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AS OBSERVED IN AMERICA

AND ITS DISTINCTION FROM LICHEN PLANUS

BY

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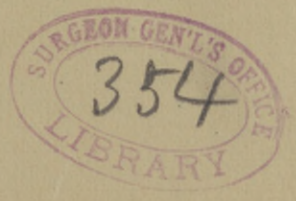
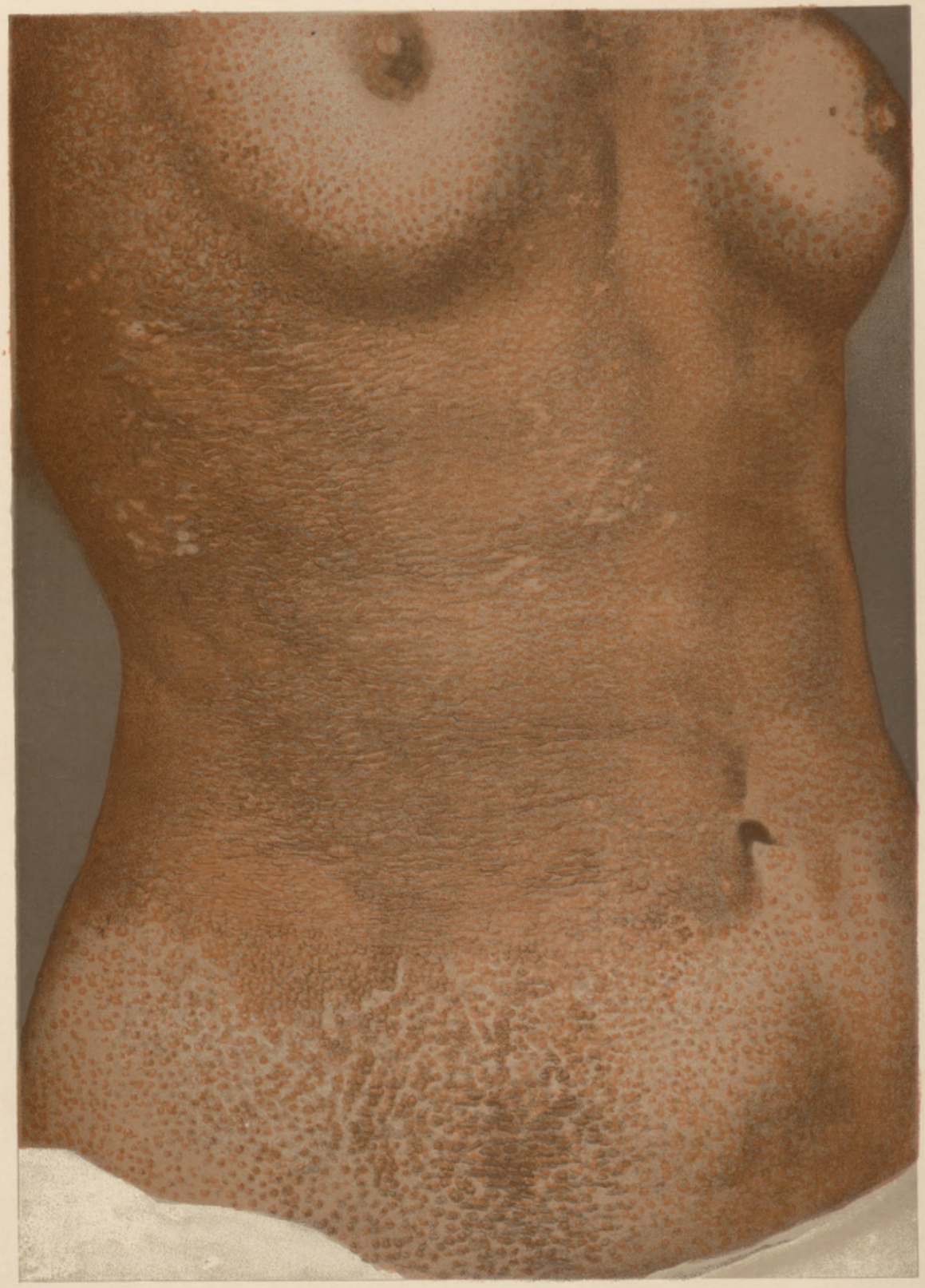


REPRINTED FROM THE NEW YORK MEDICAL JOURNAL FOR JANUARY 5, 1889

NEW YORK
D. APPLETON AND COMPANY
1889



DR. TAYLOR'S CASE OF LICHEN RUBER.

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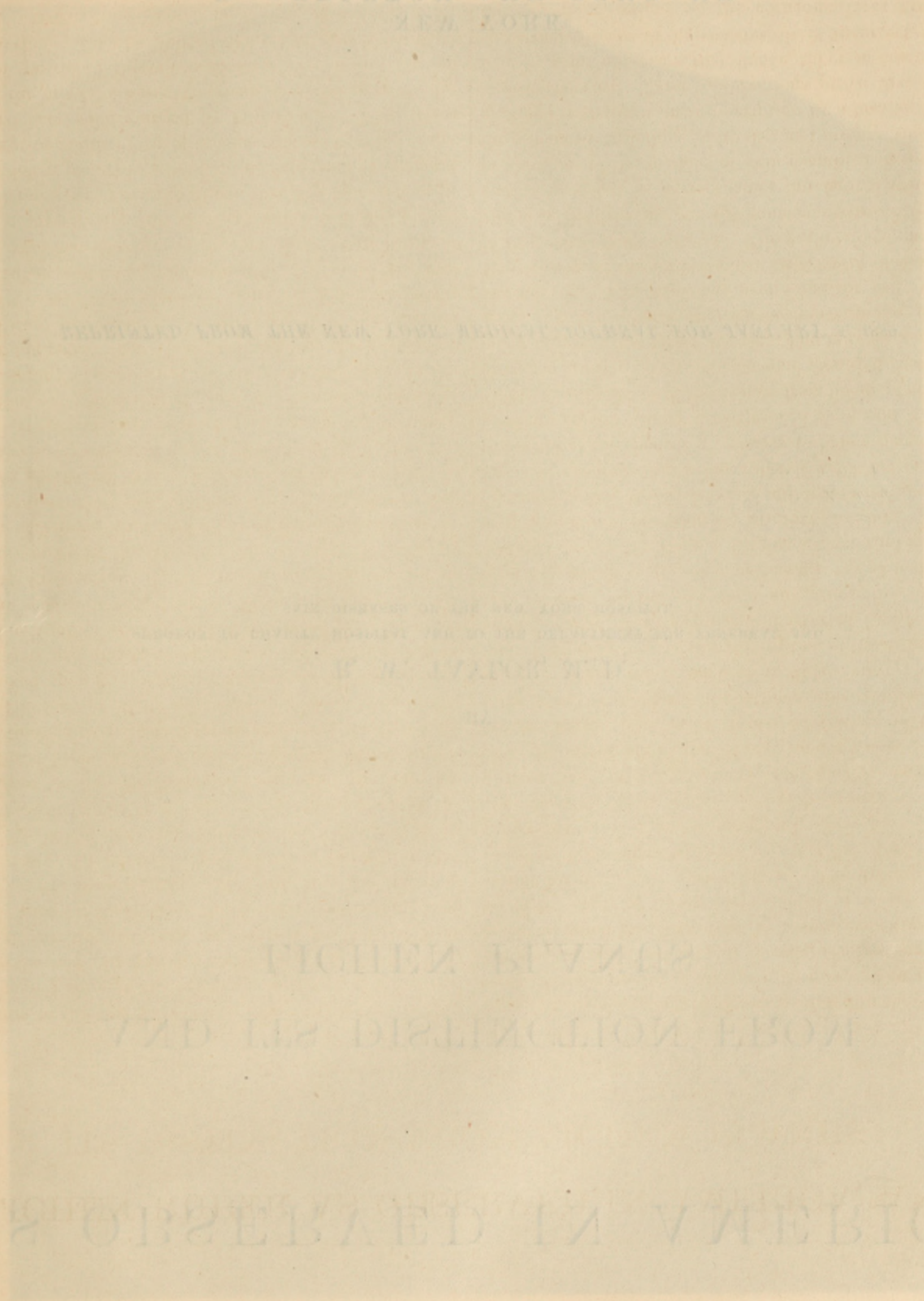

