early months. Far more commonly, several regions are successively invaded.

These tubercles are prone to appear in an irregularly triangular group, with the apex at the glabella and the base near the margin of the scalp. They may form a sort of corona in the latter region, with sometimes a number on the scalp itself. On the face, they sometimes run together and form patches. Again, several tubercles on the nose blend together and extend to the cheeks, forming a butterfly-shaped patch. When the tubercles spread in a rapid manner, a distinctly elevated margin or rim is formed, the inclosed patch being depressed. In this serpiginous form, the whole face may become invaded. The centre of the patch gradually loses its color and becomes thinner until, in bad cases, a cicatricial tissue is left. This process is usually rapid, and then slight destruction of the skin results; when it is slow, more or less atrophy of the skin is produced. In one of our cases, in which resolution was rather rapid, the patient's face was covered by tubercular rings, which merged together, the inclosed spaces being normal. Some authors call this the *serpiginous tubercular syphilide*, but we prefer to reserve that name for an eruption which is serpiginous by ulceration.

These tubercular rings are not seen in all cases; in some the lesion extends merely at certain portions of its margin. Thus, kidney-shaped growths are produced, or new tubercles may form and finally coalesce around the entire periphery of the patch. Tubercular patches seated on non-hairy parts are smooth, while those developed in regions supplied with hair are often uneven and warty. The latter condition is due to fusion of the tubercles and excessive prominence of the follicles and papillæ. Their surface may be covered with a crust of serum and epidermis, or the scanty pus may dry between the numerous elevations. Cases of invasion of the entire scalp in this way have been recorded, and doubtless many of the cases of framboesia of the old writers were nothing more than aggravated instances of this vegetating or papillomatous tubercular syphilide. It has been stated that the papular syphilide may undergo a similar metamorphosis. We have, therefore, two kinds of *syphilide végétante*, or *papillomateuse*, which differ merely in degree, a papular and tubercular. The head and face are most commonly attacked, but the trunk about the shoulders, over the sternum, and in the inguinal and gluteal regions may be invaded. When this syphilide is thus altered in character, its course is even more chronic than usual.

Several peculiar features are presented by this syphilide when occurring on the face. In some instances, a thin yellow crust, which is quite adherent, covers the smooth, shining surface of the tubercles. This may be so thick as to be mistaken for pus resulting from ulceration. In very chronic cases, it may form a rim around the margin of the tubercle, the inclosed surface being quite scaly. The skin generally retains its suppleness, although its entire thickness is involved by the infiltration; but, in some cases, especially about the

nose and on the lips, it becomes as hard and unyielding as cartilage. Much annoyance is caused by the immobility of the parts and by the hideous deformity which often results. In extreme cases, the skin of the entire face may become thus affected. Although a severe lesion and often very rebellious, the effect of proper treatment in causing absorption of the infiltration, and in restoring the natural softness of the parts, is frequently astonishing. Where this complication has existed for a long time, the effect of medicine may be less rapid.

These tubercles, especially on the face, and exceptionally elsewhere, wherever the integument is soft and thin, sometimes undergo colloid degeneration. When this occurs, the color of the tubercle slowly changes to a dull brown, the lesion becomes less resistant, and on incision a soft, gluey, non-diffluent mass is revealed. Such a tubercle is rather more elevated than others, and appears as if infiltrated with glue. This condition is most frequently seen on the forehead. Usually these colloid tubercles slowly subside by absorption of the cells, leaving a depressed cicatrix.

Next in frequency to the face, the shoulders and forearms are the parts attacked by the tubercular syphilide. Sometimes these parts are primarily invaded.

In the early years of syphilis the tubercles are usually disseminated over the body, but at later periods successive groups appear at long intervals in different regions. The eruption may thus continue for many years, the general health deteriorates, and visceral lesions may be developed.

