

one observer (Coates) termed it epitheliomatous; nevertheless the overgrowth is distinctly benign in character. A special feature of the disease is offered by the numerous miliary abscesses scattered throughout the epidermis, and also through the upper part of the corium. They vary in size from an area equal to that represented by three epidermal cells up to 5 mm. in diameter. When the disease is subacute, a few giant cells appear in the corium, as well as numerous plasma cells and miliary abscesses. In more chronic lesions there is a distinct tendency to the formation of pseudo-tubercles. In one out of nineteen cases (Montgomery's) tubercle bacilli were found, but their presence was shown to be due to a secondary infection, from tuberculous sputum, super-added to the blastomycetic invasion. Out of the nineteen recorded cases, only one patient (Busse-Buschke's) died of the disease. In the remainder the lesions were limited to the skin. It is worthy of note that with the exception of two cases (Buschke and Coates) there was no glandular enlargement, not even when the disease had implicated almost the whole surface of the lower extremity (Anthony-Herzog). Moreover, in one of the exceptions (Coates) the enlargement in all probability was not connected with the disease. In some cases, especially in that of Gilchrist and Stokes, there was to be noted a distinct tendency to spontaneous recovery. Another remarkable feature of the disease is the undisturbed condition of the general health, even when the cutaneous lesions were very extensive; and the comparative absence of pain. Thus in the Anthony-Herzog case, where the process had implicated the skin of almost the whole left lower extremity and was of twenty years' duration, the temperature and pulse were practically normal, the thoracic and abdominal organs had remained sound, there was no cachexia, and no urinary changes were discoverable.

So far as may be judged from the cases reported, the distribution of the lesions in cases of blastomycetic dermatitis may affect the face, neck, extremities, and occasionally the scrotum.

So far as *treatment* is concerned, Bevan noted that in his case the internal administration of the iodide of potassium proved to be distinctly curative; while other observers have seen much benefit from the use of this drug. Excision of the smaller lesions and thorough curetting of the larger areas, to be followed by the application of silver nitrate, are the therapeutic measures indicated.

**Protozoic Infection.**—In this connection it seems suitable to refer to six cases of protozoic infection of the skin and other organs, which have been reported since 1893. Four of these cases were observed in the United States. In all instances the disease proved fatal. Clinically as well as histologically, the lesions are strongly suggestive of those of blastomycetic dermatitis. In the first of the two reported by Rixford and Gilchrist the lesion on the back of the neck of a man, aged forty, was very chronic and presented a papillomatous and verruciform appearance. Pus could be readily squeezed out from between the papillae. Pathologically, also, there were the typical, marked epithelial hypertrophy, the numerous miliary abscesses in which the organisms were present, and the tuberculous-like formations in the corium, as well as the numerous plasma cells. The organisms were identified as protozoa by Wernicke who described the first case, and by Rixford and Gilchrist. They developed by sporulation, the organism dividing up gradually into about one hundred spores, which were liberated by the bursting of the capsule.

Ophuls obtained a fungus-like growth from his case, and found that, when animals were inoculated with this fungus, the sporulating forms were reproduced. Moreover, when these were obtained fresh from the animals and observed in a hanging drop in bouillon, a growth of mycelium was seen to develop from them. Ophuls' work, then, would go to show that these cases previously described as instances of protozoic dermatitis belong rather to a class more closely allied to blastomycetic dermatitis.

T. Caspar Gilchrist.

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**DERMATITIS CALORICA.**—**DEFINITION.**—The changes produced in the skin by its exposure to heat or to cold. These changes vary in grade from a simple, transitory hyperæmia to the absolute destruction of the part, and in many instances are followed by the death of the individual.

**SYMPTOMS.**—Writers upon this subject have been accustomed to treat of dermatitis calorica under three subdivisions, viz.: dermatitis ambustionis (seu congelationis) erythematosæ, bullosæ, and escharotica. This is, perhaps, an arbitrary classification, but in the main one well warranted by clinical experience.

**Dermatitis Ambustionis.**—The first grade of burns (from physical causes) results from the subjection of the skin to a prolonged temperature not exceeding 60° C. or from a momentary exposure to a higher degree of heat. Thus we see that a few hours of a summer sun or a fraction of a second of flames or of steam or of molten metal will bring forth an erythema in the part thus exposed. This is not a transitory condition and we find that pressure upon the skin will not produce its accustomed whiteness but rather a brownish-yellowish hue, and on microscopical examination we note that the superficial vessels are engorged with blood and that some edema and white-cell extravasation are present.