LICHEN RUBER AS OBSERVED IN AMERICA, AND ITS DISTINCTION FROM LICHEN PLANUS.*

PRIOR to the year 1874 lichen ruber was known in Germany, mainly through the teachings of Hebra, as a rare and peculiar disease. In America nothing was known of it from actual observation, and our information was derived from Hebra's hand-book and from the descriptions brought back by Americans from Vienna. This was also the status of knowledge of the subject which existed in England at that date. About the same time lichen planus had come to be tolerably well known in Great Britain, chiefly through the writings of the late Sir Erasmus Wilson and the late Tilbury Fox. From these two eminent English dermatologists we in America gained our first knowledge of the latter disease. The state of affairs was practically this: lichen ruber was looked upon as a peculiar papular form of eruption seen quite rarely and only in Germany, and lichen planus was regarded as a rather unusual and distinctive form of papular eruption seen quite frequently in England, and also in a few instances in America. Lichen ruber, therefore, was tolerably well known by the Germans, who knew then seemingly nothing of lichen planus, and many of these authorities even to-day confound the two, while the English had clear notions of lichen planus and very hazy ones about lichen ruber. As we in those days were in reality students at the feet of the great German and English teachers, it can be readily understood that our knowledge of these not common and somewhat complex affections was not clear and precise. At this time it happened that a series of typical cases of lichen planus were published in America, together with the history of a case of very extensive eruption, which was really lichen ruber, and which, unfortunately, fell under the eyes of the American observer in the one stage of its course in which it presented points of resemblance to lichen planus. The inference was naturally drawn that the localized eruption of lichen planus represented one form, and the generalized eruption another form of the same disease—a view which had also been mildly urged by Tilbury Fox. Thus it was that in the minds of many American dermatologists the impression prevailed that these diseases were essentially one and the same; the one limited, the other general in distribution. At this time Hebra's most eminent disciple in Vienna became convinced by the facts offered in the American essay of the identity of the two diseases, a view which he has since steadily maintained. During the past eight years, however, much has been done by several American observers in the study of lichen planus, most of whom regard it as not identical with lichen ruber. The difficulty experienced in this country lay in the fact that lichen ruber is here a very rare disease, and consequently there have been few opportunities for its study. It has been my good fortune to have under prolonged observation two very characteristic cases, in one of which the disease ran its course twice, and besides to see four cases shown by friends. These two cases have afforded me exceptional opportunities for the study of lichen ruber, as seen in this country, and from them I am able to present a description of the disease based upon personal observation and illustrated by a number of very accurate colored and black and white drawings taken from life, which is the only systematic one, I believe, that has appeared in the English language, since the existing descriptions are all based on the original of Hebra. The facts presented will, I think, convince any truth-seeking and conservative observer that lichen ruber is a distinct morbid entity without the shadow of relation to lichen planus. As a corollary of the clinical description, I shall add a table of differential diagnosis of the disease from lichen planus, based upon the study of sixty-four personal recorded cases, and of many others of the latter disease. The microscopic appearances of lichen ruber in its various stages are also described and figured. This work has been done for me by Dr. Ira Van Gieson, of the Pathological Laboratory of the College of Physicians and Surgeons. The pathological changes depicted in the drawings and the conclusions drawn from them may be accepted as correct, since the figures are exact reproductions of the sections of skin examined in the light of the advanced technique of to-day and are not tinctured or modified in delineation or description by a bias for dermatological theories. These observations prove that the view held by some observers that lichen ruber is essentially an epidermal disease or hyperkeratosis is incorrect, and that the superficial lesions of the corneous layer are due to deeper-seated inflammatory and exudative processes. This fact has never before been brought out.

The details of my second case are given with all possi-

* Read before the American Dermatological Association at its twelfth annual meeting, September 19, 1888. (Since further elaborated.)

ble brevity, and, though no mention is made of the first case, the experience derived from its study will be used in this essay.

The patient is a female, aged thirty-seven, a native of Switzerland, single, a dressmaker, a woman of marked intelligence, of perfectly healthy parentage, and herself healthy throughout life, except when suffering from the skin affection. She arrived from Europe early in June, 1884, and was promptly attacked by a skin disease of extensive development, similar to the present, which lasted a year and disappeared under simple remedies without leaving any blemishes. Two years later (1886) she had another, but much less extensive, eruption which passed away in a few months.

