the erythematous spots, till each of the latter is thus surmounted apparently by a small elevation. Here again the circinate arrangement may be conspicuous. In other cases the mouths of the orifices of the pilosebaceous crypts are the seat of the disorder; in others the scalp becomes the site of a seborrhœal flux, the secretion drying into light crusts superimposed upon a macular exanthem, the color of the latter often being displayed beyond the border of the incrustation.

The macular syphiloderm may relapse under inefficient treatment in one or several efflorescences, but, as a rule, it appears in typical development but once in a syphilitic history. The evolution of what is often thought to be a late macular syphiloderm, occurring two and more years after infection, is an eruption which has erroneously been supposed to be due to syphilis. In these supposed "late" cases there is developed over the surface of the chest, and at times on the belly and elsewhere, multiple, usually coin-sized, oval, elliptical, superficial patches, scaling very slightly at the periphery, and with a clear centre. They are usually brownish-red or purplish-red in hue; they have been noted as rebellious to the treatment indicated by the disease present. Most of these are instances of pityriasis maculata et circinata, "pityriasis rosea" of authors. In the spring and the autumn many of the subjects of syphilis are peculiarly susceptible to this somewhat rare disorder, whose innocent lesions commonly disappear in a brief time under the influence of a tonic regimen, well combined with the use of the cinchona preparations and the salicylates.

Purpuric.—Hemorrhage into the several portions of the integument occasionally complicates not merely

the erythematous but also other syphilodermata, such as papules and bullæ. In these cases the occurrence of pin-head and larger purplish and mulberry-shaded spots that refuse to disappear under pressure indicates that the coloring matters of the blood have been effused through the tunics of the vessels. It is to be remembered, in all cases of syphilis where iodide of potassium has been administered for the relief of the disease, that this drug is capable of producing purpura of the skin, especially of the lower extremities. In some instances large disks and even wide areas of purpuric maculation are produced in both early and late periods of the disease. This symptom is, however, most commonly seen in the inherited forms of the disease, though it is not rare in adults. When due directly to the disease, and not to a drug administered for its relief, it should be viewed as a somewhat grave symptom. It accompanies several of the paraplegic and hemiplegic complications of nervous syphilis.

Anatomy.—Section of a macular lesion exhibits merely effusion between the component parts of the upper corium, with some displacement and elongation of the fibres of which it is composed. The capillaries are distended, and both within and without are encumbered with cells. The accessory portions of the skin lying in the upper part of the corium (sebaceous and pilary crypts) participate somewhat in the process, but the sweat-glands in the deeper portion are unaffected (Crocker, Neumann, Biesiadecki, and others).

Diagnosis.—The macular syphiloderm is distinguished from the eruptions accompanying exanthematous fevers by the features described above, as also by the temperature-changes perceptible in such fevers. In

case of syphilitic fever other evidences of a systemic infection are commonly observed (adenopathy of the post-occipital and other glands; mucous patches of the mouth, anus, or vulva; alopecia; crusts upon the scalp, etc.). In the medicamentous rash due to copaiba there is commonly excessive itching; this and other rashes due to drug-ingestion promptly disappear on the withdrawal of the exciting cause. In tinea versicolor the presence of the vegetable parasite and the distinct limitation of the eruption to the regions covered by the clothing are important points of difference. The color of the eruption—a very distinct fawn shade or deeper tint—never has the reddish-brown hue of the syphiloderm. Pityriasis maculata et circinata is usually much less abundantly distributed, and its patches are always in ovals, commonly on the front and back of the chest and the shoulders, with scaling at the periphery of the clear centre, and displaying, when on the chest, an arrangement of patches with the long axis at right angles to the vertical line of the body.

The prognosis of the macular syphilodermata is in general favorable, and no gravity need be argued from either their profuseness or their deep shade of color.