Subjectively, the skin feels very hot and often extremely painful. Within the next twenty-four to forty-eight hours the surface assumes a rather brownish tint, feels very itchy, and soon begins to be cast off in lamellæ of varying sizes, leaving exposed a slightly pigmented surface which persists for some time.

The treatment for this erythematous dermatitis consists in soothing, cooling, mild applications such as zinc oxide and starch powder (3 ss.—3 i.), mild lead lotions or a wash of carbolic acid 3 ss., zinc oxide 3 ss., aq. calcis 3 viij.

The second grade of dermatitis ambustionis is produced by the subjection of the skin to a heat greater than 60° C.—a condition most commonly seen following contact with very hot water, melted sealing wax, extremely hot

sun, or the momentary touch of flames or of hot metal. Vesicles and bullæ form immediately or during the next few hours and the patient experiences great pain.

Pathologically, the roof of the fully developed blister is formed by the stratum corneum or by the whole epidermis, while the papillary layer of the corium constitutes the floor. Confined within these walls we find serum and at times epithelial débris and shreds of fibrin. At times, when the heat has been less intense, the bullous formation is not so complete, and the process somewhat resembles the "cavity formation" and the "ballonization" seen in the pustule of smallpox. Filaments of epithelium remain connecting the separated layers of the skin and a gelatinous material fills the interstices. The changes in the corium are produced according to Unna by chemotaxis resulting from the products of the burn and consist of vaso-dilatation, considerable edema, and cell extravasation in the upper half of the derma, swollen and flattened papillæ, and degenerated elastic fibres.

The treatment in these cases consists in the opening of the bullæ at their junction with the more normal skin; the application of lead water, of carron oil, or of carbolic acid in olive oil (gr. xv.—3 viij.); the exclusion of the air and thorough aseptis. When the roofs of the bullæ are broken and raw surfaces are left exposed, mild dusting powders of zinc oxide or of bicarbonate of soda or bland ointments of zinc oxide or of boracic acid are acceptable. If the exposed papillæ show any tendency toward hypertrophy, a daily application of the nitrate of silver stick is of great benefit. When the burns are extensive the continuous water bath of Hebra forms the best means of fulfilling all the above-mentioned indications and spares the patient the tortures of repeated dressings and manipulations. The temperature of the water should be about 31° C. at first, and later it should be raised to 41° or 42° (Kaposi).

The prognosis of burns of the first or of the second degree depends almost entirely upon the extent of the body surface affected. Thus, in an infant a burn of a very small area often produces death, while in an adult a burn covering a half of the body is almost always fatal, and a burn even of a third of the body frequently leads to a similar result.

After an extensive though superficial burn the patient suffers great pain and becomes frequently wild and delirious from his agony. The temperature rises and the urine is suppressed. Even catheterization fails to produce anything but a few drops of liquid, sanguinolent and heavily loaded with albumin. This is the stage of congestion and, if the patient lives, is succeeded usually in from five to six hours by a complete change—that of inflammatory reaction. The pain subsides and in the fatal cases the patient becomes somnolent and soon falls into a stupor accompanied by profound sighing, râles in the lungs, vomiting, clonic contractions and finally opisthotonos, loss of consciousness, and death. This is the second stage and is due to the involvement of the internal organs. Death usually supervenes after the lapse of from eighteen to forty-eight hours, and at the autopsy many lesions are often found, including hemorrhagic erosions of the duodenum or of the stomach, granular degeneration of the vessels, muscles, and parenchymatous organs, hyperæmia of the meninges and nephritis (Kaposi).

In case the patient survives the first shock and is not carried off by the internal processes of the first few days, he is still exposed for several weeks to the dangers of erysipelas, tetanus, pyæmia, exhaustion, pneumonia, or nephritis.

[For a description of burns of the third degree and of burns produced by acids and by caustic alkalis see article on Burns.]