The course of the eruption depends almost altogether upon treatment. In its early stage it will usually be dispersed by vigorous measures. A limited relapse is very likely to occur in case of inadequate treatment. In no other syphilitic eruption can a prognosis be made with equal confidence. If untreated it will probably invade nearly every part of the integument. I have seen two cases in which more than six hundred tubercles formed during a period of about ten years, leaving permanent cicatrices upon the face and body, particularly on the posterior aspect and on the extremities. Although the alæ of the nose and the lobes of the ears were destroyed, not a particle of ulceration had ever occurred. The atrophy which follows this eruption probably results from some occult change in the normal cells induced by the presence of the infiltrating cells. It is certain that the infiltration and the tissue framework which holds it, degenerate and are absorbed at the same time.

In case of a relapse a group of pustules is usually observed in some one particular region. When the tubercles are scattered over the body we may be sure that the period of infection has been within two or three years. When the eruption is early it is usually symmetrical, but when late it is often unsymmetrical. The tubercles are usually less copious with each succeeding outbreak, but, on the contrary, cases are occasionally met with in which their size and number are about the same with each relapse. The face, back, and forearms are the

most frequent seats of relapses. In some cases the face, and exceptionally the scalp is attacked by recurring tubercles until most of its integument is left in a cicatricial state.

After full development the course of these tubercles is slow and without marked features, and they are generally amenable to treatment. When they retrograde they sometimes first sink in the middle, and may thus be converted into tubercular rings. If left alone they remain unchanged for months. Their red tinge gradually fades to brown, they flatten and finally disappear, leaving a pigmented spot. This syphilide may pass away without causing disorganization of the skin, especially if treated early. Upon the face, and where the tissues are soft and delicate, cicatrices are apt to result. Hence the necessity of active and prolonged treatment. Tubercles that have remained on the face, uninfluenced by treatment, for two or three months, almost inevitably leave cicatrices. On other parts of the body they may remain longer without leaving any deformity, but, as a rule, atrophy of the skin follows when they have lasted three months.

In some cases this syphilide ulcerates, the process usually being limited to a portion of the eruption. This may occur in a malignant and precocious manner, ulcers forming with great rapidity. Happily such cases are rare. When ulceration attacks a tubercle a yellow crust forms on its surface, which soon covers the whole tubercle, and attains considerable thickness. Its color gradually becomes greenish-black, its surface is rough, and it is surrounded by a dull-red or even livid areola. Underneath, and coextensive with the crust, is a smooth ulcer, with a foul, grayish-red surface, sharply cut edges, as if "punched out," and, perhaps, a little undermined, secreting an ichorous pus. The progress of the case varies in different patients. In broken-down subjects, especially from alcoholism, the ulcers may extend and merge together, forming large patches. Under favorable conditions the destructive process is more limited, but such ulcers are invariably followed by depressed cicatrices. The face, thighs, and forearms are the parts most frequently attacked. On the face particularly they are very destructive, and leave unsightly scars.

Strange as it may seem, the cicatrices following resolutive tubercles are often as well marked as those subsequent to deep ulceration. When resolution has occurred, without any damage to the skin, coppery pigment spots remain for a time. When a cicatrix is formed, it is always deeply pigmented and surrounded by a similar areola. These cicatrices form very slowly. After complete absorption of the lesion the tissue is tolerably thick, but it gradually becomes thinner and less brown, until in about a year there remains merely a soft, glistening membrane, either perfectly smooth or perforated with minute holes, the seat of follicles. Very often a narrow coppery areola remains for a long time. When the ulceration has been particularly deep and extensive, and especially when it has occurred near a joint, thick and long fibrous bands sometimes traverse the scar, and in some

cases its surface is studded with tubercles of false keloid. The occurrence of these neoplasms has been considered diagnostic of lupus. As a matter of fact they are developed as well, though less frequently, on syphilitic cicatrices.