II. Papules.

It has been shown that papules are among the most common of the syphilodermata. Their grouping, color, situation, and environment in many cases of syphilis are so characteristic as to be absolutely diagnostic of the disease. They may appear at any time from the third month to the conclusion of the first year, and even much later; they may develop in crops; they may immediately spring from a preceding macular exanthem, or succeed

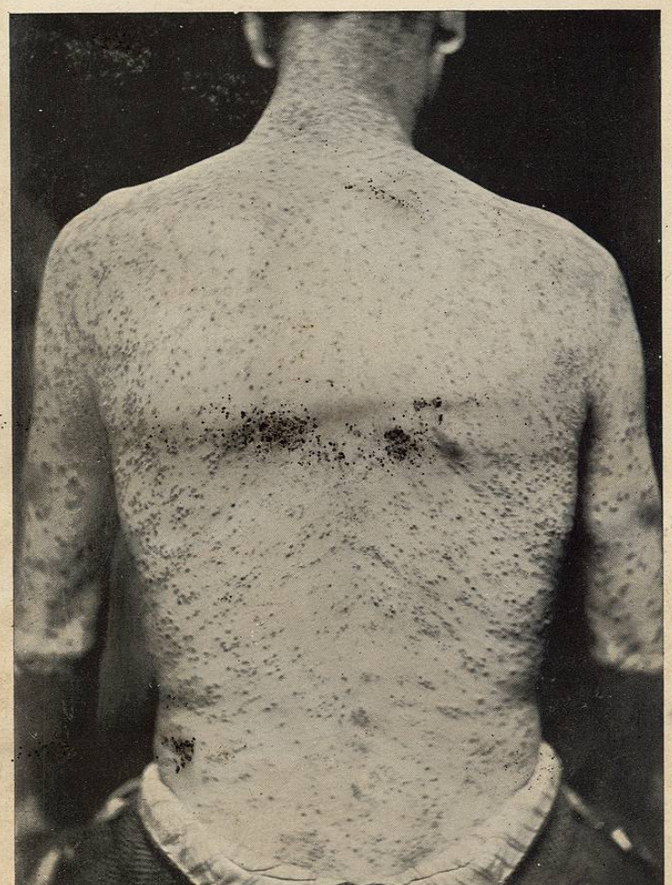
the latter after an interval; and they are usually symmetrical in the earlier and asymmetrical in the later of the periods named. They vary in size from a pin's head to that of a bean, and may be multiple or few, disseminate or grouped, generalized or limited to distinct regions of the body, conical or flat, dry or moist, in color shading from a light crimson to a dull copper. They may scale at the apex or be surrounded by a collarette of scales at the base.

Papules represent the syphilitic process in the skin and the mucous membranes, beginning with an indolent inflammatory process in the corium, inducing a thickening of the rete, some effusion of lymph-cells, and a breaking away of the horny layers of the epidermis from the summit of the circumscribed inflammatory product where the thickening of the skin occurs. As this change may involve different regions of the body, gross results are obtained, whose differences depend largely upon the site of each lesion. Papules upon the scalp, for example, are usually dry and scaly; when picked or scratched they often bleed and crust. Upon the exposed and dry surface of the skin, such as the extensor faces of the extremities, they are usually acuminate, dry, and squamous. On the brow, near the border of the hairs of the scalp, they often surround themselves with a delicate collarette of dirty scales, exposing a copper-tinted integument beneath and around the individual papules, the group being so characteristic as to have gained the title of the "corona veneris."

When papules form upon apposed surfaces, such as the skin covering the voluminous breasts falling over the thorax in women, or the folds of the nates in contact, or the scrotum lying next the integument of the thigh, papules

enlarge, flatten, secrete, and in many cases produce a sensation of itching. Papules forming upon mucous surfaces also, by reason of the heat, moisture, and friction to which they are subjected, become flattened and secrete, forming thus the mucous patch. Papules developing upon or beneath the thick epidermis of the palms and the soles of adults are so bound down that they rarely rise above the general level, but the cracking of the scarf-skin at the level of the thickened subepidermic focus produces a characteristic scaling of the skin in the regions named.