In March of this year (1888) she was again attacked, and came to my clinic at the New York Hospital early in June. The eruption began as groups of pimples on the neck, at the top of the sternum, and about the chin, without any itching or discomfort or any accompanying systemic disturbance. When examined by me the disease had attacked the whole of the face and the neck; it had extended over nearly the entire back as far as the buttocks, over the shoulders, down to the middle of the outsides of the arms, over the clavicular regions and the axillæ, over the whole anterior surface of the trunk, sparing the prominences of the breasts, down to the labia majora, over the thighs, and ending just below the great trochanters. It existed in patches on the flexor surfaces of the arms at the elbows, in the shape of disseminated and isolated lesions on the outer aspect of the forearms, becoming more numerous on the ulnar surface of the wrists as far as the tips of the little fingers, forming a patch covering the knuckles and extending upon the dorsum of the fingers. Both palms and soles were involved, and the scalp was the seat of a branny desquamation.

This very extensive eruption had appeared with tolerable promptitude. Upon region after region groups of papules had appeared in anatomical order, from above downward, and had coalesced and formed patches; in some cases perfect and without break, in others there being intervening spots of unaffected skin. The mode of invasion and extension was, on the whole, subacute and much less rapid than that of eczema. A given amount of surface having been invaded, a period of quiescence of a few days or weeks occurred. Then new lesions appeared in an isolated and disseminated manner on these and on unaffected parts in the vicinity. These lesions increased in numbers, coalesced and formed patches, and then the affection might rest quiescent again, or it might continue advancing in the same manner, slow, aphlegmasic, but persistent. Under all circumstances it retained its dry, slightly scaly character, and it was never complicated by the presence of vesicles or pustules. As the disease advanced over the body the nutrition of the hairs was much impaired and they became thin, short, and lanugo-like. The hair of the scalp was little if at all affected, but considerable hair fell from the axillæ. While at first no abnormity of cutaneous sensation was felt, later on, when the papules had fused and formed large patches, particularly about the neck and face, a very mild pruritus, aggravated at times when the circulation was accelerated, was complained of. There were no signs whatever of scratch-marks or excoriations. Neither mentally nor physically did the patient suffer, and the only evidence of the reaction of the disease upon the general nutrition was in a slight and gradual loss in the subcutaneous fat.

Up to the present date, December 20th, this disease has existed ten months, and has invaded the face, neck, trunk, and parts of the arms and thighs. It was confined to the face, neck, and suprascapular regions for about two months. During the remaining eight months it has extended, though not in a continuous manner, to the finger-tips and in a nearly unbroken sheet to the buttocks, the pudenda, and to the thighs and legs.

This skin affection, which I may say in advance is lichen ruber, may, I think, in the light of my studies, with propriety and strict accuracy be divided into three well-marked stages: First, the stage of isolation of the papules; second, the stage of coalescence of the papules; and, third, the resulting chronic, moderately infiltrated, slightly pigmented, and scaly stage.

The invasion of the disease begins with the appearance of distinctly isolated papules, which more or less promptly form patches by multiplication and coalescence. While infiltration and varying degrees of desquamation take place in the coalesced patch or patches, the area of the disease is further increased by new crops of isolated papules, which appear at their margins or at some distance from them. It thus occurs that we usually find all three stages existing in the same patient. For clearness of description, therefore, we shall follow this division.

The Stage of Isolation of the Papules.—This is well shown upon the arm and forearm in Fig. 4, extending from the coalesced patch at the inner aspect of the elbow, and was also observed on the external aspects of these parts, where the papules are quite widely scattered. On the hypogastrium and flanks the papules are, for the most part, isolated, but are more numerous than those on the arms. In these regions, therefore, we can study the eruption in its first stage. There are none of the classical features of inflammation to be observed, for the affection, though subacutely inflammatory in nature, evidently develops *à froid*. When first visible, the papules are of the size of the point of a pin or needle and, in fact, are so small that they can hardly be called miliary. If there were but few they might be mistaken for little collections of dirt seated very superficially in the hair and sebaceous follicles. They present to the touch a sense of firmness of structure even thus early, and give to the skin a roughened feel. They soon become miliary in size, and for the most part look like little brownish-red elevations. On parts where the skin is thin and delicate, such as the inner aspect of the arms and abdomen, when examined individually with the magnifying glass, they look like little conical masses of yellow wax, and to the eye are of a neutral orange-color. The minute conical papules are well shown in the chromo-lithograph—on the wrist in Fig. 1, on the knuckles in Fig. 3, and on the arm and forearm in Fig. 4. There is an entire absence of circumferential hyperæmia, though this feature may be observed in a mild degree upon the face, neck, and palms, usually, however, resulting from friction. In their early stage, then, the papules are miliary and conical, and I can readily understand why observers who strive for elaboration in nomenclature call the disease lichen ruber acuminatus. This conical condition of the papules is not of long duration. The lesions grow slowly but surely in area, and as they do so they increase in salience, their surface becomes rounded and obtuse, as is very clearly shown upon the hypogastrium in the chromo and in the solar-prin , Fig. 5. They may retain this rounded, bee-hive shape for a period equally as long as they

remained conical, and consequently it would be equally as reasonable and appropriate to call the disease in this stage lichen ruber obtusus as it would lichen ruber acuminatus. At this time the papules are still very minute bodies, but they have not yet attained their growth. They continue to increase in area until they reach a diameter of a line, or even less, when they may be said to be fully formed, since henceforth they, as papules, undergo no peripheral growth. Remaining in the obtuse condition for a short time, as they grow they become flattened, and then a depression in their centers corresponding to the orifice of the follicles may sometimes be readily noted and at other times not seen. This central depression, however, is very minute —so much so that the term umbilication can hardly be applied to it. Here again the elaborator of nomenclature has his opportunity, and he might favor us as he has done with the term lichen ruber planus. The fully formed papule then presents a rounded outline, with, perhaps, in some cases, a tendency to ovoid, but nothing akin to the angularity, star-shape, or polygonal shape of lichen planus is seen. The papules jut up sharply and vertically from the surface of the skin. There is a wonderful uniformity in the size of these lesions; each papule seems destined to cover an allotted space, and it does it and no more. From the commencement of their development very minute, thin, more or less adherent scales are seen on the papules, and from them during their whole course a similar mild desquamation occurs.

In their fully developed condition, therefore, the papules are rounded, slightly umbilicated, and scaly. Owing to the increase of corneous cells on their surfaces, they present a slightly shining and glistening appearance which is best seen in the sunlight, in an oblique direction. They never have the decidedly micaceous silvery appearance of the lesions of lichen planus. In this stage of isolated papules their color often varies in a striking manner from a dark-yellow to a brownish-red, according to the condition of the circulation. They never have the deep violaceous-red and even crimson-red color of the papules of lichen planus, which further differ so markedly from those of lichen ruber in the fact that they convey to the eye the impression that they result from much more profound morbid changes.

