of the neck. From this point, nervous branches are sent to the auricular, mastoid, and occipital regions, also to the under portion of the chin and to the front of the neck; while others pass downward, in a fan-shaped manner, to the sternal, clavicular, acromial, and scapular regions. Zoster cervicalis is not very common. When the eruption is extensive, there may be a few groups of vesicles upon the cheek, near the angle of the lower jaw. This is easily accounted for by the anastomosis of the cervical and facial nerves which takes place near this point.

Zoster brachialis commences generally upon the median line of the posterior part of the body, in the

region of the last three cervical and first three dorsal nerves. One or two vesicular clusters, of considerable size, appear near the median line; and then a succession of clusters on the upper dorsal cutaneous nerves, in a horizontal direction outwards. The next clusters appear on the cutaneous branches of the circumflex nerve. Below this region, smaller groups of vesicles may extend as far as the elbow, on the posterior part of the arm, near its ulnar margin. A group is generally found upon the thoracic border of the axilla, and also upon the supra-mammary region of the same side; and another, extending as far as the median line of the upper half of the sternum. When the eruption is very extensive on the supra-mammary region, it may also appear on the radial or ulnar border of the fore-arm, and extend as far as the wrist.

Zoster thoracicalis is the most common variety of this disease, and the one to which the name of "zoster" seems to have been first and most generally applied. This variety is distributed upon the dorsal cutaneous nerves, and upon the lateral and anterior branches of the thoracic nerves. The widest part of the zone is upon the dorsal region; ex-

tending, in some cases, from the upper part of the scapula to the lowest branches of the last dorsal cutaneous nerve. The anterior portion of the zone may include the mammary region, and extend downwards upon the anterior and lateral thoracic nerves, nearly to the umbilicus.

Zoster abdominalis is a term applied to a variety of the disease which appears upon the abdominal region. The posterior and lateral portions of the zone are distributed upon the external branches of the eighth, ninth, tenth, and eleventh perforating lateral thoracic nerves, and the cutaneous branches of some of the lumbar nerves. The anterior portion of the zone is situated on the anterior and middle perforating abdominal nerves. This part of the zone occupies, therefore, the region of the umbilicus, and extends some distance below it. This variety may exist with zoster lumbalis. From the abdominal nerves, branches are sent to the genital organs, and thus an eruption takes place on these parts.

Zoster lumbalis is distributed upon the cutaneous branches of the lumbar, crural, external femoral, and internal saphena nerves. The eruption takes place, therefore, upon the lumbar and crural

regions, and upon the interior and internal portions of the thigh, knee, and leg. The eruption also occurs upon the genital organs.

Zoster sacralis is that variety of herpes in which the vesicular eruption is distributed upon the cutaneous branches of the sacral and sciatic nerves. The disease extends from the hip and sciatic notch, on the posterior and outer border of the thigh and leg, to the external malleolus. The clusters of vesicles are largest near the sciatic notch.

The external genital organs are frequently affected in this variety of zoster.

Treatment.

The treatment of zoster can now be conducted upon more rigid scientific principles than ever before. While we acknowledge that this disease generally runs an acute course, and terminates favorably in about two weeks, we should not be contented to watch its progress, painful as it usually is, without making some effort to mitigate the suffering of the patient.

Local applications have hitherto been ineffectual in arresting, or even retarding, the progress of zoster. The method formerly practised, of destroy-

ing the vesicles with the nitrate of silver, is both painful and injurious. In this disease, all local irritation of the surface should be carefully avoided. In zoster, the use of irritants is like adding fuel to the fire. A cold wet compress will alleviate somewhat the burning sensation. A cloth, wet with a saturated solution of the sulphate of iron, may be kept constantly applied to the part, as in the treatment of erysipelas. The neuralgia which accompanies zoster needs to be allayed by anodynes. The bromide of potassium should be given to adults, in doses of twenty or thirty grains, twice in the twenty-four hours. The bromide of ammonium must be used in asthenic cases. A quarter of a grain of the sulphate of morphia may be taken at bedtime, if the patient cannot sleep on account of the pain. The same dose can be injected beneath the skin, if a speedy and decided effect is required. The short duration of zoster renders the use of opiates less objectionable in this than in many other diseases. A thorough knowledge of the nature and course of this affection, and also of the condition of the patient, will often suggest the method of treatment to be pursued.

ANÆSTHESIA.