Dry Papules.—(*a*) *Miliary Papules.*—This abundant efflorescence is less frequently noted than other of the papular syphilodermata, for the reason that its very profuseness argues a neglected or ignored condition of the subject of the disease in its prior manifestations. Since these neglected and ignored patients are often women, the eruption is somewhat more often observed in them. The lesions are pin-head-sized, closely-commingled papules, symmetrically arranged, often widely dispersed, and even generalized, at times distinctly and even elegantly grouped in circles or segments of circles, light reddish to deep crimson in shade, the apex of each papule at times surmounted by a still finer vesicle containing a droplet of serum—an accident which usually points to a coincident febrile access. Involution occurs by fine scaling at the apex of each lesion and flattening of the papules to a dull, purplish-red maculation of the surface. In rare cases, chiefly of public patients, this eruption may be merely the preliminary stage of a diffuse pustular syphiloderm. At times it can be seen that the lesions are limited to the hair-follicles. There are few cases in which, when the eruption is at all well



Small papular syphiloderm (Stelwagon).

taken for mere unsightly blotches of the surface. They vary in color from an exceedingly dull to a bright copper shade, and are usually remarkable for the fringe or collarette of dirty scales fraying away from their base, as described in connection with the "corona veneris." The eruption may appear in a few months after infection, and then disappear, or it may occur in crops lasting, with varying intervals, for one or two years after the onset of the disease. These papules are among the commonest of the syphilodermata, and, with variations of the sort described above as due to the accidents of site and environment, probably figure in a modified form in most of the lesions which are to be observed during the first two years after infection. The eruption spreads both by the outcropping of new lesions and by the enlargement of individual papules *in situ*, the latter being rather more common. As resolution occurs the papule flattens to the level of the skin, leaving merely a pigmented macule as a relic of its existence. These pigmented patches, especially over the face, are apt to be exceedingly rebellious to treatment and slow to disappear, much to the chagrin of the patient, who speedily comes to a realization of their peculiar significance.

The eruption may be quite general at the first, and later may limit itself to a favorite locality, such as the forehead, the back of the neck, the belly, the buttocks, the flexor aspects of the joints, the scrotum, and the outer face of the labia majora.

It is the modification by grouping and coalescence of the papular syphiloderm that produces the sub-varieties recognized by authors as "nummular" and "corymbiform." In the former the papules enlarge to flat disks of the size of large, and even of the largest, coins, circumscribed, and with depressed crateriform centres, the contrast between the central area and the circumvallation of the smooth, copper-tinted ring being conspicuous. In the corymbiform arrangement satellite-like groups develop about the central disk. Other odd-looking forms are the result of different groupings of the coalesced or isolated papules, as in the shape of the letter S, of a kidney, etc.

Midway between papules and purely squamous lesions in syphilis stand the papulo-squamous syphilodermata, lesions in which the characteristically developed and situated papules of syphilis undergo a squamous transformation at the summit, where a little heap of dirty-looking, adherent, sometimes friable, but often corneous scales accumulates. This combination of scales and papules has been thought to resemble psoriasis, but the correspondence is rarely suggested to the trained eye, for the elevation of the lesions, the character of their scales, and the color of the dull-tinted papules on which they rest are significant. The circular outline of many of the confluent patches of the larger papulo-squamous disks and of psoriatic patches in general is often confusing, and yet the bulkier and dirty-looking scales of the syphiloderm, the dull, ham-colored patch in the centre of the circinate group, often slightly infiltrated or thickened, offer a strong contrast to the more vivid hues of psoriasis. The clear-tinted and uniformly spread scales of the psoriatic patch, its centre either evenly thatched with such scales or, if quite clear, showing only a slightly shaded and non-infiltrated epidermis, are also to be considered in establishing a differential diagnosis. Over the face the papulo-squamous syphiloderm is often covered with a mealy or granular mass of scales of a dirty

grayish hue, this character of the exuvium being due to admixture with a desiccated sebaceous product.