When the papules of lichen ruber are thus fully developed, when they are not very numerous and are distinctly isolated and clustered in groups, they may perhaps be mistaken, for a short time, for lichen planus, particularly if they should occur on the inner surfaces of the arms and near the wrists, on the abdomen, or on the antero-inner surface of the thighs or legs. Under no other circumstances whatever, I think, can a trained observer confound the two diseases. But, even under these conditions, time and the natural course of the papules will soon settle the question as to their nature, if it has not already been cleared up by the history of the eruption and of its concomitant features. A study of the myriads of maturing and mature papules on the hypogastric region, as shown in the chromo-lithograph, fortified by the facts already brought out, would, I think, be sufficient to convince the observer that the case was one of lichen ruber, and not of lichen planus, whereas all possible doubt would be removed by an inspection of the parts above.

When a portion of the body thus becomes the seat of these scattered papules, new crops continue to appear, more or less rapidly, and become intermingled among the older ones, until, in the end, they are so closely aggregated that they fuse together, and may cover the whole surface, but sometimes little oases of unaffected skin are left. While this is going on new papules, distinctly isolated, form at the periphery or on parts of territory beyond, and run a subacute course until, in the end, nearly, if not the whole, body becomes covered. The extension of the disease is therefore progressive from one or more parts; it rarely or never jumps from the upper to the lower extremities, nor does it run the erratic course of eczema.

The Stage of Coalescence of the Papules.—The transition of the isolated papules into diffuse patches of eruption is shown in the chromo on the abdomen and on the chest-walls in a more graphic manner than pen can depict. When, by reason of maturity of growth and multiplication of numbers, the papules have coalesced, it will be seen that they are arranged in distinct and symmetrical rows, corresponding to the direction of the surface furrows and the connective-tissue frame-work of the parts.

A very accurate idea of the course of lichen ruber papules is conveyed by a study of Fig. 5. This figure was taken directly from life. A solar print was made from a photograph of the anterior abdominal wall, just as is shown in the chromo-lithograph. A portion of this photograph, two inches wide by three inches in length, at a point just below and external to the umbilicus, where the papules were in a discrete, coalescing, and coalesced state, was magnified by solar print into a figure sixteen inches by thirty-two inches long, and from this large figure the smaller one, No. 5, was cut out.

In this figure, at the region marked *a*, the papules are shown in an isolated state, of uniform size, round in outline, no longer conical, but semi-globular on their surface. In the region *b* just beyond the papules are seen after they have reached their maturity and have become flattened, and still preserve their roundish outline, though clustered close together. In the territory just above, marked *c*, it will be seen that the papules have lost their primordial form entirely, and have become fused together. The lesion there seen is a general moderate thickening of the skin in its upper layers. What were papules have become fused together into a patch, which is traversed with parallel lines with shorter and less distinct transverse markings. These lines are the natural furrows of the skin, broadened and deepened by the disease. They are admirably well shown in the chromo-lithograph, particularly on the left-hand side over the ribs and abdomen. They vary in direction according to the conformation of the part, and are, as is well known, arranged in conformity with the deep connective-tissue frame-work of the skin. For a time the individuality of the papules seems preserved in this linear arrangement, but it is gradually lost by fusion. It results from this process of fusion that the skin of a person suffering from lichen ruber

comes to present in its chronic stage a miniature semblance to alligator's hide.

For some time, therefore, the contour of the individual papules in the stage of coalescence may be quite clearly made out, as is well shown in the lower portions of the eruption in the chromo-lithograph, just below the umbilicus. In this stage of the eruption lichen ruber may be said to be fully developed, since beyond it retrograde changes are observed. It is then a vast conglomeration of fused papules of a characteristic warm brownish-red color, giving forth their branny scales in moderate quantity. When the fingers are passed over an extensive surface, a dry, smooth, leathery feel is communicated. There is not as yet observed that harsh sensation which has been, I think, rather extravagantly compared to that of a nutmeg-grater or of a file, a condition which, however, may occur later.

There is in this stage decided infiltration of the skin, but it is evidently superficial, and not seated in the derma and connective tissue. It is comparable to that of dermatitis exfoliativa, and not to that of eczema. Later on it may be more pronounced, particularly on the palms and soles and on the fingers.

More or less rapidly the tendency of the disease shows itself in the effacement of its papular elements. These little bodies become more and more indistinct individually, until at last the eruption consists of a uniform brownish-red, slightly scaly, superficial thickening of the skin, which is traversed by the minute natural furrows of the skin in longitudinal, circular, oblique, and transverse directions. Owing to the increase in the corneous elements of the skin, these furrows become deeper than normal, and they divide up the morbid areas into various shapes, some very noticeable, others less so, and corresponding to their direction, after the manner of the hide of an alligator. This constitutes the third stage, in which the disease is chronic, indolent, infiltrated, scaly, and slightly pigmented, all signs of previous papulation having disappeared and no new lesions then showing themselves. In this stage, judging from my experience with cases seen on this side of the Atlantic, the disease may undergo involution after considerable periods. The previous attacks in the present case are said to have subsided spontaneously. In Germany, however, the disease frequently persists until a dry, file-like, harsh, infiltrated skin results, the superficial disease having then caused a true inflammation of the whole thickness of the skin.

With these facts in mind, I think that a very clear idea of the disease may be obtained by a study of the chromo-lithograph. Below are seen the reddish-yellow discrete papules, and just on a level with the iliac crest they are seen to be coalescing, whereas above that they are lost in vast expanses of thickened skin. The oases of healthy skin on the side over the ribs are very characteristic.

In this stage the brownish-red color of the eruption becomes deeper, the itching may be rather more pronounced, the infiltration is greater, the skin surface decidedly rougher and more scaly, and the minute hairs are either destroyed or their nutrition is much impaired.

It can readily be imagined that, in inveterate cases, such as Hebra first observed, the whole integument was transformed into a harsh nutmeg-grater or file-like tissue. It will be seen, therefore, that the roughened feel of the skin can only be noticed in the very early papular stage and in the late infiltrated stage, and that it is smooth and leathery in the middle stage.* As involution occurs, the suppleness and natural glossiness of the skin return, but a diffuse, brownish-yellow pigmentation of mild character is left, accompanied for a time with moderate desquamation. This pigmentation is, in a measure, characteristic of the disease in that it has not the red tinge of a departed eczema, nor the brownish-red hue of a vanished psoriasis. More particularly it differs wholly and radically from that of lichen planus in being uniform in sheets, rather than blotchy, patchy in spots, and in not being of a rusty brown, a brownish-red, or a crimson-red color, which are so constant in the latter affection. In lichen planus pigmentation there is evidence of much quite deep effusion of the red corpuscles; in lichen ruber it is very trifling and superficial.