CUTANEOUS ANÆSTHESIA is the loss of feeling, in the skin, either as regards pain or tactile impressions. Loss of sensibility to pain is known as "analgesia" or "anodynia;" while that of tactile sensibility has received no particular name. The latter is sometimes extinguished, as regards certain kinds of excitation only. Thus, the sensibility to temperature may be preserved, so that bodies which are warmer or colder than the skin can be distinguished by the touch, while those of the same temperature cannot. This is generally the case in ataxie locomotrice, especially when this disease is of a progressive character. Entire insensibility to tactile impressions is a much more profound state of cutaneous anæsthesia. The nutrition of the skin is impaired, in this condition; and the insensible portion is liable to vesicate, on the least exposure to heat or cold. Numerous instances are

recorded of hyperæmia, vesication, œdema, and gangrene of the skin, from solution of continuity in its nerves, or pressure upon them in consequence of injury or disease. In these cases, there is more or less complete anodynia. The few exceptional instances, in which the process of repair has gone on in paralyzed parts, can afford no valid objection to what has been said of the effects of anæsthesia of the skin upon the nutrition of its tissues. In this affection, the nails become altered in their form and structure, and are sometimes shed. The hair also falls, in consequence of imperfect innervation. The whiskers of rabbits have fallen out, after division of the infra-orbital nerve. The epiderma exfoliates, in consequence of anæsthesia of the skin, as in psoriasis.

This neurosis occurs in connection with many diseases. Among these may be mentioned lepra anæsthetica, pellagra, acrodynia, alopecia areata, and the spedalskhed of Norway, or Norwegian leprosy. The psoriasis of the hands and arms of washerwomen is associated with anodynia of the skin. This anæsthesia is produced by the continual contact of those parts with strong alkaline soaps, and by subsequent exposure to cold. In cutaneous

anæsthesia, there is an occasional sensation of pricking, formication, or pain. The causes of anæsthesia of the skin are exceedingly various. They may be separated, however, into two great classes, comprising those of a peripheral, and those of a central, origin. When the nervous centres are at fault, the motility of the parts, as well as their sensibility, is impaired. When the cause is in the peripheral nervous system, the nutrition of the tissues is also diminished.

The external causes of insensibility of the skin are quite numerous. The following only need be mentioned: the division or injury of nerves; neuromata; pressure of exudations upon the cutaneous nerves; the effects of chemical agents, and of heat and cold. The internal causes of anæsthesia of the skin are diseases of the brain and its membranes, and also of the spinal cord; pressure from extravasations upon the nervous centres; the effects of metallic poisons upon the system; and many chronic diseases which produce alterations in the blood and tissues. It is a well-known fact, that several agents, such as sulphuric ether, chloroform, and the tinctura aconiti radicis, produce more or less anæsthesia, of an exceedingly tempo-

rary duration, when applied to limited regions of the skin.* Advantage is so often taken of these agents, to counteract local hyperæsthesia, that this subject needs only a passing notice. Ice, or any of the freezing mixtures, such as rhigolene, will produce sufficient local anæsthesia for minor surgical operations. There is no good substitute, however, for internal use, for ether or chloroform, when profound or long-continued anæsthesia is required.†

Exudations upon the cutaneous nerves where they pass over ridges of bone, and in close contact with them, or through bony foramina, may cause so much pressure as to produce, — first, hyperæsthesia or neuralgia; and, afterwards, anæsthesia of those portions of the integument to which these nerves are distributed. This happens to the ulnar border of the hand, when there is pressure from exudation, or callus, at the point where the ulnar nerve crosses the humerus. Anæsthesia occurs when a portion of this nerve is excised to relieve

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* Perrin et Lallemand, Traité d'Anesthésie Chirurgicale. 8vo. Paris, 1863.

† Lallemand, Perrin, et Duroy, Du Rôle de l'Alcool et des Anesthésiques dans l'Organisme. 8vo. Paris, 1860.

an obstinate neuralgia in its terminal expansions. Neuromata of the cutaneous nerves produce anæsthesia of the skin, in a manner similar to pressure. Indeed, these tumors exercise the same kind of force upon the nervous filaments, by undue extension of them. The external causes of cutaneous anæsthesia are very readily detected.

The internal causes of anæsthesia of the skin may be divided into those which act directly upon the nervous centres, such as pressure and inflammation; and into those which act through the medium of the blood. Among the former are cerebral hæmorrhage, tumors of the brain and spinal cord, and chronic encephalitis and myelitis. The causes which act through the blood are the poisonous effects of certain metallic and other substances which have been introduced into the system, either by accident or as medicines. Certain diseases also have the same effects on the nervous system.

Among the metals whose poisonous influences on the economy occasionally give rise to paralysis of sensibility, or anæsthesia, we may enumerate lead, mercury, and arsenic. The diseases which have a paralyzing effect on the organs of sensibility are quite numerous. They all belong to the cachectic

type. Those in which the phenomenon of anæsthesia is most marked, and is best known, are ataxy, lepra anæsthetica, syphilis, pellagra, the spedalskhed, some cases of alopecia areata, the psoriasis of washerwomen, purpura, typhoid fever, and diphtheria. Chlorosis, albuminuria, and that morbid array of nervous symptoms known as hysteria, must be added to the above list.

1. Ataxie Locomotrice. — The relations of cutaneous anæsthesia with ataxie locomotrice have been clearly defined in the admirable monograph of M. Topinard.* We shall translate the most valuable portions of his essay on this subject. These extracts are necessarily of a fragmentary nature: —

"Anæsthesia of the integuments shows itself in the majority, perhaps in the totality, of cases, either after the ataxie locomotrice, or at the same time, — never before. . . .