Diagnosis.—The differences between psoriasis and syphilitic papulo-squamous eruptions are of importance. It is only atypical manifestations of either disorder that are liable to be confounded. The reddish and bleeding surface left on removal of the scales from a psoriatic patch is never exactly reproduced in syphilis, and the localization of the former on the extensor surfaces of the extremities is never characteristic of the syphilitic exanthem. Seborrhœic affections, particularly of the face, resemble the scaling papular syphiloderm in the matter of the greasy crust with which they are covered and the generally dirty aspect of the patch, but the circinate contour of the syphiloderm, never seen in the seborrhœic disorder (save in exceptional cases on the trunk), and the characteristic copper hue of the surface beneath the scales, sufficiently distinguish the syphilitic exanthem.

In almost all the syphilitic patches resembling those of either psoriasis or seborrhœa the infiltration of the body of the patch, with its higher wall of infiltration at the periphery, is evident on examination.

Palmar and Plantar Syphilodermata (Palmar and plantar "syphilitic psoriasis," etc.).—The papules of syphilis, when developing upon the palms and the soles, have, as already shown, not only a characteristic aspect and career, but are rarely to be confounded with other disorders. The peculiarity of the papule in this situation is that it is developed within and beneath the dense and voluminous corneous envelope of these regions, and hence fails to produce either a conical or flattened elevation above the surface; it produces instead a circumscribed thickening of the skin, (Fig. 1), which in

the epidermal portions scales, and in extreme cases induces an ulceration in the region of each papular thickening. These eruptive symptoms are often early to appear, and sometimes they linger after years have elapsed as almost the sole symptoms of the disease. They are much more common than is generally believed in the early periods of the malady—that is, within three months after infection—being usually recognized in some form by the expert when they escape the attention of all

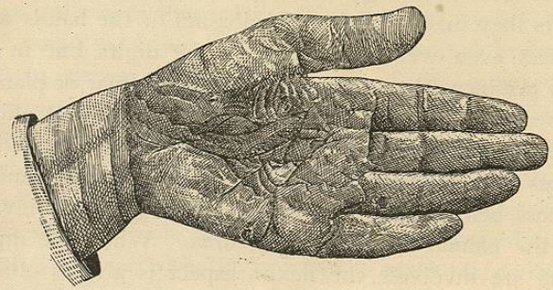


FIG. 1.—Palmar syphiloderm (after Keyes).

others, even of the patient. They occur usually symmetrically, involving both hands and feet, in the earlier manifestations, and asymmetrically in later stages, when either the feet alone or the hands alone, or even but one palm or one sole, is attacked. Instances are not very rare in which, with few other evidences of the disease, six and eight years after infection, a single palm exhibits a squamous syphiloderm, having displayed this symptom with slight variations for a series of years. In all the regions named the influence of the employment of the hands in labor is usually striking, the right hand being worse or solely involved in right-handed patients, and

the feet worse in those who stand or walk much in the day; but marked exceptions occur.

In its simplest expression the epidermis of the region involved displays merely split-pea to lentil-sized discolorations productive of no sensation by which the patient is made conscious of their existence. The centre of the palm or the inner face of the instep is usually first affected, and the spots may be either discrete and without apparent order as to grouping, or develop in arcs of circles to be distinctly or dimly discerned. From these points they may spread to the dorsum of the hands and the feet, even over the dorsum of the digits, but in all such instances the extension from the palmar or plantar to the dorsal surface can be determined without effort. In this way the extension may be toward the interdigital spaces and the wrists and the ankles, the squamous process being in obvious relation with that first invading the palmar or the plantar area. When the digits alone are involved, the flexor aspect is always chiefly implicated, and here, as also in the palms and the soles, the natural folds and furrows of the skin furnish often a special territory for the incursions of the malady.