In Fig. 1 are shown, with admirable fidelity, the appearances of the palm in my case, which are essentially those of chronic, scaly, and infiltrated eczema. The patient, moreover, complained of the sensation of tension and impairment of movement so constant in the latter affection. In Fig. 2 the epidermal thickening is shown in a very marked degree upon the sole of the foot. The increase of the corneous cells was very great. Such a condition is never seen in lichen planus.

Finally, I would call particular attention to the condition of the nails, which, in Fig. 3, are shown to be opaque, of a dull-white or dirty-yellow color, rough and serrated on their surfaces, and fully four times their normal thickness, as is clearly shown in Fig. 1. It is natural to suppose that a disease the acme of which is seated in the corneous layer of the skin should work a radical change in the nutrition of these kindred appendages. There is no concomitant nail affection in lichen planus.

The foregoing facts, I think, very clearly and forcibly show that in America lichen ruber presents precisely the same clinical characteristics that it does in Germany, with, perhaps, the qualification that it has not been seen here as yet in such an inveterate and deadly form as Hebra first

* My studies have convinced me that the main reason why lichen ruber is not clearly understood by dermatologists lies in the fact that too much stress is laid on the conical condition of the papules, which is thought by many to exist throughout the whole course of the disease. According to my reading and experience, the file-like condition of the skin in the third stage of lichen ruber is supposed by most observers to be the direct outcome of the early conical papular stage. In other words, it is thought that the multiplication and growth of the conical papules result in the harsh, file-like condition of the chronic stage. The facts presented in this essay show very clearly that this is not the case. The disease does begin by the appearance of conical papules, which soon become rounded and then flat, and are finally lost in a general thickening of the integument, mainly of the epidermis. The resulting file-like and harsh condition of the skin is simply due to its quite deep corrugation, which condition is produced by the deepening of the natural surface furrows or lines; in other words, by a greater or less superficial fissuration in a uniformly thickened skin. The loss of elasticity consequent upon the thickness and harshness of the skin tends to accentuate the condition of corrugation, even to the production of deep fissures, when the part is submitted to much movement and stretching.

described. I think that it has been shown that the disease has striking peculiarities, and that only in one stage, and that a short one, can it by any possibility be mistaken, at least by a trained clinician, for lichen planus. In order, however, to settle this question of the supposed relationship of lichen ruber and lichen planus beyond doubt and cavil, I have prepared the following table, which presents all the points of distinction:

LICHEN RUBER.	LICHEN PLANUS.
1. A very rare disease.	A not uncommon disease.
2. A disease of remarkably constant uniformity of type-form, its lesions passing through definite stages of evolution without the slightest tendency to polymorphism, and finally being lost in a general thickened condition of the skin.	A disease sometimes showing much deviation from the type-form, chiefly by reason of the not uncommon great increase it causes in the epidermal layers which convert the patches into dense, hard, rough, dark-brown, even crimson-brown, uneven, rugose patches of irregular outline (knees, elbows, and sometimes wrists).
3. Symmetrical in its distribution, spreading from the upper parts of the body downward, in anatomical succession.	As a rule, symmetrical in its distribution, beginning usually on the inner aspects of the forearms near wrists, on lower parts of abdomen and inner parts of thighs and legs, chiefly near knees. Beginning on a region or regions, it tends to spread in a more or less discrete manner over them alone.
4. Shows a tendency to attack a large extent of surface, and even to invade the whole body in a uniform way. Face almost as a rule affected.	Shows a tendency to limitation on the extremities, lower abdomen, and neck; not known to attack the face. Rarely involves large surfaces in a uniform eruption, and never the whole body, even in a discrete manner.
5. Morbid changes seem to begin superficially in corneous layers.	Morbid changes begin in the substance of the corium.
6. Not perceptibly inflammatory in early stages; no hyperæmic areola.	Consists of circumscribed inflammatory spots and patches; hyperæmic areola usually present, though not extensive, and may be absent.
7. Slowly but surely tends to extend.	May extend to other regions, but very commonly remains indolent and localized.
8. Begins as small conical papules of waxy appearance and of neutral orange or slightly brownish-red color which, in due time, become obtuse, then flat, with a slight central depression and very moderate desquamation; surfaces smooth and shiny, but not silvery or micaceous.	Begins as red papules, not markedly conical, which flatten out into round, oval, angular, and star-shaped outlines, with silvery surfaces covered with much-thickened corneous layers, and with noticeable central depression; surfaces very frequently shiny and micaceous; never having a waxy look.
9. Papules reach their full development (a line or less in area) and never grow larger. Large patches always formed by the multiplication and fusion of papules of uniform size.	Papules increase by peripheral growth until usually they attain a diameter of one to four lines; may develop into true patches, chiefly from irritation, friction, and pressure (scratching, irritation of coapting surfaces, strong applications, garters and bands around body); may develop *de novo* on scratch-marks. Large patches formed by fusion after moderate or excessive peripheral growth of papules.
10. Papules seem destined to reach maturity after a due process of growth and then to fuse into patches which may, later on, undergo involution. No exceptionally early or premature involution occurs in a single or several papules. They all seem to "hang together."	Old papules may show a tendency to undergo involution sometimes quite early, while new ones appear close by or at a distance. Each papule seems to run a course entirely irrespective of its fellows, either of short or long duration. They do not as a rule "hang together."
11. Color of papules at first of a neutral orange, and as they grow in size and in proportion as they become aggregated they are of a warm brownish-red, which is often heightened by acceleration of the circulation.	Color of papules at first of a deep-red, which soon becomes of a purplish, violaceous, or lilac hue. On lower limbs sometimes of a deep, even bluish-red color. Not much influenced by the circulation.
12. In chronic stage all traces of papules lost; the surface is rather rough to the touch, but of an even plane and of a brownish-red color.	In chronic stage, particularly where the epidermis is thick (knees, ankles, elbows (rare)), epidermal hypertrophy results in dense, hard, uneven, sometimes rugose surfaces, even to a marked verrucous condition, with a deep-red, even bluish-red, color. Traces of original lesions entirely gone.
13. Patches diffuse, even involving whole regions, not very scaly, of uniform, even surface, traversed by the deepened and much exaggerated natural furrows of the skin; of remarkable uniformity of color.	Patches, covered with much abnormal adherent epithelium, desquamating moderately; very irregular in outline and size, of decidedly uneven surface, without uniformity of color, which may even vary from day to-day from silvery hue to a dull red.
14. Invades the palms and soles in totality in uniform patches.	Not common on palms and soles; when present, consists of localized patches.
15. Attacks the nails, causing hypertrophy, impairs their nutrition, and may even destroy them.	Nails unaffected, except very rarely in inveterate cases by extension from the backs of the hands.
16. Causes impairment of nutrition and loss of hairs, chiefly of body.	Hairs unaffected.
17. Not known to attack mucous membranes.	May attack mucous membranes (mouth and glans penis).
18. Leaves a diffuse, uniform, not accentuated yellowish-brown pigmentation, in large expanses.	Leaves dull-red, brownish-red, rusty-brown, crimson-brown pigmentation in spots and irregular-shaped patches.
19. Itching very mild, if ever present, at its early evolution; may be moderate in	Itching very often severe at time of invasion; is present afterward in mild or intense