"The diminution, the perversion, the slight and partial exaltation of the sensibility, are met with in the disease which occupies our attention, upon the skin, upon certain mucous membranes accessible to investigations, and perhaps even upon others hidden from our observations. . . .

"M. Beau has recognized two modes of sensibility of the integuments: the one, special or sensorial, called 'touch,' to which the word 'anæsthesia' is more particularly appli-

* De l'Ataxie Locomotrice. 8vo. Paris, 1864.

cable; the other general, called 'pain,' of which the abolition is named 'analgesia.' M. Landry distinguishes with reason a third, — the sensibility to temperature. . . .

"The Germans recognize, besides these, a sensibility to pressure (Drucksinn). It should be the first to disappear in progressive ataxy, or rather in tabes dorsalis; but, from their description and from the contradictory opinions to which it has given rise, it is evident that this is a complex property, in which the skin only intervenes in part. . . . When the anæsthesia is absolute, or nearly so, nothing is more simple to demonstrate; but when it attacks only one or two of the three modes of sensibility, or it is light, it is useful to multiply the proofs, and to have regard to the most delicate shades. An examination of a person with ataxy, in order to be complete, should be extended to the four extremities, the trunk, and the face, and in many parts of these regions which habitually are very unequally and differently affected. The prick with a very sharp pin; pinching with the nails, — with an artery forceps; pulling out the hairs; tickling; the successive touch of woven fabrics, — of different objects, — one or more fingers; the application of cold bodies to the skin, — of a glass rod, more or less heated in the flame of a lamp, — of the electric brush, — will be successively put in use. The watch in hand, we shall endeavor to ascertain if there is instantaneity between the impression and the sensation, or what is the interval in seconds. When the modifications of sensibility are difficult to perceive, we should proceed by comparison between two symmetrical points, — the two soles of the feet, the internal face of the two thighs, the leg and the fore-arm. And, by all means, for fear of subterfuge, the patient ought to have his eyes closed."

This author points out the causes of error in these examinations; the chief of which is the preservation of the sensibility to temperature. This causes objects which are warmer or colder than the skin to be readily distinguished by the touch.

Incomplete anæsthesia is either progressive or sudden. When progressive, it begins with the extremities, and extends towards the trunk of the body. The lower extremities are most frequently attacked. The different kinds of sensibility are extinguished successively. Thus, there is retardation in the transmission of impressions; anæsthesia to pain, to touch, and to tickling. The plantar region is first, and ultimately most profoundly, anæsthetic. The two sides differ in the degree of insensibility, and in the time at which it is first noticed. The maximum retardation in the transmission of sensitive impressions is, according to Topinard, ten seconds. Cutaneous anæsthesia is a very constant symptom in ataxy: still, however, there are exceptions. These are accounted for, in part, by the imperfect methods of examination employed by some observers.

2. Hysteria. — The hysterical character of this affection has been noticed by various writers. The

following extract contains the substance of all that can be said in regard to the questionable nature of this neurosis: —

"Hysterical hyperæsthesia is so much more commonly observed with us than anæsthesia, the latter perhaps being overlooked, and the tendency in many patients of this kind to 'embroider' is so great, that I confess I have for a long time received the accounts I have read of the above condition *cum grano salis*, as it is not easy to be well assured that some of the symptoms might not be feigned. But, with regard to anodynia, there can be no doubt that it must be the result of a real alteration in the state of the nerves, and no pretence. No normal conjunctiva or Schneiderian membrane would stand the test of liq. ammoniæ or mustard, without giving unmistakable evidence of sensibility. The experiment is precise enough, and, unless we question the veracity of the author, we must admit the occurrence of this remarkable sensory paralysis; and if of this, then I think of other forms of so-called hysterical disorder as real nerve, and not merely nervous affections."

Hysterical anodynia occurs, therefore, in females, and during that period of life which is characterized by the greatest functional activity of the sexual system. The emotional system is then in a state of exquisite susceptibility; and the health of the individual depends as much on moral and emotional as on physical influences. The writer

just quoted * has given so truthful an expression of this condition of things, and one which is so much in accordance with our own observations, that it seems proper to introduce his remarks in this place. They are as follows: —

"There has hitherto been far too much confusion between the bodily and the mental derangement; and because, in many cases, the latter has been present, it has been too much taken for granted that it existed in all, and that the bodily was mythical. We shall always have much need to be on our guard against deception in the case of our meeting with a genuine hysteric; but, on the other hand, we have evidence enough, I think, that causes of exhaustion of nerve-power may generate all kinds of morbid phenomena, from the greatest hyperæsthesia, muscular agitation, and convulsion, to anæsthesia, analgesia, and paralysis. Let us only think what must be the depressing effects of constant monotonous toil, scanty pay, poor food, bad air, and failing strength, especially where there is no bright ray of future happiness in a better state to light the gloom, and where, in the absence of healthful recreation, gin and prostitution are the Devil's substitutes, and then say if we can be surprised at any amount of physical nervous derangement. Dr. G. Bird, speaking of paraplegia, the result of enervation, occurring in sempstresses, says, 'They are unable to procure proper food, and are often driven to intemperance to forget their miseries,