**Dermatitis Congelationis.**—Here, as in dermatitis ambustionis, writers are wont to speak of the effects of the cold upon the skin under three headings, viz.: dermatitis congelationis erythematosæ, bullosæ, and escharotica. The first or erythematous grade constitutes that condition which is known as pernio or chilblain. This is most frequently observed in children—especially little girls—and

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to a less extent in anæmic adults, and is always produced by the too sudden warming of the skin after exposure to cold. The parts most susceptible to chilblains are those most exposed to the cold and at the same time those farthest removed from the centre of circulation, i.e., the fingers, toes, ears, and cheeks. The individual enters a warm room or approaches a fire and immediately the part, but a moment previously chilled and blanched and numb from the cold, becomes very red and experiences a tingling sensation. In a healthy person these changes soon give way to normal conditions and no harm has been done, but in the young and anæmic a further pathological process ensues, passive congestion and edema follow, and as a result the part presents circumscribed reddish areas, often with purplish centres, upon an œdematous base, accompanied by intense tingling, burning, and itching.

As treatment we should paint the lesions with tincture of iodine, camphorated alcohol, iodized glycerin, tincture of myrrh, or a wash of carbolic acid, oxide of zinc, and lime water. Against further attacks we should warn our patient to rub the part with snow or iced water before entering the house, should advise warm coverings for the exposed parts of the body, and should administer iron internally.

As a rule chilblains are a harmless affair, but at times they may slough—the capillaries, previously emptied by the cold, are too greatly distended by the inrush of blood when the heat has been too great and sudden, and an ulcer results. Such an ulcer proves itself slow to heal and demands stimulating treatment internally and externally.

A second variety of dermatitis congelationis of the first grade is the common frostbite which affects most frequently the ears, cheeks, forehead, nose, or chin. This constitutes a deeper process than that of pernio and as a result a solid cake is formed with the skin blanched and cold. After a few hours in a warm atmosphere the skin becomes erythematous, swollen, and very painful. The tenderness and burning persist for a day or two, and the cake gradually disappears followed by desquamation of the epidermis, and in the case of the ears it is often observed that they remain distinctly larger and more susceptible to the cold for several weeks. Treatment consists in friction with snow or with cold water for ten or fifteen minutes and during the subsequent stages the application of cooling washes (zinci oxid. 3 ss., acid. carb. 3 ss., aq. calcis 3 viij.; or calamin 3 ss., acid. carb. 3 i., glycerin. 3 ij., aquæ 3 viij.).

The second or bullous grade of dermatitis congelationis is seldom observed alone but usually accompanies the less severe or the more intense forms of frost-bite. When seen the part is anæmic and on thawing vesicles or bullæ with serous, sero-sanguinolent, or hemorrhagic contents may develop. These rarely heal in a few days but more often break down into indolent, circumscribed ulcers.

The third or escharotic degree of frost bite, when encountered in our large Eastern cities, generally follows a drunken sleep during very severe weather. On the other hand cattle-tenders, shepherds, trainmen, soldiers, sailors, and explorers are frequently exposed to intense cold when they are powerless to prevent a part or the whole of the body from being congealed to the hardness of ice. In such conditions the individual at first feels the stimulating effect of the cold, and the exposed parts appear red. As the length of exposure or the degree of cold increases the part becomes painful and later anæmia and some loss of sensation develop. This in time gives way to drowsiness and numbness and an increasing desire for rest and sleep. This is the critical moment, and if the man yields to this craving he runs the greatest possible risk.

A thoroughly frozen part presents always the same characteristic signs. To the touch the skin is intensely hard and cold, insensible to stimuli and of the whiteness of marble. If improperly subjected to the heat of a warm room, the part within a few hours assumes a bluish-purple hue with possible formation of bullæ, and within

from twelve to twenty-four hours gangrene, either moist or dry, follows. When of the moist variety the process may be so deep and so intense that the bones themselves share in the disintegration and death may result from septic absorption even before the line of demarcation has appeared. When it is of the dry type, which is much less common, the usual changes of mummification ensue.

**TREATMENT.**—This is a matter of the greatest import and demands the utmost skill on the part of the physician, for upon the slowness with which the blood is allowed to return to the vessels depends the future of the frozen part.

To produce this gradual thawing out, the part should first be rubbed with snow until the icy hardness has in part disappeared, then iced water should be applied and the patient put to bed in a cold room with plenty of blankets to cover all but the affected area, near which ice bags should be placed. The temperature of the room should be very slowly elevated. These precautions are perhaps all that can be taken, and in a few days the extent of the injury will manifest itself by the appearance or not of gangrene. In the mean while, absolute rest in bed and stimulation must be insisted upon, and when once the line of demarcation is clearly marked the surgeon should interfere to avoid as much as possible the dangers of septicæmia. Such measures are frequently highly successful and one is often surprised at the slight loss of substance even after the most solid and extensive freezing.