LICHEN RUBER.	LICHEN PLANUS.
chronic stages. Never severe or in proportion to the extent of lesion and of surfaces involved.	form, usually in exacerbations.
20. Attended with concomitant emaciation; in inveterate cases, death by exhaustion.	No emaciation nor, as a rule, any serious systemic reaction.

Prognosis.—The earlier writings of Hebra produced the impression upon the mind that lichen ruber was a deadly disease; that it was chronic in nature and that it gradually became complicated with asthenia and emaciation, over which all treatment was powerless. Later observations convinced this observer that at least some cases were curable by means of the long-continued administration of arsenic. Kaposi,* in his lectures, says that we can with certainty promise a cure in all cases of this disease except those generalized ones in which severe marasmus has supervened. My experience with the disease in this country, where it is very rare indeed, is of course rather limited; but it has not convinced me of its inevitably deadly nature, nor of its relentless progression from bad to worse. In my first case, the patient, at the age of thirty-eight, became attacked with lichen ruber, which extended nearly over the whole body. Yet he did not fall sick, nor did his nutrition in any manner apparent to the senses suffer. In one month the disease nearly covered the body, and under treatment he presented no evidence of the disease at the end of three months. Six years later, without known cause, he had a second generalized attack, similar as to the extent of the lesions and the absence of sickness and emaciation, and this was cured by energetic treatment in about two months. Since that time (1879) the man has remained free from the disease.

The history of my second case shows very clearly that the first attack of lichen ruber was very extensive, lasted a full year, and then disappeared under the use of simple domestic remedies. A second attack, two years later, less extensive, however, lasted only a few months and then disappeared spontaneously. The third attack, which began in March of this year (1888), is now, December 23d, practically cured, and during its existence the woman, though she became somewhat thin during the summer, did not suffer from a condition of ill health greater than she had experienced in past years when her skin was free from disease. I do not wish to be understood as drawing conclusions as to the modified severity, and I may almost say ephemeral course, of the disease in this country from these two cases, for I simply put on record the facts as they presented themselves.

Treatment.—German authorities since Hebra's time have used arsenic in full and long-continued doses in the treatment of lichen ruber, and the remedy is looked upon by them as unique and specific in its action. While I have faith in the therapeutical action of this drug in many skin diseases and have no doubt of its efficacy in some cases of lichen ruber, I am far from the opinion that the treatment can be summed up in one word—arsenic—as German writers seem to imply. In my first case, during two attacks of the disease, the patient was treated by alkaline diuretics with the view of reducing cutaneous hyperæmia, and by a well-regulated system of external medication. In my second case neither arsenic nor alkaline diuretics were beneficial, and I may say that they were even harmful. A combination of citrate of iron, quinine, phosphoric acid, and strychnine improved the patient's appetite, allayed nervousness, and increased nutrition. Such was the benefit that she thought she derived from this combination that she showed a zeal to use it even to excess. My experience with the treatment of lichen ruber has thoroughly convinced me that sufficient stress has not heretofore been laid upon external treatment. The disease being a moderately exudative one with much epidermal increase, the indications for baths and cutaneous stimulation are, I think, clearly marked. Stated briefly, my experience teaches me that frequent hot alkaline baths (sal soda and borax, 100°–115° F.) are of the greatest value. They relieve cutaneous hyperæmia, soothe the pruritus, carry off the effete epidermis, and undoubtedly cause absorption of the products of inflammation. After numerous trials, I have come to place high esteem upon brisk and thorough frictions of the affected surfaces with the compound tincture of green soap. These may be made every day. If possible, this tarry liquid should be rubbed into the skin two or three hours before the bath is taken, and, where the surroundings of the patient will admit of it, a mild friction after the bath should be made and the skin then left unwashed. If during the day the patient can not allow the film resulting from such frictions to remain on the body, the parts should be very sparingly anointed with vaseline. I am convinced that much of the chronicity of the disease may be mitigated and shortened by oily inunctions, and that the inelastic, roughened condition of the skin incident to the disease tends of itself decidedly to perpetuate its existence. Alkaline baths as hot as can be borne with comfort at night, followed by the tarry frictions, and in the morning repetition if possible of the same—but under any circumstances, by the inunction of some bland oily preparation, such as vaseline—constitute, in my experience, the most decidedly valuable therapeutic measures. About the hands and fingers, and indeed on all parts where the epidermis is much thickened, especially where there are fissures (sometimes deep and painful), the greatest care should be exercised that the parts are fully and continuously covered. For this purpose I know of no remedy so beneficial as freshly made diachylon ointment with balsam of Peru (℥ j and ʒ j). The action of this ointment may be enhanced when used upon the fingers or limbs, or indeed on any parts where a roller bandage can be applied, by moderate and graduated pressure. When the disease is severe about the nails, great care is necessary in removing epidermal increase and in keeping the parts well invested in the ointment.

Microscopical Examination and Pathology.—Portions of the excised skin from the hypogastric region and from the outer and upper surface of the thigh were hardened in alco-

* "Pathologie und Therapie der Hautkrankheiten," Wien, 1883.

FIG. 1.—Showing infiltration and scaling of the palm, and thickened condition of the nails; over the wrist numerous discrete conical papules of recent development.