* C. Hanfield Jones, Clinical Observations on Functional Nervous Disorders. London, 1864.

or to prostitution to add to their wretched income.' In awe and sadness, we ask ourselves at times, 'How can these things be ?' "

3. Syphilis. — Cutaneous anæsthesia occurs, though but rarely, in constitutional syphilis. It is seldom extensive, and usually depends upon the pressure of nodes and of tubercula gummata upon the trunks of the peripheral nerves. Sometimes the anæsthesia is of central origin, and accompanies hemiplegia or paraplegia. In such cases, being only a subordinate symptom, it deserves but little notice. The syphilodermata, however, are remarkable for the absence of pain and of pruritus. This often serves as a diagnostic mark, in these affections. The writings of Gros and Lancereaux,* and those also of Zambaco,† upon the syphilitic nervous affections, are quite meagre in information on the subject of anæsthesia.

Pellagra, acrodynia, and the spedalskhed appear to be due to similar lesions of the nervous centres. They are endemic in certain regions, and possess only a general interest for the dermatologist. Cutaneous anæsthesia occurs in all of these diseases.

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* Des Affections Nerveuses Syphilitiques. 8vo. Paris, 1861.

† Des Affections Nerveuses Syphilitiques. 8vo. Paris, 1862.

4. Pellagra. — M. Roussel * has described the numbness and formication of the skin in pellagra; and also the headache, and pain in the spine, often affecting its whole length, and giving rise to cutaneous anæsthesia and other nervous phenomena. The membranes and substance of the brain and spinal cord have been found to be congested in many instances; and softening of the white substance of the lumbar portion of the cord is mentioned by Landouzy † as of frequent occurrence in the cases examined by him. The softening almost always occupied a limited portion of the cord; and, at this point, the spinal marrow became diffluent. M. Billod has noticed the same conditions. M. Gintrac,‡ in his post-mortem examinations of those who had died of pellagra, describes the various lesions of the nervous system. He says that the brain was rarely found in its normal condition; its surface being often congested, and oftener still in a softened state. The membranes of the brain were the seat of a hyperæmia; but, more frequently, the spinal marrow presented, in the middle of the dor-

* Traité de la Pellagre et des Pseudo-Pellagres. 8vo. Paris, 1866.

† Pellagre Sporadique. 8vo. Paris, 1860.

‡ De la Pellagre dans le Département de la Gironde. 8vo. Bordeaux, 1863.

sal region, a considerable softening of the white substance.

5. Acrodynia. — Anodynia and loss of tactile sensibility occur in some cases of acrodynia.* The lesions of the nervous centres are similar to those of pellagra; and afford the most satisfactory explanation of the cutaneous, gastro-intestinal, and nervous symptoms observed in these diseases.

The general conditions which give rise to them are poor food, mental depression, and unremitting toil. Ergot of rye, when this cereal is an almost exclusive article of diet, produces contraction of the blood-vessels of the spinal cord and its membranes, and a consequent diminution in the nutrition and functions of these parts.

6. Spedalskhed. — The cutaneous anæsthesia, which is a symptom in the spedalskhed, has been described by Boeck and Danielssen, in their work upon that disease.† This insensibility or anæsthesia, at first, occurs in limited portions of the skin, and is attended by structural changes in these parts.

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* Rayer, Treatise on the Diseases of the Skin. Edited by John Bell. 4to. Philadelphia, 1845. See p. 424.

† Traité de la Spédalskhed, ou Eléphantiasis des Grecs. 8vo. Paris, 1848.

It afterwards becomes more general, until the entire skin is thus affected. The gait is unsteady, on account of the loss of sensibility in the soles of the feet to touch and to pressure. The alterations in the central nervous system are of a profound nature. These changes are sufficient to explain the different phenomena of the disease. The pathological appearances of the membranes of the spinal cord and the brain, and also of the substance of these organs, are minutely described in the work to which we have alluded.

7. Neuralgia. — Injuries of the peripheral nerves, cold and moisture, and neuralgia from whatever cause, are all liable to produce anæsthesia in the parts of the integument supplied by the affected nerves. Brown-Séquard * has collected several cases which show the influence of neuralgia, or irritation of the centripetal nerves, in the production of "paralysis and anæsthesia by a reflex action." We shall cite those cases in which anæsthesia was produced. They are contained in the following extract: —

"I have seen a case of anæsthesia of the two lower limbs, due to sciatica. M. Notta mentions five cases like this one,

* Lectures on the Central Nervous System. See pp. 164, 165.

