thitis may coexist with chancroids, and at times disguise their features to a marked extent.

Phimosis and Paraphimosis.—These affections are frequent complications of chancroid, and when of severe grade often produce excessive pain and distress; but the results are, however threatening, commonly not serious. In some cases one or several chancroids are imprisoned beneath an irreducible, enormously swollen, purplish-hued prepuce, its orifice discharging a foul and purulent fluid which may by auto-inoculation serve to identify the character of the imprisoned lesions, inaccessible save after operative interference. There are often one or two small, tell-tale chancroids on the verge of the preputial orifice, indicating the character of the lesions within the pouch. At times the distress is so great that the glands in the vicinity enlarge by sympathy. The "mixed" chancre in this situation speedily betrays itself by a sclerosis which may often be detected with the thumb and finger through the tissue of the œdematous and empurpled prepuce. Often, too, in public practice these conditions are complicated with gonorrhœa, the pus of which escapes, with that from the sores, through the stenosed preputial orifice. Sloughing may ensue in unrelieved cases, but it is an exceedingly rare result, and need never be feared in any properly treated cleanly patient. In a severe type of complicated disease the glans penis pushes its way through the sloughing upper limb of the foreskin, whose tumid and dependent lower limb presents the odd appearance of a second glans at the extremity of the penile organ.

In paraphimosis the result is different, though the tumefaction may be fully as great, and the destructive action in grave cases may be as formidable. In severe

phimosis the line of ulceration, forming in an effort to relieve the tension, spreads at right angles to the shaft of the penis, in the sulcus behind the proximal roll of œdematous tissue. When chancroids are present, it is rarely the case that this line of ulceration, intended to afford relief, does not suffer infection. In serious states the ulceration spreads upward over the integument of the organ, fusing several of the chancroids present into a single gigantic ulcer. The "subpreputial frill" of writers is the lower limb of an œdematous prepuce, in these cases often retracted and beset with chancroidal ulcers.

Phagedena.—This complication may coincide with or be succeeded by sloughing and gangrene—accidents exceedingly rare in the evolution of the initial scleroses of syphilis, and, as a matter of fact, in the practice of modern medicine rare even in chancroids. When phagedena occurs, however, it is a serious disorder and is usually difficult to manage.

In these cases the result may be due to improper local or general treatment (violent cauterization; subjection of the patient to the action of mercury, under the impression that the disease is syphilitic in nature, etc.), filth, cachexia, struma, and the other causes of local or general deterioration of vigor. There may be extension of the ulcer in one or in all directions by a serpiginous process wherein the disease spreads by virtue of its auto-inoculable virus, and at the same time destroys the tissue in its path. This may be a superficial or deeply spreading process; it may be relatively rapid or, what is more common, exceeding slow and painful, scarcely giving rise to much distress. As the disease spreads in one direction it may heal in another; or it may result

in the production of a large area of ulceration, with uneven and irregular floor covered by a sloughy, pultaceous, and adherent mass; softish base; scanty or semi-purulent secretion; abruptly steep, occasionally undermined, edges; always without sclerotic induration of the base, and, however long its duration, never followed by the signs of systemic syphilis.

One well-marked and fortunately rare type of serpiginous or chronic chancroid has been found so rebellious to treatment and so persistent in its course that it has been regarded by some writers as a modification of true chancroid in the direction of lupus. Some of the forms of so-called *esthiomène* unquestionably belong to this category. In obstinate cases the chancroid persists for a year or more, very slowly spreading over the abdominal surface upward, or downward over the inner or outer face of the thigh. The ulceration may spread superficially or deeply, and in the latter case may even be subcutaneous, burrowing immediately beneath the skin or the fascia, undermining the tissues in areas of the size of a large platter, with fistulous tracts uniting its lines of subcutaneous excavation, the latter here and there communicating with the surface by irregularly set ulcerating openings, suggesting the "man-holes" of a system of sewerage. Here an empurpled integument covers the ramifications of the burrows, ridges, and open ulcers, a thin, virulent secretion destroying slowly what it touches. These features together furnish a characteristic picture. This severe complication of chancroid occurs chiefly in women, particularly among filthy prostitutes, but it is also seen in men and among those debilitated by alcoholism, venery, poverty, hospitalism, and cachexia.