Charles J. White.

**DERMATITIS EPIDEMICA.**—**DEFINITION.**—An acute, contagious dermatitis, attacking preferably the aged, often universal in extent, subject to one or more relapses, accompanied by great prostration, frequently fatal in result, and always followed by desquamation. Pathologically a parakeratosis.

**SYNONYM.**—Savill's disease.

**SYMPTOMS.**—The existence of this disease is denied by many and ignored by others. It was first observed by Savill in the Paddington Infirmary of London in 1891, and from that year until 1895 about five hundred cases were recorded. Since 1895 the disease in epidemic form has sunk into obscurity, but several possible sporadic cases have been observed by Colby and by Fordyce.<sup>1</sup>

The cutaneous outbreak of the disease is preceded by a feeling of local irritation which, within twenty-four hours, is followed by one of three types of initial lesion: first, papular, second, erythematous; or, third and very rarely, circinate. In almost half of the cases these first lesions appear upon the arms, the face, or the scalp, continue for from three to eight days, and are succeeded by a more or less generalized eruption with constant desquamation, which continues with frequent exacerbations and remissions for five or six weeks. This secondary stage assumes a moist type, resembling eczema madidans in sixty-six per cent. of the cases and in the remaining individuals appears as a dry, papular eruption closely simulating pityriasis rubra of Hebra. At this period the patient experiences great burning, itching, and tenderness and intense prostration and anorexia. The third stage of the disease is that of subsidence, when the skin assumes a hard, drawn, brownish appearance, the hair and nails may fall, and the patient is left weak and prostrate. During the epidemic of 1891, 12.8 per cent. of the people afflicted succumbed. The temperature rarely goes above 99° F., and albuminuria is not present except as a slight trace during the height of the disease.

**ETIOLOGY.**—The cause of this affection is still obscure. Savill and Russell, however, independently isolated from the scales and from the blood of the heart a diplococcus which resembled in many ways the Staphylococcus pyogenes albus, but which failed to liquefy gelatin.

Old age and chronic invalidism play an important part as predisposing factors, and it was observed that men were attacked almost twice as frequently as women in the first epidemic.

**PATHOLOGY.**—The microscopic appearances resemble very closely those found in chronic eczema. The rete is hypertrophied, the keratohyalin-bearing cells disappear,

the papillæ are swollen, and a few cells surround the superficial vessels of the corium—in other words, a parakeratosis. According to Echeverria,<sup>2</sup> the one important change not observed in eczema lies in the homogeneous degeneration of the more superficial rete nuclei—a process which he has termed peridiaphania.

**DIAGNOSIS.**—When an acute, practically afebrile, papular or erythematous papular dermatitis breaks out among the inmates of an institution, shuns the young and attacks the old, continues with one or more relapses for from four to eight weeks, reduces the vital forces almost to a minimum, is accompanied by a continued and almost universal exfoliation of the epidermis, and produces a mortality greater than that of scarlet fever, then we should recall to our minds the peculiar epidemic which was first described by Savill in 1891.<sup>3</sup>

From eczema I think one should differentiate this disease on account of its proneness to attack the aged and on account of the prostration, the epidemicity, the constant exfoliation, and the high death rate accompanying it. Erysipelas, pityriasis rubra, and scarlatina are the other diseases which one must exclude, but I think the reader can readily appreciate the great differences between them and dermatitis epidemica.

**PROGNOSIS.**—The mortality in the first epidemic was 12.8 per cent. and was much greater in men than in women. In the last epidemic the death rate fell to seven per cent. Thus the disease is certainly one to be dreaded. As a rule, when the disease begins with papules the outlook is better than in those cases in which erythema constitutes the initial stage.

**TREATMENT.**—Savill found that daily baths of creolin of twenty minutes' duration rendered the greatest service. Localized lesions were often controlled by applications of collodion, and tar, ichthyol, and oxide of zinc proved of service in allaying the subjective symptoms and in keeping the patient comparatively clean. Internally, sustaining treatment was, of course, necessary in the severer cases.

Charles J. White.

<sup>1</sup> Monatshefte für praktische Dermatologie, vol. xix., p. 476.  
<sup>2</sup> Jour. Cut. and Gen.-Urin. Dis., vol. xvi., p. 73, and vol. xv., p. 141.  
<sup>3</sup> British Journal of Dermatology, vol. iv., pp. 85, 69, 105. Jour. Cut. and Gen.-Urin. Dis., vol. xii., pp. 281-329.