— three observed by himself, one by Grisolle, and one by Martinet. A case of anæsthesia of the arm, in consequence of a cervico-brachial neuralgia, is also related by M. Notta. Several cases of more or less extended anæsthesia, due to some kind of irritation of the skin, have been collected in an excellent thesis of Mr. O'Brian. In one, it followed a bite of the skin of the arm. I have seen a young woman who had a partial anæsthesia of the face, with swelling and infiltration of the cheek, and complete paralysis of the facial nerve, in consequence of neuralgia of the infra-orbitalis nerve."

Treatment.

Most cases of anæsthesia from external causes naturally fall to the care of the surgeon. The division of a nerve, and the consequent loss of sensation in the part to which it is distributed, are frequently remedied by the natural process of repair. This may be accomplished in a few weeks, or, at the most, in a few months or years. There is, in this case, a more or less complete regeneration of the nervous fibres, and return of sensibility. Neuromata may be removed with the knife of the surgeon; but the operation is necessarily connected with loss of the intervening nervous substance. The pressure upon a cutaneous nerve, occasioned by exudation, is relieved by absorption of the morbid material.

The effects of chemical agents, and of heat and cold, upon the sensibility of the skin, are to be remedied by the removal of the patient, if possible, from those influences. Some local application may be necessary in the treatment of this variety of cutaneous anæsthesia. Frictions of the skin with the linimentum ammoniæ, the use of the sulphur-bath, and shampooing the integument with the ordinary flesh-brush, or the hair mitten and belt, are among the recognized methods for restoring the lost sensibility of this membrane. Electricity has also been applied with more or less success, and is destined to become a powerful remedial agent in the restoration of sensibility, in cases of cutaneous anæsthesia.

Extravasations of serum into the brain, or beneath its membranes, may be removed in part, if not wholly, by the persistent use of the iodide and bromide of potassium. In metallic poisoning, the elimination of the poisonous metal may be effected, in the case of lead, by the use of the iodide of potassium, which enters into combination with that metal. A soluble compound is supposed to be formed, and the lead is thus eliminated. There is no antidote at present known which will act thus

favorably in removing the terrible effects of arsenic or of mercury from the system.

When the anæsthesia of the skin is produced by certain diseases which act through the medium of the blood, causing profound alterations in this fluid and its effects upon the nutrition of the nervous centres, our chief reliance is to be placed in the different preparations of iron, of quinine, and in the mineral acids. A tonic regimen must be subjoined to these remedial measures.

CASES.

THE following cases occurred, among many hundred of the more common varieties of herpes or zoster observed by us during the last six or seven years. The descriptions are from notes and drawings, made at the time of observation. The histories of the cases are given only in outline.

CASE I. — *Herpes or Zoster Labialis; Pharyngitis, and Nasal Catarrh.* November, 1863. — Rosa G., aged twenty-five years, had a cough three weeks since, which was probably owing to pharyngitis, and which lasted about a week. She now has nasal catarrh. A week since, there was an eruption of herpetic vesicles at the angle of the mouth, on the right side, and also below the septum of the nose. The herpetic eruption seems to have been caused by the catarrhal inflammation of the nasal mucous membrane.

CASE II. — *Herpes or Zoster Labialis; Pharyngitis, and Nasal Catarrh.* November, 1863. — John C., aged four years, has had pharyngitis and catarrh of the nasal passages, for the last two weeks. The secretions from the nares and mouth are very abundant. The catarrh is accompanied by cough. The eruption of herpetic vesicles began about a

week since, and they have now become covered with crusts. The clusters are three in number, — one at each angle of the mouth, and one below the septum of the nose, to the left of the median line of the upper lip. This is evidently a case in which the catarrh gave rise to the herpetic eruption.

Case III. — *Herpes or Zoster Labialis; Pharyngitis, Nasal Catarrh, &c.* February, 1862. — Daniel D., aged eighteen years, soldier, was exposed four nights ago, while on guard. He had epistaxis at the time of exposure, followed by muscular pains in back, shoulders, and right side, which still continue. In addition to these symptoms, he has follicular pharyngitis and nasal catarrh. Three days ago, an eruption of herpetic vesicles made its appearance on the lips.

Case IV. — *Herpes or Zoster Labialis; Pharyngitis, &c.* April, 1862. — Sarah W., aged fifteen years, has had follicular pharyngitis two weeks. The uvula and tonsils are now swollen, and of a dusky-red color; and there are gray ulcerated patches in the pharynx. The tongue is slightly coated, there is loss of appetite, and the patient feels drowsy and weak. She has had, for two days, severe pain in the dorsal region. There is an eruption of herpetic vesicles at the angles of the mouth. — The patient recovered in the course of a week.

Case V. — *Herpes or Zoster Labialis; Concussion of the Brain, Vomiting and Diarrhœa, &c.* Feb. 25, 1862. — Margaret C., aged twenty months, had a fall upon the head a week ago, and has been quite irritable ever since.

