from the side, base, or summit of the vegetation. These growths are particularly liable to occur in the region of the scalp, about the folds of the axillæ, the groins, and the nates, and about the anus. The rounded, flattened, acuminate, or tufted summits of these excrescences are usually covered with crusts due to the desiccation of the puriform secretion with which they are smeared, and on the removal of which the dull-reddish or florid surface of the masses can be distinguished. When removed artificially or spontaneously the superficial character of the process is readily determined.

The diagnosis is from lupus, pemphigus vegetans, framboesia, yaws, and all the simple papillomatous and warty growths. The distinction between the skin-lesions of syphilis and the two diseases first enumerated has already been given. In framboesia there is always an absence of the other symptoms usually shown in patients with vegetating syphilodermata; the subjects of the disease, further, are chiefly those either living on or recently leaving the coasts of Africa. The creamy secretion, the acid reaction, and the shorter career of yaws are all significant. The warty growths found on the scalp and elsewhere of persons not infected with syphilis often present features strongly resembling the vegetating lesions here described, and the distinction between them all is to be looked for in the peculiar characters of the syphiloderm. In the latter, the size of the single or the abundance of the frequently multiple growths, the fetor of the secretion, and the accompanying symptoms of an infective disease are chiefly to be relied upon in the establishment of a diagnosis.

Syphilitic Affections of the Hair.

The most important of the changes produced by syphilis in the hairs is an alopecia, important both because of the disfigurement it produces and because of the aid it furnishes in establishing a diagnosis of the disease. Syphilis, however, involves the nutrition of the hair often without production of an alopecia, working in many subjects of the disease a special dryness and other symptoms of malnutrition without fall of the hair sufficient to be conspicuous. There are two well-differentiated forms of syphilitic alopecia: in the first form the loss of hair is due simply to the action of the virus of the disease, presumably upon the nerves of the scalp; in a second form the alopecia is directly induced by changes in the scalp.

Syphilitic Alopecia without Obvious Structural Change in the Integument.—This is decidedly the most common form of the affection, exhibiting conspicuous features in many patients, and probably occurring in an unobtrusive form in the great majority of all well-developed cases. It may coexist in the same person with an alopecia due to structural changes; it may be partial or general, though the latter is of exceedingly rare occurrence; and, as a rule, it develops among the earliest symptoms of systemic intoxication. At times only the hair of the scalp is affected; at other times the scalp, brows, lids, axillæ, and extremities are, in one or several regions, made partially bald. Usually the hairs of other regions are lost only when the scalp is involved, but at times when the scalp is unaffected the hairs of the brows or of the beard may fall.

All grades of loss are perceptible, from that escaping

casual observation to that in which the scalp is laid bare over wide areas, the hairs falling in large numbers, slight traction upon any filaments selected at once bringing them painlessly from their pouches. As a rule, the resulting deformity is manifested to the eye in a characteristic "raggedness" of the hirsute covering, bare patches being particularly noticeable over the temples and the occiput, as distinguished from the pre-senile losses often seen where the thinning is largely limited to the vertex. When, however, the scalp is shaved or the hairs are clipped close, it is clear that the loss occurs chiefly in finger-nail-sized areas, often closely set together, never producing the palm-sized, completely bald patches of most non-syphilitic diseases accompanied by alopecia. Upon the eyebrows the loss is often highly conspicuous by reason of its lack of symmetry, the hairs of one brow, for example, being removed when the other is intact, or one-half of the hairs falling from one or the other extremity of the brow of one side. The conspicuousness of these forms of alopecia makes them most offensive to the conscious subjects of the disease. When the loss involves the region of the male beard, the patches are usually similar to those seen on the shaven scalp; but occasionally a baldness of the bearded face occurs in large patches which it is difficult to distinguish from alopecia areata.

Syphilitic Alopecia due to Structural Changes in the Integument.—In these cases the alopecia is consecutive to the evolution of a syphiloderm in the region of the skin affected with the hair-loss. The pre-existing lesion in the best-marked cases is then of an ulcerative type, resulting in a destruction of tissue limited to the area where the loss of hair occurs; in this event even

the baldness is often a minor symptom when compared with the graver metamorphoses of the skin in which the hairs were once implanted. Other syphilodermata may, however, be responsible for the alopecia, such as macular, papular, papulo-pustular, and tubercular lesions, as also gummata, the latter involving also the subcutaneous structure. Most of these lesions are effective by actual destruction of the hair-follicle by either ulcerative or resolutive changes following the syphilitic deposit. As compared with the simpler form of alopecia previously described, it is noticeable that the alopecia due to structural change in the skin is often remediless, while the former is almost invariably followed by a return of the hairs; that the tissue-change is most often circumscribed and limited to a single region of the body, particularly the scalp; and that the alopecias of early syphilis, which are often multiple and unaccompanied by destructive changes, differ widely in every feature save the hair-loss from the invasions of the hair-sacs by the late, usually gummatous, deposits of the disease. When the milder forms of consecutive alopecia occur, they often result from a species of syphilitic involvement of the sebaceous glands of the scalp and of other regions, finger-nail-sized patches of the part involved being covered with fine, often greasy scales, the integument being manifestly hyperæmic and tinted in the dull-reddish hues of the syphilitic macule.