**DERMATITIS FROM ROENTGEN RAYS.**—The immediate, almost universal adoption of Professor Roentgen's discovery in 1896 was soon followed by reports from different countries of a peculiar dermatitis resulting from the action of x-rays upon the skin. For the first two or three years the number of recorded cases was ever increasing owing to the more widespread experimentation and to the ignorance of the cause of the resulting inflammation; but now that investigators have learned to avoid too powerful currents and have exercised caution in placing the Crooke's tube at sufficient distance from the skin, the instances of reported accidents are happily distinctly infrequent.

To gain a clearer conception of the alterations induced in living tissues we may divide the resulting inflammations into two classes—those occurring in individuals experimented upon and those observed upon the experimenters themselves. The symptoms which are now to be described are those which occurred in about fifty cases recorded here in Boston, in Baltimore, and in Europe.

First, the accidents to patients. This class constitutes the great majority of cases found in literature and is rich in the variety and in the intensity of its lesions.

Erythema is perhaps the most frequent symptom observed, usually occurring with ill-defined outlines and appearing sometimes within a few hours or at varying intervals up to the sixteenth day.

The condition of dermatitis manifests itself in many ways, and in our list we find the following qualifying adjectives: acute, weeping, suppurating, chronic, and deep. Papular and pustular forms are the rarest, while the vesicular and the bullous (the latter sometimes hemorrhagic) types are much more frequently observed. Often the dermatitis is signalized simply by swelling or

by irritation. Very frequently the dermatitis is much severer, and we find the disease assuming a more virulent type, forming eschars; or ulcers, which are often deep and accompanied by intense pain, appear usually in three or four weeks and sometimes require weeks, months, or even one or two years to cicatrize. At times the healing is interrupted by relapses.

Disturbances in the nutrition of the appendages of the skin are also frequent sequelæ, and the application of x-rays is not rarely followed by a loss of hair in an area which has been subjected to this peculiar influence. The alopecia is usually observed from the tenth to the thirtieth day and the hair returns slowly, sometimes requiring even months before complete restoration has been effected. Among the rarer complications of the hair noted we find canities.

Changes in the nails are not uncommon, and I have observed such disturbances as pigmentation, persistent pain, and total loss of the nails.

When we examine the later changes which follow the various types of dermatitis we find that exfoliation and desquamation or pigmentation are the commonest, while leucoderma is a rarity, but in all cases we are struck by the peculiarly slow restoration to health.

Such are the objective conditions observed, and referring to the subjective symptoms we must first mention pain, which is characterized in different cases as slight, intense and deep, neuralgic even after a lapse of six months, or lancinating and persistent. After pain, but with far less frequency, writers have described sensations of burning, of irritation, of pricking, of pruritus, of hyperæsthesia, or of partial anaesthesia.

Disturbances of internal organs are not unknown and several instances of nausea, usually supervening in from two to three hours, have been recorded, while vomiting within a few moments and pain, which has persisted for two months, are other examples of involvement of the stomach. Among other internal complications a feeling of oppression about the heart, with or without palpitation, and dyspnoea have been mentioned.

From this short, purely descriptive list we see how many and how varied are the possible lesions resulting from the exposure of the body surface to the x-rays, and considering now the possible accidents which may befall the operator we find rather different conditions. Here we see the effect of prolonged and oft-repeated exposure to this strange influence. An experimenter may subject himself for weeks with impunity to the daily action of Roentgen rays, and then, without warning, the hands may become intensely painful or pigmented, the nails may darken or may fall never to return, the hair may disappear, ulcers may form—in a word, all the graver effects which we have noted in patients may come to the experimenter, with these peculiarities, however: the parts affected are almost always the hands, and their restoration to health is almost invariably an exceedingly slow and painful process.

What causes these unfortunate accidents? This is a question which has not yet been definitely answered. Professor Thompson's theory (which is perhaps the most plausible yet given) is that ultra-violet rays are at fault, and he has proved the strength of his argument by the results of experimentation. He allowed x-rays to fall upon the skin and found that that area was affected which, by the interposition of blue glass, was subjected to the action of violet rays only. Professor Trowbridge, in a recent article, claims that the x-rays are really a light far lower in the scale than the violet rays, thus adding weight to Professor Thompson's theory.