She has had a cough since her fall; and, during the last three days, has had, occasionally, vomiting and diarrhœa, with furred tongue. Four days ago, an eruption of herpes took place upon the lips.

March 5. — The little patient has scarcely spoken during the last three days, and the diarrhœa continues.

March 8. — She seemed to improve a little, on the 6th and 7th; but gradually became more drowsy, and, finally, comatose, and died on the thirteenth day of the month, from the effects, probably, of the fall.

Case VI. — *Herpes or Zoster Nasalis; Bronchitis, Nasal Catarrh, &c.* December, 1861. — Charles McC., aged nine years, has enlarged lymphatics of neck. During the last two or three days, has been quite feverish, and has nasal catarrh. There are well-marked symptoms of bronchitis. An eruption of herpetic vesicles is beginning to appear upon the nose. There is no apparent affection of the eyes.

Case VII. — *Herpes or Zoster Labialis et Nasalis; Pharyngitis, &c.* November, 1863. — Ellen D., aged nine years, has inflammation of the tonsils, elongated uvula, and follicular pharyngitis. These are accompanied by herpetic vesicles at the angles of the mouth, and on the tip of the nose. There is no inflammation of the eyes, and the disease is already in the stage of decrustation. This is evidently a catarrhal variety of zoster labialis and zoster nasalis.

Case VIII. — *Herpes or Zoster Labialis et Nasalis; Bronchitis.* November, 1861. — Annie L., aged seven

years, has had bronchitis during the last two weeks. An eruption of herpetic vesicles made its appearance, five days ago, on the lips and nose. She has no affection of the eyes.

Case IX. — *Herpes or Zoster Labialis et Nasalis; Bronchitis and Nasal Catarrh.* November, 1863. — Catherine C., aged nine years, has had bronchitis one week, together with nasal catarrh and follicular inflammation of the throat. A cluster of herpetic vesicles, two thirds of an inch in diameter, appeared, four days ago, at the left angle of the mouth. Simultaneously, a cluster of six or eight vesicles made its appearance on the upper lip of the same side, near the median line. Two clusters, similar to this, became developed, — one upon the left ala nasi, and the other below it; while a third cluster occupied the left side of the nose, midway between its ala and root. Three or four vesicles appeared upon the upper lip, on the right of the median line. This vesicular eruption was preceded by a smarting, burning sensation. The vesicles are now concreting into scabs. The eruption was unilateral in this instance, except the few vesicles on the upper lip, to the right of the median line. These were situated upon the filaments sent from the infra-orbital nerve to the upper lip. The vesicles on the left of the median line were distributed upon the filaments of the buccal nerves, and labial and nasal branches of the infra-orbital nerve. There was no inflammation of either eye.

Case X. — *Herpes or Zoster Labialis et Nasalis; Nasal Catarrh, and Diarrhœa.* January, 1865. — John G., aged eight years and a half, has had catarrh, or cold in the head, two or three months. During the past two or

three days, has been troubled with diarrhœa; having four evacuations from the bowels daily, and being obliged to rise for this purpose in the night. He has headache, and pain through the eyes; but they are not otherwise affected. There is a copious eruption of herpetic vesicles on the upper lip and the tip of the nose. There is an oblong cluster, containing about a dozen vesicles, below the angle of the mouth, and a little outwards. Four vesicles are situated on the mucous surface of the upper lip, near its middle portion. There is a cluster of six or seven vesicles on the left ala nasi, and a similar cluster close beneath the right ala nasi. There is no disturbance of the eye. In this case, only the terminal filaments of the oculo-nasal nerve are affected.

Case XI. — *Herpes or Zoster Labialis et Nasalis.* February, 1868. — Susan D., aged eleven years, has had a herpetic eruption on her nose and lips during the last three days. There is no catarrh, nor symptoms of affection of either eye. Her health is apparently good. The vesicles are distributed on the left angle of the mouth, on the upper lip in the median line, and on the tip and right ala of the nose. The cluster on the tip of the nose contains about a dozen distinct vesicles; that on the ala, half a dozen; and those at the angle of the mouth, and beneath the septum of the nose, six to ten vesicles each. There are three large, solitary vesicles on the lower lip, — one at the median line, and the other two at the right angle of the mouth.

Case XII. — *Herpes or Zoster Labialis, and on the malar region; Bronchitis.* July, 1865. — James G., aged fourteen years, has had bronchitis during the last three weeks.

Two days ago, he was chilly all day, but in no pain. An eruption of herpetic vesicles took place yesterday on the malar region and around the mouth. The cluster upon the malar region of the left side is crescentic in form, the convex portion being turned towards the eye. It contains about twenty good-sized herpetic vesicles. There is no trouble with the eye. The clusters about the mouth are situated, — one at the left angle, and somewhat above it, containing about a dozen vesicles; one, a third as large, below the left angle of the mouth; a few vesicles beneath the lower lip; a large cluster extending from the left corner of the mouth, upon the upper lip, to the median line; and three small clusters, of half a dozen vesicles each, one at the right angle of the mouth, one above, and the other below it. On July 27, the smaller groups were covered with brown crusts; while the cluster on the malar region, and that at the left angle of the mouth, had completed the process of decrustation.