Diagnosis.—In almost all forms of syphilitic alopecia the diagnosis is established by the discovery of other symptoms of the disease, which, as a rule, may be discovered if sought for with special care. It is, however, true that in exceptional cases the force of the first intoxication of the system seems to expend itself wholly

upon the hirsute covering of the body, and in these losses it may be a matter of difficulty to discover the site of the original chancre and its possibly persistent underlying sclerosis.

Alopecia areata most strongly resembles the syphilitic form of baldness, but in the former the patches are usually large, the skin denuded of hairs is smooth and white, the line of demarcation after the few hairs that are loosened at the periphery have been epilated is much more distinctly outlined by vigorous filaments, and, seeing that children are not rarely affected, the subjects of the disease are at times much younger than those suffering from acquired syphilis.

The congenital, pre-senile, and senile losses of hair are usually symmetrical and permanent; they occur at epochs of life which commonly contrast with the average age of acquisition of syphilis, the exception occurring in pre-senile forms of baldness, where there is usually a definite history of preceding seborrhœic trouble. The simpler varieties of baldness are, however, of much longer duration than the common forms of syphilitic alopecia. In ringworm of the scalp the presence of the parasite and the tender age of the subject of the disease are significant. In psoriasis of the scalp the highly characteristic scale-accumulation, often extending beyond the confines of the scalp at the brow is a diagnostic feature.

Syphilitic Affections of the Nail.

It is usual to distinguish between two different forms of syphilitic invasion of the nail and its peripheral tissues, the term *paronychia* being employed to designate the changes in the nail-substance which are consecutive to

those occurring in the tissues about the nail; while the term *onychia* is limited to changes occurring primarily, as regards obvious symptoms, in the nail itself. The two conditions may coexist. The distinction is, however, though useful for clinical purposes, scarcely based upon pathological facts, seeing that it is highly probable that no changes whatever occur in the nail proper prior to disturbances in the nervous or other structures with which it is in relation.

Changes in the Tissues Surrounding the Nail, with or without Consecutive Lesions of the Latter (Paronychia syphilitica).—In the more superficial variety of this disorder the epidermis and often the deeper portions of the skin in a circumscribed patch, usually at one extremity of the nail-groove, thicken and assume a warty aspect. This local thickening may be resolved in successive exfoliations with some resulting tenderness, or there may be superficial excoriations, fissures, or even resulting ulcers. One or several digits may be involved, the fingers more often than the toes, on account of the exposure of the former in the occupations of life. Sometimes the integument of one or several joints of the digit is implicated in the process. This complication occurs within a few months after infection, or it may be delayed to one or two years after—rarely the latter. It is most often contemporaneous with maculo-papular and papulo-squamous lesions of other regions. The consecutive changes in the nail, when such occur, are of the milder types elsewhere described.

In a deeper form of involvement of the tissues about the nail, a nodule, dull ham-tinted and tender, varying in size from that of a pea to that of a bean, forms either in the nail-fold, the nail-groove, or the matrix, usually

upon one side. Occasionally the more prominent skin-symptom is a deep and ill-defined infiltration. The cracking and exfoliation seen in the superficial form may be conspicuous in the deeper form of the disease, the infiltration undergoing in favorable cases complete resolution under appropriate treatment, though its course is commonly indolent. In other cases ulceration ensues, the part becomes tender, at times exceedingly painful, and the pus which may be discharged gives no such relief as in the "run-around," the course of which is much more brief. The affection persistently lingers when the toes are involved. The odor of the secretions furnished, especially by the great toe, which on account of its prominence often suffers, is, as usual in this region, often highly offensive.

Ulceration, whether resulting from the superficial or the deeper involvement of the parts about the nail, occurs as a complication of both processes in various grades. The course of such complications is always modified by treatment. As usual, the fingers and the great toe, for reasons already explained, suffer more than the other digits.