Another idea (that expressed by Tesla) is that the ill-effects of the Roentgen rays are due to the action of ozone and that the greater the heat and the moisture of the skin the greater the resulting damage.

A third theory (also emanating from Tesla) is that during the subjection of the part to the x-rays certain minute particles are discharged from the tube and find lodgment in the skin, and this action is especially marked when the tube is of aluminum. Other views have been

expressed by foreign writers, among which we may mention that which makes the cathode rays the principal agent, or the ingenious theory that the organic liquids of the body are decomposed and thus produce the grave conditions which we have been studying.

The histology of dermatitis from Roentgen rays has not been investigated thoroughly. Darier gives us the best descriptions, but his work applies chiefly to the milder forms of inflammation. He found that the cells of the stratum corneum were greatly thickened but retained their normal structure; that the stratum granulosum was markedly increased in depth by hyperplasia and by hypertrophy of the cells, which contained many large and numerous eleidin granules; that the cells of the stratum spinosum were also both hypertrophic and hyperplastic, showed mitoses, and contained some migratory cells; and that, with the exception of some extravasated cells, the important changes in the corium were associated with the pilo-sebaceous apparatus where only vestiges of hair follicles appeared, while the hair papillæ, musculi arrectores, and sebaceous glands were quite gone.

**TREATMENT.**—Prophylaxis is naturally the first consideration and a safe rule to follow is this: never use a current stronger than from six to eight milliampères and never place the tube nearer to the body surface than from 15 to 20 cm. For the milder accidents, such as erythema, pruritus, vesicles, or bullæ, use a wash of zinc oxid.  $\frac{3}{4}$  ss., acid. carbol.  $\frac{3}{4}$  ss., aq. calcis  $\frac{3}{4}$  viij.; a dusting powder of zinc oxid.  $\frac{3}{4}$  ss., amyl. maidis  $\frac{3}{4}$  i.; and a paste of zinc oxid.  $\frac{3}{4}$  ss., amyl. maidis and vaselin.  $\frac{3}{4}$  ss. For the cases in which ulcerations have occurred, try at first a wash of hydrarg. chlorid. mit.  $\frac{3}{4}$  ss., aq. calcis  $\frac{3}{4}$  viij. or one of ferri et potass. tartrat.  $\frac{3}{4}$  i., alcohol  $\frac{3}{4}$  i., aquæ  $\frac{3}{4}$  vij., the zinc oxide paste above mentioned, and a powder of nosophen or of ferri subcarb., amyl. maidis,  $\frac{3}{4}$  ij. Where there is a broken surface associated with intense pain an ointment containing from five per cent. to ten per cent. of orthoform has proved of benefit. When all remedies have apparently failed to cicatrize a stubborn ulcer we may resort to skin-grafting, to the use of static electrical baths, and to the application of oxygen to the part.

Charles J. White.

**DERMATITIS GANGRÆNOSA INFANTUM.** See *Variella Gangrænosa*.

**DERMATITIS HERPETIFORMIS.**—(Synonyms: Dermatitis multiformis, Dermate polymorphe douloureuse [Brocq], Pemphigus pruriginosus [Cazenave], Hydroa bulleux [Bazin]; Herpes gestationis [Milton], Hydroa herpetiforme [Tilbury Fox], etc.)

**DEFINITION.**—A chronic, relapsing dermatitis, marked by successive outbreaks of erythema, papules, vesicles, or bullæ, accompanied by itching and tending to disappear in the course of months.

**SYMPTOMS.**—The cutaneous eruptions of dermatitis herpetiformis are usually preceded by a feeling of malaise or are ushered in by chills or by fever. The patient soon notices that his body—especially the arms—is mottled with brilliant macules which in a few days develop into irregular, flattened, scarlet papules which in their turn are capped by vesicles. In the course of a few days these vesicles coalesce and become bullæ or remain isolated and soon become ruptured or are infected and become pustules. Associated with these changes, which may require a week for their completion, the patient experiences a feeling of intense pruritus. Each of these lesions may not develop synchronously with its neighbor, and therefore the same individual may present upon his body macules, papules, vesicles, pustules, or bullæ, and, on account of his itching, scratch marks and crusts and later in the disease pigmentation. It is this great variety of lesions occurring at any given moment which has suggested the title of dermatitis multiformis.

Once arrived at its full development the disease may gradually improve and in a few weeks the skin may be restored to its original state, but far more frequently the patient will experience repeated attacks, each one pre-