Gangrene, when it complicates chancroid, is usually so promptly destructive of all parts affected that it often serves at once to end the specifically morbid process. Here the accident may be rapid or slow of occurrence, and the gangrene may be superficial, removing merely the sore itself and the tissue on which it rests; or the process may be deep, the slough embracing the glans or the entire body of the male organ, even the testicles being laid bare in the scrotum. Here a blackish or greenish-black slough is seen, involving the whole or a large part of the sore and the tissue upon which it rests. This complication of chancroid is distinguished from phagedena in that it more often attacks filthy men than women. At the outset there is usually a coincident inflammation of the surrounding parts, which often assume an erysipelatous appearance. These severe accidents of chancroid are very much rarer in modern practice than in the days preceding the modern methods of asepsis.

Lymphangitis and Lymphadenitis (Bubo; Chancroidal bubo; Chancroid adenopathy; Vernacular, "Blue-ball;" *Ger.* Virulenter Bubo; *Fr.* Boubon).—Inflammation of the lymphatic vessels and the perivascular tissue is a complication of chancroid, as also of the other venereal diseases. It is rather rare as compared with other accidents of the disease. When the inflammation is well marked the lymphatic trunks may be recognized as tender, indurated, and painful cords, of the thickness of a wheat-stalk or of the little finger, stretching away from the site of the lesion toward the inguinal, pubic, or crural regions. At times the overlying integument is unchanged in color, at others it is of an erythematous hue, and in extreme cases it may even threaten

to burst, as in the case of the glandular disease accompanying the same process.

The lymphadenitis, or bubo, of chancroid differs from that of syphilis chiefly in its inflammatory character and its marked tendency to the production of an abscess terminating by bursting. Primary syphilitic adenopathy, it will be remembered, is characterized by the involvement of several glands, occasionally of but one, in anatomical connection with the region of infection. When the chancre has a genital site, a chain ("pleiad") of densely indurated glands, each of nearly the size and firmness of a marble, neither painful nor tender, can be recognized in one or both groins. Save in the case of "mixed" infection none of these glands exhibits a tendency to inflammatory softening or degeneration, as in the case of the lymphadenitis of chancroid.

When the bubo accompanying chancroid threatens to burst, one or more tender and painful points can be discovered, usually in the inguinal region, representing the sites of as many glands. With greater or lesser rapidity, often in the course of but a few days, all these points, but more often one predominantly, enlarge until the glandular character of the tumor becomes evident, with aggravation of the pain and tenderness, both with and without motion of the muscles in the vicinity. In typical cases the gland, at first merely voluminous and movable, becomes fixed, and the overlying skin is involved in the periglandular inflammation, being then dusky, empurpled, and gradually thinned, precisely as in the case of the integument covering a syphilitic gumma about to burst. Then follow, in course, fluctuation, softening, rupture of the capsule of the gland, which becomes converted into an abscess, and escape of the contents either

into the neighboring subcutaneous tissue or externally through a rent in the skin. When several glands coincidently suppurate a single enormous abscess may result from their fusion. The pus evacuated spontaneously or by surgical procedures is foul, thick, hemorrhagic, and at times auto-inoculable, as in the case of the pus furnished by the original chancroid. The abscess-cavity, when examined after spontaneous rupture, exhibits undermining pockets, grayish, pus-soaked walls, detritus of tissue, and encroachment on the cavity by other glands in the vicinity, either threatening suppuration or only incidentally and less seriously involved.

In some cases of spontaneous rupture of the abscess the lips of the rent speedily become inoculated, and the resulting sore exhibits all the evidences of an enormous inguinal chancroid, its long axis lying irregularly parallel with the line of Poupart's ligament, its edges steep or undermined, its floor pus- and slough-covered, its secretion foul, its ragged lips teased with every motion of the thigh. Many of the enormous chronic chancroids already described as supposed varieties of lupus originate in gigantic ulcerations of this character. Under favorable circumstances, however, with patients of a sound constitution and properly treated, the phases of repair ensue even after exhibition of serious symptoms, and the result is eventual cicatrization with the production of an indelible scar, whether surgical interference be or be not employed.