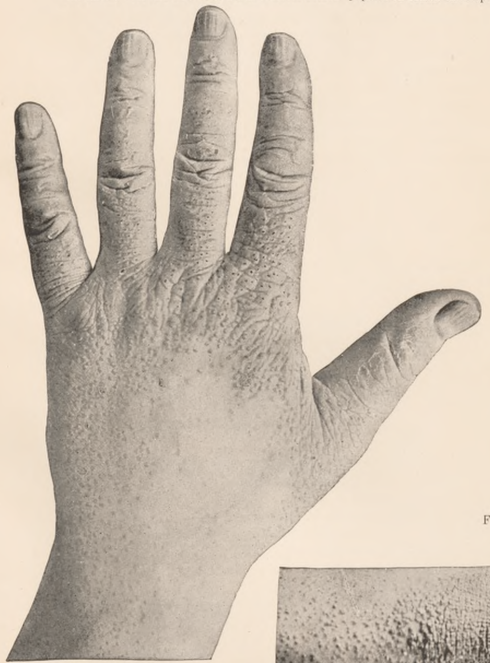

FIG. 3.—Showing abnormal condition of the nails, infiltration of the skin of the fingers, and newly appearing conical papules over the dorsum of the hand.

FIG. 2.—Showing great thickening of the epidermis of the sole.

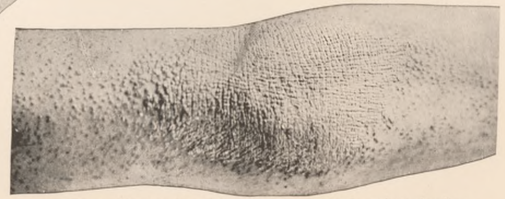

FIG. 4.—Showing old, infiltrated, scaly, corrugated patch at the elbow, and newly appearing discrete conical papules on the arm and forearm.

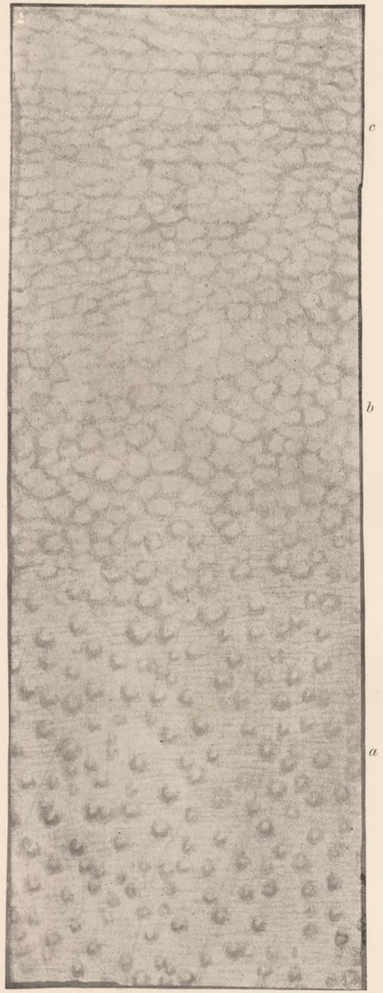

FIG. 5.—Reproduction of a greatly magnified solar print of a patch of lichen ruber. Lower third (*a*) shows the rounded, discretely placed papules. In middle third (*b*), papules are shown flattened out and coalesced. In upper third (*c*), the coalesced papules have become arranged in the lines of the natural furrows of the skin.

FIG. 6.—From the hypogastric region, showing an invasion of the rete by leucocytes, a deepening of the stratum granulosum, and the œdematous condition of the papillæ. *a*, stratum corneum; *b*, stratum lucidum; *c*, stratum granulosum; *d*, small cavity with granular contents.

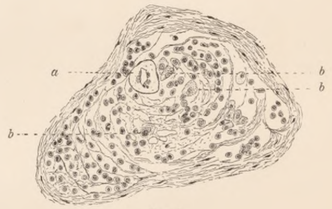

FIG. 7.

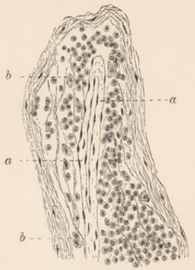

FIG. 8.

FIGS. 7 and 8.—Illustrating a transverse and a longitudinal section of two small vessels (*a*, *a*), of the pars papillaris, with their perivascular spaces filled with small round cells, and at *b* a few larger cells lying in the meshes of a delicate reticulum.

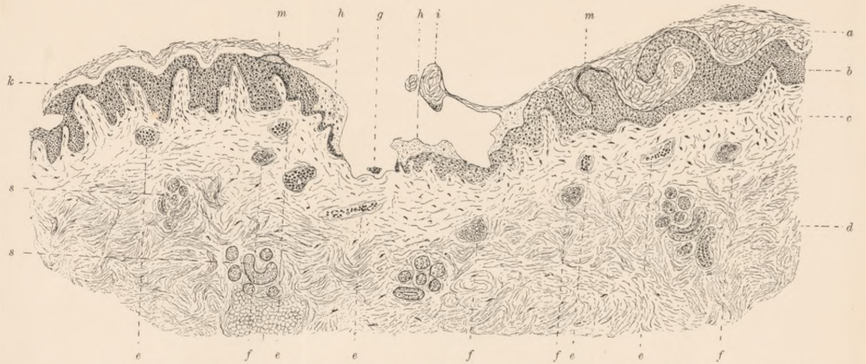

FIG. 9.—From the hypogastric region, showing a moderate hypertrophy of the epidermis, and including one of the deep furrows lined with partially degenerated epidermis. *a*, corneous layer; *k*, stratum lucidum; *b*, rete Malpighii; *c*, papillary derma; *d*, subcutaneous connective tissue; *e*, clusters of small round cells around the blood-vessels; *f*, hypertrophied smooth muscle-bundles; *g*, bottom of the furrow from which the epidermis at *i* has apparently been excoriated mechanically; *h*, degenerated zone of the rete resembling the stratum lucidum; *m*, small cavities beneath the stratum lucidum filled with granular material; *s*, sweat-glands.

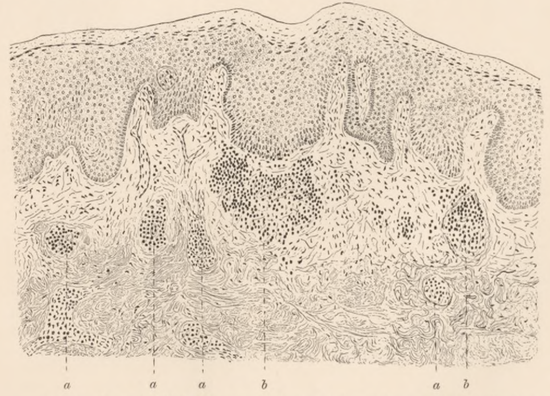

FIG. 10.—From the thigh, showing hypertrophy of the epidermis, and at *a* collections of small round cells around the vessels of the papillary derma, and at *b* larger clusters of small round cells.