As the disease advances, both in time and in degree of involvement of the integument, the maculæ, of a hamred shade, furnish from the surface of each a slight exfoliation, which, as the disorder advances, becomes a true scaling, the epidermis being lifted away centrally, so as to produce about the morbid spot a dirty-looking, ragged fringe of epidermis. An advanced stage of the disease is that where, usually in consequence of manual labor, friction, and exposure of the hands to soil, water, or chemicals, fissures result; these fissures make ineffectual attempts at healing, forming a new and tender

epidermis which floors over the crack in the skin, only in turn to give way and be supplanted by succeeding fissures and new formations of epidermis until a palmar or plantar ulcer or an ulcerated fissure is excavated, bordered by successive plateaux of newer or older skin, the outer edge being represented by large, partly-detached, and ragged flakes of epidermis whose angular indentations or scallops roughly resemble the fracture of a pane of glass by a missile projected through its substance. Deeply ulcerated and exquisitely painful lesions of this class are more often palmar than plantar, by reason of the use of the hands in labor; but the feet of those who toil in sewer-digging, road-making, etc. suffer to a similar extent.

A variation of this eruption is termed the *corneous syphiloderm*, and its peculiarities are due to the accumulation at the site of each papule of a mass of horny cells, more or less friable, which may occasionally be dug out from their bed with the point of a pen-knife, or, being spontaneously thrown off, leave little shallow pits behind.

Diagnosis.—Eczema of the hands and the feet usually involves the dorsum, or, if the sole or the palm at all, only by extension to the latter from the former region. Eczema limited to the palms and the soles does, however, occur, but chiefly in adults whose organs are more or less continually immersed in water, especially water charged with mineral constituents. Patients of this class are usually dyers, laundresses, bar-keepers, or men engaged at soda-water fountains. The infiltrated areas of eczema are never well defined save in eczema marginatum of this region; the involvement of the skin is much more uniform; there is apt to be pustulation and

vesiculation; there is never, under any circumstances, ulceration, even when the eczematous fissures are most painful; and the itching is apt to be well marked. Psoriasis is said to be in very rare cases limited to the palms and the soles, but these exceptions are so few as simply to prove the rule. In any doubtful case the discovery of psoriatic patches on the scalp, the sacrum, the elbows, or the knees would determine the question. It has been said that syphilis of the palms and the soles is ever accompanied by some unexpected lesion elsewhere, and it is often true that a mucous patch in the mouth or, in advanced cases, an undeveloped gumma of the leg will reward the careful explorer for his pains.

Moist Papules.—(*a*) *Mucous patches* (Mucous plaques; *Plaques muqueuses*).—The patch which is seated upon the mucous membranes in syphilis is pathologically identical with the mucous plaque or the moist papule of the skin. In both cases the papule—which in the palm or the sole fails to become elevated, but flattens to the point of exhibiting merely a scaling and plain macule—shows, in the regions of moisture, of friction or apposition of contiguous surfaces, and of heat, merely an oval or circular, scarcely elevated lesion. Its summit either furnishes a mucoid secretion or displays a thin pellicle more or less firmly attached, representing a sodden epidermal plate not as yet loosened from its underlying attachments.

Moist papules of the skin in syphilis occur in regions where the conditions are similar to those of mucous membranes with respect to heat, moisture, and the apposition of surfaces, as between the breasts of women, between the nates, in the axillæ and the groins of fleshy persons, and in the interdigital spaces. Here the lesions form flattened disks, slightly elevated above the general

level, covered with a whitish or grayish pellicle, often slightly depressed in the centre, and looking not unlike one of the varieties of the soft corn. At times they have a reddish tint. They are generally moist, secreting a thin mucus which in warm weather and in the uncleanly has a fetid odor. These lesions are decidedly more common