It is probable, though not wholly demonstrable, that in some cases threatening buboes accompanying chancroids undergo a species of abortion by resorption. Certain it is that the glands in these instances may enlarge and become both painful and tender, with the

result of an eventual resolution short of pursuing the career just sketched. Whether in all these cases the buboes were of the type commonly denominated "virulent," or were merely inflammatory and sympathetic phenomena accompanying the original venereal lesion, cannot be determined.

The symptoms of bubo and of lymphangitis are as distinctly marked in women as in men, but the rarity of these complications among women is remarked by all observers.

In men buboes occur in from 10 to 30 per cent. of cases of chancroid, the figures changing according to the class from which the author collects his statistics. Hospital patients are much less liable to exhibit these complications than the filthy class of dispensary out-patients in large cities. In private practice typical bubo in the more cleanly classes is decidedly rare, and may occur soon after the first appearance of the chancroid, or may succeed complete cicatrization of the inguinal sore. Occasionally the bubo develops with typical features when there has been no suspicion of chancroid, this lesion being discovered later lying behind or near the frænum. At times the bubo, in consequence of decussation of the lymphatics, forms on the side opposite that on which the sore originally appeared.

The etiology of bubo is in part obscure. Exciting causes are, assuredly, weakness of the constitution, filth, over-exertion, improper treatment of the original sore, neglect of the implicated region aside from lack of cleanliness, and enormous multiplicity of lesions. "Virulent" bubo may, however, occur when none of these supposed causes has been in operation, though, fortunately, this event is rare.

With respect to the presence of micro-organisms of an etiological significance in the pus of a chancroid bubo, and the possibility of reproduction by auto-inoculation, opinions differ. By some writers it is held that typical chancroid of the groin caused by the bursting of a bubo in that region results from inoculation of the lips of the wound, not with the pus originally contained in the abscess-cavity, but with that furnished by the yet unhealed chancroid. The results of experimentation are not conclusive. At times the bubo, however, as already seen, develops only after the sore has healed; in such cases, of course, the possibility of infection of the bubo from the chancroid is set aside. In these cases, as also in those where total excision of the chancroid has been practised before inoculation-experiments, and where the pus employed in such experiments has been withdrawn by aspiration from an unopened inguinal abscess, the results are not satisfactory. It has already been shown that the micro-organism of chancroid has not yet been so definitely demonstrated that its presence or absence can be trusted in the determination of the character of any lesion. Of the micro-organisms of Ducrey and Unna, which are unquestionably identical, it may be said that they are most often not demonstrable in the pus furnished by a chancroidal bubo. It has hence been inferred that bubo was caused by some ptomaïne resulting from the invasion of a strepto-bacillus, but all this as yet lacks proof. Whether, then, the micro-organisms themselves or their toxines are conveyed from the site of infection to the gland or glands which suffer as a consequence, it is merely certain that the germs and their products are originally related to the infective process, and that in no other disease do inflammation and sup-

puration of the lymphatic glands present precisely the same picture as in the bubo accompanying chancroid.

Diagnosis.—The indications of importance in the diagnosis of chancroid are, first, when practicable, to exclude positively the presence of syphilis, either in initial sclerosis or in later manifestations of systemic disease; second, to remember that the possibility of mixed chancre clouds every case until the longest period of incubation of syphilitic chancre has elapsed without symptoms of the disease; third, to recall the most significant characteristics of the chancroid, which are its occurrence without an incubative interval, its lack of induration, its continuously purulent character, its multiplicity, its auto-inoculability, its inflammatory symptoms, and its bubo. In all doubtful cases the decision should be reserved until a definite period has elapsed. Periurethral phlegmon is distinguishable by its defined outline and inflammatory character, its frequent complication of a previously existing urethritis, and its situation, which is usually near the distal extremity of the male organ and in the body of the corpus spongiosum.

In distinguishing between venereal lesions (including chancroid) and non-venereal disorders of the genital region, the age, occupation, character, habits, and antecedents of the patient should be considered. An epithelioma of the penis or of the clitoris is rare in youth, while a majority of all the affections acquired in the sexual act originate in the second, third, and fourth decades. Patients in middle life with no venereal antecedents are in a different category from those who have suffered from repeated attacks of urethritis or "chancre." Commercial travellers, women having public occupations, and residents of large cities are more exposed to the

accidents of genital infection than are those who live in the country and those who are surrounded by the safeguards of a home.