The patient says he had the same kind of eruption, on this region, six months ago. The vesicles, when fully formed, lasted three days. The scabs came off at the end of the fifth day after the vesicles became mature.

Case XIII. — *Herpes or Zoster Labialis et Buccalis.* August, 1865. — Mary D. has no cold or catarrh. Yesterday morning, she had a smarting sensation about her lips and right cheek; and then noticed, for the first time, an eruption of vesicles upon these parts. There is an oblong cluster situated on the right buccal region, containing about a dozen vesicles. There is a copious eruption of vesicles of various sizes, and in small clusters, at both angles of the mouth, and on the lower lip. They are situated on the

mucous and cutaneous surfaces of the lip. The largest vesicles are on the cutaneous surface, in groups of half a dozen each. There are four very small vesicles, in a cluster, situated upon the mucous surface of the upper lip. There is a small cluster below the septum, and a larger one upon the tip of the nose. There is no affection of the eyes. The unilateral character of the distribution is not wholly preserved in this case, since both sides of the mouth are affected.

Case XIV. — *Unilateral Herpes, or Zoster Labialis et Buccalis.* August, 1865. — M. S., aged fourteen years, is spanæmic, has no cold or catarrh, and his bowels are regular. Two days ago, in the morning, he had some pain in his lips and left cheek, followed by clusters of vesicles upon the lips and cheek. The vesicles on the lips extend from the left angle of the mouth to the median line. This demarcation is perfect on both lips, and there are no vesicles on the opposite side. The cluster on the buccal region contains about a dozen vesicles. This case is peculiar, on account of the unilateral character of the eruption on the lips and cheek.

Case XV. — *Unilateral Herpes, or Zoster Labialis et Buccalis, preceded by Headache and Muscular Pains.* — Ellen M., aged nine years, has had headache and muscular pains, commencing five days ago. Three days ago, there was an eruption of herpetic vesicles, extending from the left angle of the mouth to the buccal region, and situated upon the filaments of the buccal nerves. The vesicles are of considerable volume, and their contents have become cloudy and thickened. There was smarting previous to, and during, the eruption. The disease is strictly unilateral.

Case XVI. — *Bilateral Herpes, or Zoster Labialis et Buccalis.* October, 1865. — Mary R., aged twelve years, has had an eruption of herpes on the lips and cheeks, during the last three days. There is a cluster upon each buccal region. These clusters each contain about ten vesicles. The other usual symptoms of herpes are present. There is a cluster just below the septum of the nose; and a few vesicles near the angles of the mouth, situated upon the mucous surface of the lips. There are no symptoms of catarrh; and no vesicles on the median line, except near the septum of the nose. The case is remarkable for the bilateral symmetry of the eruption on the buccal region.

Case XVII. — *Unilateral Herpes, or Zoster Menti.* October, 1865. — John M., aged fifteen years, has a large cluster of vesicles on the lower border of the left cheek, near the point where the submental nerve emerges from its foramen. These appeared three days ago, and were preceded and accompanied by a smarting sensation. Some of these vesicles are probably distributed upon the filaments of the branch sent to this region from the superficial cervical plexus of nerves. Branches from this plexus ramify beneath the chin. The author has seen eleven cases of this variety of herpes, in children from five to fifteen years of age.

Case XVIII. — *Unilateral Herpes, or Zoster Menti.* — George P., aged nine years, had a smarting sensation, one week ago, beneath the chin, on the left side of the median line. An eruption of herpetic vesicles took place on the following day. It consisted of five clusters, grouped together, and surrounded by a rosy halo. The vesicles are

now in process of dessication. The eruption is unilateral, and without any obvious cause.

Case XIX. — *Zoster Brachialis; Neuralgia of the Left Side.* June, 1863. — Mary W., aged thirteen years, has had, nearly a week, neuralgia in the shoulder and back. An eruption of herpetic vesicles appeared a few days since, extending from the median line of the upper dorsal region to the shoulder, and down the posterior portion of the left arm, nearly to the elbow. There is a cluster of vesicles on the thoracic border of the axilla, and another on the left breast.

Case XX. — *Zoster, or Shingles; Neuralgia.* July, 1863. — Ellen R., aged twelve years, has an eruption of vesicles, which began near the spine, at the lower portion of the dorsal region, and has extended to the ensiform cartilage, in the form of a belt or band, two inches wide. The neuralgia commenced on Saturday night, and the eruption appeared on Sunday morning.

Case XXI. — *Zoster Thoracicalis; Apparent Pain; Abortion of the Vesicles.* December, 1864. — Mary F., aged fifteen months, has been febrile and very restless during the last four days, and is apparently in pain. Erythematous patches are seen upon the back and chest of the right side, as in the beginning of an ordinary herpetic eruption, extending from the median line of the dorsal region, over the scapula, and on the chest of the same side as far as the sternum. The eruption on the back commenced four days ago; while that on the chest appeared a day later. There were

numerous slightly elevated points, upon several of the patches, which resembled aborted vesicles.