The prognosis of this syphilide is good, although it indicates an active and persistent form of syphilis. Early treatment may prevent or modify cicatricial deformity which otherwise may be extensive. Persistence in treatment will also prevent or postpone relapses.

Ulceration, complicating this eruption, calls for the exercise of the greatest skill and care. In addition to the use of proper internal and local treatment, the nutrition of the patient should be improved by every possible means. In those rare cases in which ulceration and gangrene attack the tubercles the outlook is very bad; the destruction of tissue may be extreme, cachexia may appear, and a typhoid condition, resulting fatally, may be induced.

This syphilide, when occurring in the secondary period, often coexists with lesions of the intermediary stage, such as perionychia, alopecia, iritis, cerebral affections, testicular lesions, mucous patches, and condylomata. Later on it is generally accompanied by a varying degree of cachexia and sometimes by visceral lesions.

Diagnosis.—This syphilide is to be diagnosed from lupus vulgaris, elephantiasis Græcorum, carcinoma, and psoriasis. Lupus generally begins in early life, and is never so diffusely scattered as the tubercular syphilide. The resemblance is seldom striking except when the latter is limited to the face. Lupus tubercles are usually more irregular in outline and deeper than those of syphilis. They are pinkish-red rather than brownish-red as in the latter disease. Lupus tubercles are more commonly studded with small colloid masses, and are prone to ulcerate. The scars left by lupus are not soft and thin as in syphilis, but are hard and seemingly adherent to the subcutaneous tissues. The crusts of lupus are not so regular and round as those of the tubercular syphilide, and have not their peculiar dark, greenish-black color. The underlying ulcers are not as deep, smooth, and sharply cut as those of syphilis.

In some cases of true leprosy tubercles occur, which resemble in size, shape, and color those of syphilis, but they are usually accompanied by white, anæsthetic patches, large spots of brown pigmentation, nerve swellings with perverted sensations, large nodular infiltrations and ulcerations, or other manifestations which characterize leprosy.

Although superficial carcinomatous tubercles may somewhat resemble those of syphilis, they are never so scattered, and are always much larger, sometimes involving an entire region.

The tubercular syphilide occasionally presents two appearances which resemble psoriasis. The first is when the tubercles are covered with an unusual number of scales, especially on the outer aspect of the arms, where psoriasis is prone to appear. The second is when the tubercles undergo involution and form rings. Psoriasis, however,

is a disease beginning in youth, and is essentially scaly. The tubercles of syphilis are infiltrations, and though some may be covered with scales, others will be found free from them. In syphilis, again, we have the history of the case, and perhaps other manifestations of the disease. In rare cases in which the eruption is limited, and the history obscure, mercurial treatment settles all questions, since it cures a syphilide and does not influence psoriasis.

Some authors call this syphilide *lupus syphiliticus*, a term inapplicable for reasons already given.

The Gummous Syphilide.

This syphilide is almost invariably a late lesion, and, although usually invading the skin, it always begins in the subcutaneous connective tissue. It consists of tubercular infiltrations, some as small as a pea and others several inches in diameter. When great extent of tissue is involved, the lesion is usually composed of several tumors merged together. This is not always the case, Fournier having reported a single tumor fourteen centimetres in length, eight to ten in breadth, and from two to six in thickness. Unlike other syphilides, in which the specific neoplasm is diffused, this lesion is a true circumscribed tumor.

This syphilide is particularly prone to appear in parts where the connective tissue is loose and abundant. It may be limited to the connective tissue, but on invading the skin it usually ulcerates. In the former case we apply to the syphilide the term *gummous* or *gummous tumor*, in the latter case we call it a *gummous ulcer*.

The progress of the lesion varies according to the condition of the parts upon which it is developed; in thick and copious adipose or cellular tissue the tumors may remain a long time without attacking the skin; under contrary conditions or above a bony surface implication of the skin is early and the bone itself may be eroded superficially or deeply. Sometimes the muscles are exposed by complete destruction of superjacent tissues. Blood-vessels, nerves, and sometimes bursæ may be involved by extension of the lesion.