The ulcer, whether starting from nail-fold or matrix, assumes, as a rule, with startling rapidity its formidable features. The edges of the ulcer are raised, often undermined; the floor is covered with an unhealthy, partly purulent slough, usually well attached, with dull-colored granulations springing from its mass. The color of the whole is characteristically empurpled and unhealthy. The prominent club-shaped aspect of the distal phalanx, swollen to two or three times its usual volume, presents a vivid contrast with the adjacent and unaffected phalanx, which seems in comparison to be

shrunken or atrophied. Viewed at a distance, the deformity often seems to be produced by a pushing of the nail-substance, whether involved or not, far to one side of the longitudinal axis of the digit, the reason for this being the bulk of the swollen and inflamed tissues on one side of the phalanx. The nail may be lost or partially destroyed in the process. The new-formed nail may be misshapen or well formed. As a rule, the repair procured by the best treatment is surprisingly good in view of the marked deformity and the threatening character of the lesions, especially when, as may be the case, many of the fingers are simultaneously attacked.

This complication, usually occurring in the first two years after infection, is often a portent of grave syphilis; it is apt to occur in middle-aged patients with broken-down constitutions.

Changes in the Nail, with and without Involvement of the Adjacent Tissue (Onychia syphilitica).—(*a*) *Atrophic Changes in the Nail.*—Every grade of atrophy of the nail may occur in syphilis, and the milder forms are much more common than is generally supposed. They are often detected by the expert in his examinations when they escape the attention of the patient. In the simpler manifestations the nail-substance loses its lustre, acquires a dirty-yellowish hue, and slowly covers itself with various striations, markings, dots, and spots, often presenting a characteristic "worm-eaten" appearance. The friability of the nail is increased to a perceptible extent, and its broken or nicked free edge is seen in many, if not all, the digits, especially those of the fingers (*onyxis craquélé* of the French).

(*b*) *Hypertrophic Changes in the Nail* (Syphilitic onychauxis).—In this form, which may coexist with the

atrophic changes described above, and which is rarer than all others, portions only of the nail may be perceptibly thickened by increased growth, or the entire nail may be enormously increased in bulk, changed in color, and marked by the pinhead-sized dots or depressions, sharply cut in outline, where small circumscribed atrophic changes have occurred.

(*c*) *Separation of the Nail from Matrix, Bed, or Fold.*—This change, an exceedingly common one in syphilis, may involve one or all the nails of the hands and the feet. As a rule, several of the digits are affected, the hands by preference. The detachment may be partial or total.

Among partial detachments, much more common than all others, the mildest is seen in early periods after infection. The separation usually occurs first at the distal extremity of the nail where it is attached to the side of the nail-bed, and is visible beneath the nail-substance as a delicate linear or ribbon-like stripe, parallel with the long axis of the nail, resembling a serous exudation beneath the nail-substance; or the line of separation is whitish in hue, and the separation occurs at the bottom of the nail-groove or across the entire width of the nail. One-half or more of the nail may thus be detached from its connections, the separated substance undergoing the usual changes in color and polish.

When the separation is complete, it may result from changes beginning as in the partial forms described above, or with changes in the matrix, the latter being more common. Usually the latter ceases to provide for the further growth of the nail-substance, and the nail which is to be shed is simply slid along its nail-fold until it is exfoliated, undergoing meanwhile the atrophic

changes already described, in markings, striations, etc. upon its surface. When the nail-bed is left bare it is speedily covered with a substance which, in all favorable cases, eventually furnishes a new nail.

Variations from this type are furnished by defective and imperfect attempts, instead of by total cessation of effort, of the matrix to furnish the nail-substance. In the former event ridges of mingled atrophic and hypertrophic nail-substance mark the boundaries between the diseased plate, newly formed, and the healthier nail produced prior to the date of the infective process. As a result the nail is shed, and its successor is formed after a lapse of time in which the nail-bed is in part exposed and beset by imperfectly formed, thinned, irregular, or "worm-eaten" fragments of horny substance.

Diagnosis.—In general, the nature of the disorder of the nails is readily established, as there is usually a history, and in almost every instance other symptoms, of infection. The indolent course of the disease, the tendency to ulceration of the soft parts about the nail, and the deformity resulting in the production of a bulbous or club-shaped distal phalanx, are all significant. Ingrowing toe-nail, chiefly of the large toe, presents an obvious explanation for the tumefaction and pain. Chancres seated in the site of a "hang-nail," especially among physicians infected in the practice of their profession, are commonly associated with enlargement and induration of the epitrochlear gland of the limb involved. Tuberculous affections from inoculation of the manual digits are rarely situated at the nail-border, and they are usually of verrucous rather than of papular type.