Case XXII. — *Zoster Lumbalis; Neuralgia.* — April 10, 1862. — Ellen S., aged ten years, has an eruption of herpes or zoster, which began to appear, three days ago, on the left hip and lumbar region, and the left labium, preceded and attended by considerable pain in the affected parts. There is constipation, and retention of the urine so as to require the use of the catheter.

April 11. — To-day, the patient passes her urine very readily. The eruption is more prominent, and the pain continues.

April 12. — The vesicles are now fully developed. This is the fifth day of the eruption, and the eighth day of the neuralgia. The patient entirely recovered during the next ten days.

Case XXIII. — *Zoster Lumbo-sacralis et Pudendalis; Neuralgia.* May, 1863. — Mary G., aged eleven years, has had pain, for two or three days, in the lumbo-sacral region. Two days ago, clusters of herpetic vesicles appeared on the left labium, nates, and posterior part of the thigh. There is a small cluster of vesicles on the lumbar region. There was a sharp, stinging pain before and during the eruption.

Case XXIV. — *Zoster Sacralis et Pudendalis; Neuralgia.* Abby F., aged fourteen years, has had, for a week, neuralgia in the sacral region of the left side. Five days ago, an eruption of herpetic vesicles appeared. There

are some very large clusters of vesicles on the sacral region. There are clusters of vesicles, also, on the lateral portion of the external genital organs, and on the posterior surface of the thigh on the same side, extending half-way to the knee-joint.

Case XXV. — *Zoster Sacralis et Præputialis.* July, 1865. — Patrick M., aged five years, has an eruption of herpetic vesicles on the dorsal surface of the penis, beside the scrotum, and on the inner portion of the left thigh. This was first noticed on Sunday; and, on Monday and Tuesday nights, the pain increased. The vesicles are now opaque, and in process of dessication. This is the sixth day of the disease.

Case XXVI. — *Zoster Sacralis; Neuralgia.* — John D., aged forty years, has had pain in the left hip and thigh, during the last ten days. There is an eruption of herpes or zoster, commencing in a large cluster near the left sciatic notch, containing more than a hundred vesicles. Clusters of eight to twenty vesicles are situated, at intervals, on the posterior portion of the thigh and leg, as far down as the heel.

TO

PROFESSOR BROWN-SÉQUARD.

Dear Sir, — I have examined the article of Mr. Hutchinson on "Unilateral Herpes," and consider it a valuable contribution to dermatology. The views of this able observer, on zoster of the ophthalmic region, are examined in detail, in my monograph on the "Neuroses of the Skin." I have a few words to add, in relation to some statements made by Mr. Hutchinson. This writer says, "As regards the extremities, I think we may note, that you will but rarely see shingles on the fore-arm or hand, and never on the lower extremity below the knee." In opposition to this negative testimony, let me mention an example of zoster in Willan's "Delineations of Cutaneous Diseases." The eruption, in this instance, commences on the thigh, and extends half-way down the leg, or nearly to the ankle. I have a photograph which was taken of one of my patients who had zoster sacralis, and in whom the clusters of vesicles extended from the left sciatic notch to the heel. I have alluded, in my monograph, to similar cases mentioned by writers on dermatology. The eruption of zoster on the arm, extending to the wrist, appears to be more frequent than on the lower extremity. There is a good representation of this variety of zoster given by Hebra in his "Atlas of Skin-diseases;" and I have seen several cases of zoster brachialis, both in children and adults.

In regard to the age in which zoster is most liable to make its attack, it appears to me unwise to make any positive assertions. Thus far, it has been observed about equally at all ages.

I have endeavored to show why zoster seldom occurs more than once in the same individual; and find that Mr. Hutchinson has similar views, although less definitely expressed.

In regard to the season of the year at which zoster most frequently occurs, it appears to me, from considerable research, that the frequency of this cutaneous neurosis conforms, in this region of the globe at least, to the laws which govern all other skin-diseases of a non-contagious character.

The remarkable discovery, thought to be made by Professor Bärensprung, that zoster is caused by disease of the ganglia situated on the posterior roots of the spinal nerves, seems to me to be destitute of sufficient evidence to constitute it a fact acquired to science. The disease which he observed in these bodies, in a few cases of zoster, was probably identical, in its inflammatory character, with that of the nerves themselves and their sheaths. The few observations of this kind do not justify us in a settled conviction upon this subject, neither should they deter us from further investigations.

Several cases of traumatic zoster or zona are mentioned in the monograph of M. Mougeot. These anomalous cases are, certainly, without explanation, if we adopt Professor Bärensprung's views in regard to the pathology of zoster.

Very cordially yours,

HOWARD F. DAMON.