We shall study this syphilide in its three stages: of tumefaction, of ulceration, and of repair.

In the first stage we find from one to six small tumors, which appear simultaneously or in succession and run an indolent course. In exceptional cases, when the eruption appears during the early years of syphilis, the tumors may be numerous, their invasion quite rapid, and the attendant local and general symptoms well marked. Cases have been reported in which there were twenty, thirty, and even forty tumors, and Lisfranc has recorded one instance in which there were one hundred and sixty. When they appear early they are, as a rule, numerous and symmetrical; when occurring later, the reverse is true.

These small tumors are painless and attended by slight tenderness.

Their growth is generally slow. At first they are freely movable; they soon become attached to the surrounding tissues, especially when seated over bony surfaces or in regions where the connective tissue is scanty. They give to the finger a sensation of moderate firmness, retaining their shape under pressure, having neither the elasticity of a fatty tumor nor the hardness of scirrhus. In many cases they tend to invade the skin rather than the deeper tissues. Their superficial growth is first shown by slight reddening of the overlying skin, which rapidly becomes thickened and less supple. Finally we observe a tubercular infiltration, round or oval in shape, perhaps slightly elevated, of a deep coppery-red color, and surrounded by a well-marked hyperæmic areola. They may remain in this condition for many weeks, or even months, and still, under treatment, undergo resolution. Generally, however, their firm structure slowly breaks down until finally fluctuation may be detected. In many cases the soft yielding character of the tumor gives a false impression that pus is confined beneath the skin. On incision of such a tumor a small quantity of thick, bloody pus escapes and a soft mass is found, but no cavity like that of an abscess. In case of true fluctuation, however, there is an actual cavity, containing fluid, resulting from disintegration of the tumor. Surgical interference is, however, seldom required. The cavity, in most cases, opens spontaneously, either like a furuncle by a single aperture or by ulceration at several distinct points.

The minute changes leading to this condition are of interest. The immediate product of the death of the subcutaneous neoplasm is a thick gummy mass, the intermingled pus being supplied by the surrounding parts which are secondarily inflamed. The destructive process goes on very slowly until after the occurrence of ulceration. The small ulcers first formed are deep and sharply cut; they extend in all directions until the destruction of the entire neoplasm results in the formation of what may be called a typical gummous ulcer. Such an ulcer is either round, oval, or gyrate from fusion of the small ones, and sharply cut as if punched out. Its floor, which is greenish-red, or sometimes greenish-black, is uneven and bathed with sanious fetid pus. The edges of the ulcer are thickened, and around them is generally an extensive areola of hyperæmia, which may be so persistent as to give the impression that it also is the seat of gummatous infiltration. The course of such ulcers varies with the care they receive. Sometimes they take on phagedenic action, invading extensive surfaces and causing profound or even fatal cachexia. They may remain in an indolent condition for months, discharging a foul secretion, showing no reparative tendency, and inducing great œdema of surrounding parts. Groups of ulcers may be found connected by narrow bands of reddened and detached skin, whose nutrition is but feebly sustained by the superficial vessels; hence, these bands soon melt away and expose the subjacent ulcerating surface.

The depth of the ulcers depends largely upon the thickness of the

original infiltration. In some cases the gummy deposit is confined to the cellular tissue just below the papillary layer of the skin and the resulting ulcer is relatively shallow. In other cases it is more deeply seated below the derma, and may be exposed by scraping off the upper layers.

In its early stage the tissue of the gumma is of a reddish-yellow color, and has a soft consistence; at a later period it looks dry, firm, grayish-red and non-vascular. The changes in its appearance are largely due to gradual compression and obliteration of the blood-vessels. Repair can never take place until complete removal of this tissue, which must be hastened by local as well as general treatment. The progress towards cure is especially slow where the surface of muscles has been exposed and when the destructive action has extended even to the tissues of the intermuscular septa.