The most striking differences between chancroid, syphilitic chancre, herpes progenitalis, and a few of the more common affections of the muco-cutaneous surfaces of the genital region are exhibited in the appended table.

CHANCROID.

History	Occurs in subjects of syphilis and others; prior sexual exposure.
Etiology	Infection, accidental or intentional, by medium of pus from chancroid or chancroidal bubo; usually in or near the ano-genital region.
Incubative stage	None after actual access of virus to lymphatic channels. Lesion rarely later than one week after infection.
Lesion:	
site	Most commonly genital; rarely extra-genital.
character	Pustulo-ulcerative lesion throughout; few exceptions.
number	Multiple, as a rule, both at the outset and by subsequent auto-infection. Rarely, though at times, unique; occasionally very numerous.
color	Pustule yellowish; ulcer, when wiped clean, florid; crusts greenish and blackish.
contour	Round, oval, and when fused, circular.
Subjective sensations	Pain, tenderness, soreness, occasionally great pain.
If ulcerating, base	Engorged, soft, supple when not cauterized, rarely indurated.
floor	Pus-soaked, slough-covered; showing ragged tags.
edges	Abrupt, steep, punched-out; at times undermined.
secretion	Foul, purulent, hemorrhagic, often offensive in odor.
crust	Bulky, blackish-greenish; often concavo-convex, forming roof of a pus-chamber.
Inoculability and auto-inoculability	Auto-inoculable indefinitely; with difficulty transmitted to animals. Infection of genital region commonest.
Induration	Base, as a rule, non-indurated; supple; if inflamed, boggy, indeterminate in outline; non-elastic, attached to adjacent tissue; if deeply cauterized or irritated, at times indurated, simulating sclerosis of syphilis.
Career	Usually in uncomplicated cases a cycle, from initial pustule to cicatrization, of from six to eight weeks. Resulting indelible scar.

CHANCRE.

History	Follows infection at any point of the body, usually in non-syphilitic subjects.
Etiology	Infection with syphilitic virus (sexually or by accidental or intentional inoculation, as in tattooing, vaccination, nursing upon the nipple, etc.).
Incubative stage	Usually between ten and thirty days; average, twenty-one days.
Lesion:	
site	Any infected region of the body.
character	Minute, blunt lesion with erosive surface, dry or moist papule, or large tubercle.
number	Usually single, rarely multiple; if the latter, multiple at the outset, and not by later auto-inoculation.
color	Raw-ham; dull-reddish; scales at times changing the hue.
contour	Highly irregular, observing chiefly the peculiarities of anatomical site; when on a free plane surface, usually rounded or oval.
Subjective sensations	Often entirely wanting; at times somewhat painful.
If ulcerating, base	Thin, circumscribed, or enormous and well-defined.
floor	Shallow, erosive, smooth.
edges	Scarcely apparent; often ill-defined; at times elevated like the lips of a small crater (Hunterian type).
secretion	Scanty and thin, unless accidentally or intentionally irritated.
crust	Scarcely ever formed.
Inoculability and auto-inoculability	Non-auto-inoculable save in "mixed" infection.
Induration	Characteristic; marked; thin and papery; or dense, ivory-like, non-adherent, movable, insensitive to pressure, defined.
Career	May persist for months after general symptoms appear, or may practically disappear within six weeks; usually, in uncomplicated cases, no scar resulting.

CHANCROID.

Accidents:	
lymphangitis	May occur, but rare.
bubo	In one-tenth to one-third of male cases.
phagedena	In neglected and ill-treated cases not rare.
gangrene	In exceptional cases severe and even grave.
Systemic results	In protracted cases deterioration of general health.
Influence of treatment	Systemic treatment worthless; local treatment of highest value.

Bubo.

Date of appearance	At any time, even soon after healing of lesion.
Symmetry	Usually monolateral, with involvement of several glands, one predominantly; occasionally bilateral.
Frequency	One-tenth to one-third of all cases in men.
Number of involved glands	Often one gland only, rarely more than two, typically involved.
Size	From large nut to goose's egg; at times as large as small cocoanut.
Inflammation, glandular and periglandular	Classically developed, with involvement of overlying integument, heat, pain, redness, and swelling.
Induration	Non-indurated.
Career	Resolution; or, more commonly, suppuration, with indelible scar resulting.
Infectiveness of pus	In cases auto-infection from pus; in others non-auto-inoculability.
Diagnostic value of treatment	General treatment unavailing; local treatment imperative.
Lymphangitis	Rare, but of occurrence.
Situation	Usually in males, along dorsum and toward root of penis.
Color of overlying integument	Inflammatory hue.
Pain and tenderness	Often well marked.
Career	Proceeds to resolution, more rarely to suppuration.