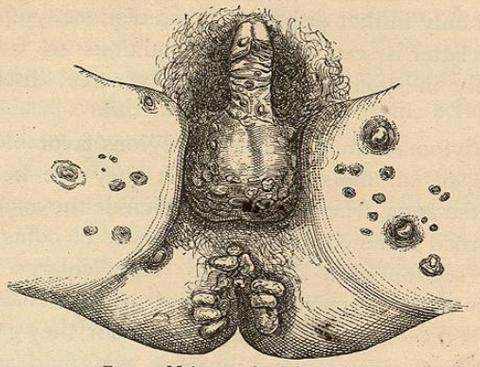


FIG. 2.—Moist papules (after Miller).

in women than in men, and in the young adult rather than in the middle-aged. Occasionally they develop into large vegetating masses; at other times they ulcerate. Their secretion is highly contagious. There is no better illustration of the moist papule than the chancre of the mucous surface of the prepuce, which, having survived until general symptoms of systemic disease occur, undergoes a characteristic transformation *in situ* into a moist papule.

(*b*) *Condylomata* (Condylomata lata; Verruca acuminata; Moist wart; Venereal wart; *Ger.* Spizen Warzen).—Condylomata are simply moist papules which undergo a hyperplastic metamorphosis in consequence of the

extremely favorable circumstances under which they develop. Thus, a recently infected, young, fleshy prostitute of the filthy class is exceedingly apt to display lesions of this sort about the vulva and the perineum. There are two tolerably distinct types of this affection, namely, the flat condyloma and the pointed wart. Both occur in syphilitic subjects, but the former is seen only in that disease and is a distinct symptom of it; the latter is seen, when the conditions are favorable, not only in syphilis, but in other venereal diseases as well.

Condylomata are found in the regions favorable to the growth of all moist papules, but they are best seen about the anus, where they often encircle the anal orifice with broad flattened disks from the size of coins to that of the section of a large egg. They enlarge by the growth of the primary lesions and also by coalescence of the disks. They have a disgusting odor, they generally secrete a mucoid or even a puriform semi-fluid, and they are whitish both from this secretion and from the pellicle covering their broad surface. They are capable of self-multiplication, the lying of one disk against an exposed surface being at times sufficient to produce a similar lesion exactly at the point of contact. As distinguished from others of the syphilodermata, they are usually the seat of a tormenting pruritus.

The *pointed wart* occurs in the subjects of syphilis and also in those whose parts are bathed with blennorrhagic, leucorrhœal, and other secretions not syphilitic. They are single, multiple, often exceedingly numerous, filiform, papilliform, or corymbiform, moist and pointed lesions varying in size from a pin-point to that of a fist, and even in extreme cases very much larger, the large-sized

masses being always compounded of many primary warts, the septa between which can be recognized dividing the compound mass into separate lobes. They are often smeared with mucus, after the removal of which can be seen their vivid red color, each separate apex being provided with a delicate tuft. They are often compared in appearance to the comb of a cock. They rarely occur in virgins, but at times they develop in pregnancy, disappearing, as a rule, after delivery. Cocci and bacilli have frequently been recognized upon their surface. They bleed readily and freely when torn, scraped, or wounded by accident.

Pathologically, all moist papules are to be viewed as hyperplasias of the epidermis occurring under the influence of the syphilitic process; the pointed warts are not in all cases strictly defined syphilodermata, but are growths occurring under peculiarly favorable circumstances in the situations described. These growths are impressed with the syphilitic mode when occurring in the syphilitic subject. Anatomically they are found to be built up chiefly of thickened and enlarged rete-cells, the corium and the papillary layer exhibiting cellular infiltration, the papillæ reaching upward by elongations between the wide fields of the mucous pegs dipping between the papillary eminences.

Diagnosis.—Pemphigus vegetans (of Neumann) often occurs first about the vulva and the anus. Its lesions have frequently been mistaken for condylomata. Close study will, however, reveal that the vegetating masses in pemphigus spring from the sites of bullæ, that they are, as a rule, more closely packed together, and that, instead of furnishing a mucoid secretion, they are bathed in a more profusely furnished fluid, which, as a rule, is desti-