Under treatment the foul surface of the ulcer is supplanted by granulations which eventually cicatrize. Sometimes these granulations become exuberant and rise above the normal level. As the ulcer heals, the surrounding redness, which on the legs may be of a purple tint, gradually diminishes and, when the cicatrix is formed, there remains a dull coppery areola, which may persist for many years.

The cicatrices of gummous ulcers differ according to the depth of the destructive process. When the ulceration has been superficial the scars are slightly depressed, thin, parchment-like and of a dead white color. All such cicatrices become blanched from their centre outwards.

The cicatrices of deep ulcers are much depressed and often very uneven, owing to fibrous bands and nodules. Some are also peculiar in being adherent to the deeper parts. In case the gummous ulceration has involved the superficial portion of the bone, the cicatrix adheres as firmly as did the periosteum to the osseous surface. In other cases where much destruction of bone has occurred no cicatrix at all is formed, the eroded surface being surrounded by a firmly attached fibrous band, which represents the margin of what might have been a cicatrix.

This syphilide may appear on the scalp, on the face, particularly about the mouth and nose, and also on the neck. It attacks the extremities, generally near the joints, and those parts where the integument is soft and the connective tissue abundant; the palms and soles therefore escape. It invades the back oftener than the anterior aspect of the trunk and is seldom seen on the lower part of the abdomen. The following is a table of fifty-nine cases in which Fournier observed the locality of the ulcers:—

The thighs	5	The sub-hyoid region	1
The sternum	2	The neck	4
The lips	1	The feet	1
Integument of penis	2	Metatarsal region	1
Scrotum	5	Cheeks	2
Legs	11	Forearms	3
Back	1	Eyelids	2
Fingers	3	Labia majora	1
Arms	4	Thighs	1
Groin	1	Face	4
Thorax	2	Scalp	1
Breast	1		59

Gummy tumors present certain peculiarities in different regions of the body, and may be complicated by intercurrent morbid processes. Erysipelas may attack the ulcers, especially when seated on the head or extremities. The œdema which accompanies gummous ulcers of the leg may be so severe and chronic as to induce a condition similar to elephantiasis Arabum. Again, in various parts of the body the appearance of the ulcers may be totally changed by a serpiginous or phagedenic process.

Gummy tumors of the scalp are seldom isolated and movable; usually the entire integument is thickened, and, although at first movable over the bones, soon becomes adherent. Small ulcers form at follicular openings, and gradually increase in size. Sometimes the outer table of the skull is destroyed, and in other cases the whole thickness of bone becomes necrosed; the dura mater, however, resists the destructive action in a remarkable manner, and is rarely involved. The scalp over the frontal and parietal bones is most commonly attacked, and not infrequently the forehead, chiefly towards the median line, is invaded. The secretions from ulcers occurring in the latter situation sometimes accumulate between the bone and the integument, and produce much swelling in the supra-orbital regions. The eyes may become closed by swelling of the lids caused in a similar way. A more serious complication of these ulcers of the scalp is erysipelas, which, in some instances, as already stated, may excite reparative action.

Upon the face we find both the movable, subcutaneous tumor and the infiltration which involves the deeper layers of the skin. Such swellings, being discovered here earlier than in other regions, usually receive treatment soon enough to prevent their reaching an extraordinary size. In neglected cases, however, the infiltration may be very extensive. Cazenave has reported an instance in which the face was so distorted as to be unrecognizable, having a leonine expression as in elephantiasis Græcorum. I have seen a case in which the nose, lips, and chin were excessively hypertrophied. The peculiarities of this syphilide in the stage of tumefaction are similar here and elsewhere, except that about the lips and nose it sometimes has a cartilaginous hardness. Hyperæmia is soon seen, and the progress towards ulceration is quite rapid. The resulting ulcer has the peculiarities of similar syphilitic lesions in other regions. The crusts,