CHANCRE.

Accidents:	
lymphangitis	Occasionally noticed; then painful.
bubo	Characteristic and constant.
phagedena	Almost never occurs.
gangrene	Very rare; occurs only in cachectic patients.
Systemic results	Occur in various grades of severity in all cases.
Influence of treatment	Effective at an early stage.

Bubo.

Date of appearance	Within a fortnight after development of initial sclerosis.
Symmetry	Bilateral as a rule; at times symmetrical.
Frequency	Constant. At least one gland is affected in every case.
Number of involved glands	Usually several glands, one or both sides of the body.
Size	Uniformly moderate, cherry- to large-marble-sized.
Inflammation, glandular and periglandular	None in uncomplicated cases.
Induration	Firmly and densely indurated.
Career	Termination by resolution; scars rarely result.
Infectiveness of pus	No pus, save in mixed cases.
Diagnostic value of treatment	General treatment effective.
Lymphangitis	Rare.
Situation	Usually in lines proceeding from site of sclerosis.
Color of overlying integument	Rarely, though occasionally, congested.
Pain and tenderness	May be absent or as severe as in chancroid.
Career	Rarely suppuration; usually resolution.

Herpes Progenitalis.

History	Previous recurrence at irregular intervals after digestive disturbances, venery, uncleanliness, and other sources of general or local irritation.
Etiology	All local irritations, chemical, mechanical, and physiological, and the general factors producing the neuroses.
Incubation	None.
Lesion:	
character	Vesicles and sequels of vesicles.
number	Multiple, as a rule; rarely very numerous, often grouped, occasionally confluent.
color	Floors of broken lesions slightly florid.
contour	Separate lesions rounded.
subjective sensations	Tingling, pricking, itching.
If ulcerating	No true ulcer forms. When ulceration occurs, there is invariably mixed infection; at times exceedingly superficial erosions occur.
base	Imperceptible.
floor	Smooth, at times florid.
edges	Scarcely appreciable.
secretion	A thin, colorless serum.
crust	Very superficial and thin, like a delicate scale.
Inoculability and auto-inoculability	Only in cases of mixed infection.
Induration	Absolutely none; pseudo-induration produced by caustics, etc. injudiciously or improperly applied.

Other Local Disorders of the Skin and Mucous Membrane.

History	In balanitis, the same local irritations as in herpes; in verruca, usually precedent gonorrhœa; in psoriasis and eczema, lesions of other regions; in epithelioma, persistence for long period before examination.
Etiology	Local irritations in eczema and balanitis; infection in scabies; irritating secretions (gonorrhœal, etc.) in verruca.
Incubation	None.
Lesion:	
character	Superficial multiple and confluent excoriations in balanitis; pustules in eczema and scabies; scales in eczema and psoriasis; warty papules or plaques in epithelioma; warty growths in verruca.
number	Usually multiple in all; occasionally but one pustule in scabies, and a single verruca; often patches in eczema and psoriasis.
color	Whitish in psoriasis; yellowish in scabies, with blackish cuniculus; reddish, crimson, and purplish in balanitis; florid or smeared with whitish mucus in verruca; dull-reddish in epithelioma.
contour	Irregularly rounded excoriations in balanitis; defined patches in psoriasis and some of the eczemas; usually pedunculated warts; poor definition in epithelioma.
subjective sensations	Itching in scabies and eczema; occasionally burning in epithelioma.
If ulcerating	Ulcer only in late stages of epithelioma and in mixed infection of balanitis.
base	Insignificant.
floor	Insignificant.
edges	Insignificant.
secretion	Insignificant.
crust	Insignificant.
Inoculability and auto-inoculability	Only in cases of mixed infection. Scabies transmitted by acari; a few of the eczema forms are infective from the presence of trichophyton, mucors, etc.
Induration	None save in well-developed epitheliomatous wart.