FIG. 12.—Showing a portion of the rete Malpighii which is converted into a zone resembling the stratum lucidum. This zone is transparent, slightly granular, and contains a few flattened nuclei; *a*, layer of brownish pigment-granules at the junction of the degenerated rete Malpighii with the derma; *b*, stratum corneum.

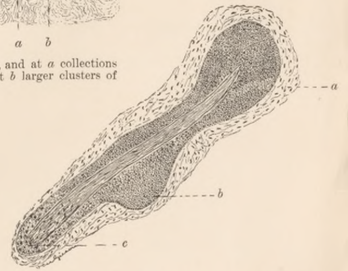

FIG. 11.—Oblique section of an atrophic hair. *a*, thickened dermic coat; *b*, false or secondary bulb, composed of a mass of epithelial cells, corresponding to the cells of the outer root-sheath, which pouches out slightly the dermic coat; *c*, atrophied bulb and papilla. Above the false-hair bulb there is a thickening of the outer root-sheath.

hol; other portions from these places were prepared with chloride of gold (Chrzonszczewsky's method); other pieces were treated with a one-per-cent. solution of osmic acid for twenty-four hours, this giving the best results. The sections were stained with hæmatoxylon and eosin. The patches of skin taken from the hypogastric region were covered with papules in varying stages of closeness of packing, while that from the outer surface of the thigh was studded with discretely placed lesions.

1. *The changes in the epidermis* consist of a hypertrophy of all its layers, with infiltration of the rete mucosum with leucocytes, of a localized destruction of some of the more superficial cells, and a pigmentation of many of the deepest cells of the rete.

The surface of the skin from the thigh and hypogastric region is very uneven and corrugated. In all the portions examined there is a thickening in varying degrees of the epidermis, with inward prolongations here and there of the interpapillary portions of the rete mucosum (Figs. 9, 6, and 10). In places the corneous layer is very much thickened (Fig. 9), and often its superficial laminæ are packed together rather densely, as though flakes or crusts were being formed. The stratum lucidum is also thicker than in check sections of normal skin from the hypogastric region (Figs. 6 and 10).

There is a premature keratosis of many of the cells of the rete mucosum, as the cells of the stratum granulosum, which contain the eleidin droplets of Ranvier * (keratohyalin substance of Waldeyer), extend in places to a considerable extent into the rete Malpighii (Fig. 6, *c*). Frequently these cells lie as deep as a line midway between the lower surface of the stratum lucidum and the level of the apices of the papillæ. This eleidin substance is believed to be intermediate in its chemical composition between the cell protoplasm and the corneous material.† There is a general slight invasion of the rete with leucocytes. These are most abundant in the lower layers of the cells, as is seen best in osmic-acid preparations (Fig. 6).

In the superficial layers of the rete, just beneath the stratum lucidum, are a limited number of small cavities almost completely filled with granular detritus (Figs. 9, *m*; 6, *d*). These cavities seem to be produced by a disintegration of some of the superficial epidermis cells, as there are groups of these cells with indistinct outlines and shrunken nuclei. Their protoplasm is transparent, and does not stain with eosin.

The skin from the hypogastric region is grooved with a few deep, narrow furrows lined with a degenerated layer of epidermis cells, resembling the stratum lucidum in structure, which extends, in some sections, nearly to the derma (Fig. 9, *h h*). The partially degenerated epidermis seems to have been loosened from some places in these furrows by a cracking or stretching of the skin, leaving the corium bare (Fig. 9, *g*). The degenerated zone is composed of a degenerated, slightly granular translucent substance which does not stain with hæmatoxylon or eosin, and contains a few flattened scale-like nuclei. In the skin from the hypogastric region there are a few small patches in which the entire breadth of the rete mucosum is converted into a zone resembling the stratum lucidum in structure (Fig. 12). The papillæ and papillary derma beneath these patches of degenerated rete are slightly denser than the surrounding corium (Fig. 12).

2. *The lesions in the derma* consist of changes in the blood-vessels of the papillæ and pars papillaris and their perivascular spaces, in the smooth muscle-fibers, and in the hairs.

The endothelium of many of the smaller vessels is swollen and granular. The perivascular spaces of the vessels of the pars papillaris are uniformly filled with an exudation of serum and small round cells in varying proportions (Figs. 9, *e*; 7; 8; 10, *a*). Among the small round cells are a few larger rounded granular cells, some of them having a cell wall (Fig. 7, *b*; 8, *b*). The perivascular spaces contain a delicate reticulum, composed partly of the adventitia of the blood-vessels and partly of the stroma of the fat columns of Collins,* which accompany the vessels from the panniculus through the derma. Many of the larger granular cells are probably metamorphosed fat cells of the atrophic fat columns. In the papillary derma, lying often close to the rete, are a few larger clusters of small round cells, in the vicinity of which the connective-tissue cells are increased in number.

The papillæ in osmic-acid specimens from the hypogastric regions are very œdematous. Their interfibrillary spaces are distended with fluid and contain a few leucocytes.

The smooth muscle-bundles are hypertrophied.

Only a very few hairs were found in the sections, and in a longitudinal section of one hair the dermic sheath is thickened, and the bulb of the primary hair is shrunken and fused with its papilla. Just above and at one side of the primary hair-bulb is a secondary or false hair-bulb, composed of a group of outer root-sheath cells which pouch out slightly the dermic coat (Fig. 11).

Sections stained with Herxheimer's method for elastic fibers show no abnormity in their number or arrangement.

The small nerve-bundles in the subcutaneous connective tissue are normal (osmic-acid staining). In sections prepared with chloride of gold only a few of the fibers of the sub-epidermal plexus were stained.

The sweat-glands are normal, except that the orifices of some of them show a funnel-shaped dilatation. No sebaceous glands were found in the sections.

No bacteria were found either in the sections or cover-glass preparations of the blood.

Conclusions.—There is, then, in this case of lichen ruber an hypertrophy of all the layers of the epidermis, associated with an exudative inflammation in the papillæ and papillary derma.

* "Sur une substance nouvelle de l'épiderme et sur le processus de kératinisation du revètement épidermique." "Comptes rend. de l'acad. des sciences," 30 Juin 1879.

† C. Toldt, "Lehrbuch der Gewebelehre," 1888, p. 579.

* Satterthwaite's "Histology," p. 421.