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ON

VENEREAL AND OTHER DISEASES

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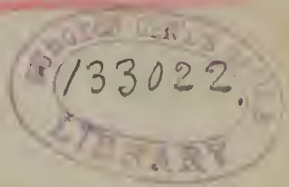
SEXUAL INTERCOURSE.

DELIVERED IN THE SUMMER OF 1817, AT THE HÔPITAL
DU MIDI, PARIS,

Phillips
BY M. RICORD.

REPORTED AND TRANSLATED

BY VICTOR DE MERIC, M.D., M.R.C.S.E.



PHILADELPHIA :

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ADVERTISEMENT.

THE following Lectures were first published in the London Lancet for 1847-8. Having so recently appeared in that journal, the publishers feel justified in offering them to the American reader, without annotation or addition; but subjoin an Index for convenient reference. The high reputation which M. RICORD has attained as an author and teacher is a sufficient guaranty of their value.

The editor of the Lancet pays a just tribute to the admirable manner in which the reporter and translator has executed his part. He says:—"Dr. DE MERIC has performed his task with so much ability, in first recording the Lectures with exceeding accuracy, and then in a bold and masculine style presenting us with their translation, that M. RICORD has reason to be proud of finding so able a coadjutor

in this country. Dr. DE MERIC could not have employed the acute and searching powers of his mind upon a work more remarkable either for its originality or for its value; and it may be said that both author and reporter are entitled for their labours to the respect and admiration of the profession.”

CONTENTS.

	PAGE
INTRODUCTORY LECTURE	13
LECTURE II.	
Blennorrhagia and Chancre	18
LECTURE III.	
Blennorrhagia; History; Nomenclature; Localities; Causes	24
LECTURE IV.	
Continuation of the Causes of Blennorrhagia; Symptoms; Progress; Duration; Complications; Diagnosis; Prog- nosis; Prophylaxis	34
LECTURE V.	
General Remarks on the Treatment of Blennorrhagia; Varieties; Operations for Phimosis and Paraphimosis .	43
LECTURE VI.	
Urethral Blennorrhagia (Urethral Mucitis, Blennorrhagic Urethritis)	55
LECTURE VII.	
Treatment of Blennorrhagia	66
LECTURE VIII.	
M. Ricord's Defence of the New Doctrine	74

	PAGE
LECTURE IX.	
M. Ricord's Defence of the New Doctrine (<i>concluded</i>)	83
LECTURE X.	
Treatment of Blennorrhagia (<i>concluded</i>)	92
LECTURE XI.	
Blennorrhagic Affection of the Testis	104
LECTURE XII.	
Vaginal Blennorrhagia	119
LECTURE XIII.	
Treatment of Blennorrhagic Ophthalmia	136
LECTURE XIV.	
Phenomena resulting from the Inoculation of Virulent Matter; Duration and Progress of the Syphilitic Period; Phagedænic Chancre; Indurated Chancre	153
LECTURE XV.	
Deviations from the usual Progress of Indurated Chancre; General Diagnosis; Urethral and Anal Chancres; Prognosis	163
LECTURE XVI.	
Treatment of Chancre; Prophylaxis; Abortive and Subsequent Treatment	172
LECTURE XVII.	
Continuation of the Local Treatment of Chancre; Treatment of Phagedænic Ulcerations; Bubo	182
LECTURE XVIII.	
Prognosis of Bubo; Treatment; Constitutional Syphilis; Heredity	193

LECTURE XIX.

- Continuation of Hereditary Syphilis; Mechanism of the Infection; Premonitory Symptoms of Secondary Syphilis; Eruptions, etc.; Mucous Papules or Condylomata 204

LECTURE XX.

- Secondary Eruptions; General Characters and Differential Diagnosis 215

LECTURE XXI.

- Syphilitic Iritis; Onychia; Affections of Mucous Membranes; Prognosis of Secondary Symptoms 223

LECTURE XXII.

- Treatment of Secondary Syphilis; Action of Mercury; Anti-Mercurial Medication; Doses, etc. 230

LECTURE XXIII.

- Mercurial Treatment of Syphilis 238

LECTURE XXIV.

- Continuation of the Treatment of Secondary Syphilis; Tertiary Symptoms; Sarcocele 246

LECTURE XXV.

- Treatment of Syphilitic Sarcocele; Tertiary Muscular Affections; Elastic Tumours; Lesions of the Fibrous and Osseous Textures 255

LECTURE XXVI.

- Nodes; Syphilitic Exostosis, Osteitis, Caries, and Necrosis 263

LECTURE XXVII.

- Tertiary Affections of the Lachrymal Apparatus; Treatment of Tertiary Symptoms 273

	PAGE
LECTURE XXVIII.	
Treatment of Nodes; General Recapitulation	282
APPENDIX.	
Formulary of Medicines	287

LECTURES

ON

VENEREAL AND OTHER DISEASES.

INTRODUCTORY LECTURE.

THE affections we are about to study have for a long time been classed together under the name of venereal diseases; but I intend to comprise under this denomination (which latter I adopt merely as a generic term) diseases essentially different; as, for instance, blennorrhagia and chancre. Indeed, I fully believe that, in the present state of science, it is difficult to give an accurate definition of venereal affections. However, in grounding such a definition upon that connexion between them which is the most usual and best known,—viz., their actual origin,—they might be defined as complaints arising, more or less directly, from sexual intercourse. This definition is no doubt defective in several respects, but I could not possibly frame any other which, without exposing me to any reproach, would combine so clearly the whole range of the diseases which will now occupy us.

The venereal disease is indeed, of all others, the

most disseminated, the most varied in its symptoms, the commonest and most regular in its progress; it sometimes gives origin to other maladies, whilst at other times it complicates them. The study of it, already very interesting in this respect, is no less so in several others,—for instance, as regards morals and hygiene. The latter topics I shall discuss when I come to speak of causes, contagion, and hereditary taint. The medico-legal questions connected with the disease will likewise be treated; and we shall then see how these matters have been handled, and how absurd the conclusions that have been drawn must appear to those who are really initiated in the science of these affections.

A question which has often been debated, and which is by no means solved as yet, is the inquiry about the origin of the disease. No light has hitherto been thrown on the subject, and it may safely be asserted that the immense labours of Astruc, Sanches, Gittner, and many others, have had no satisfactory results. When we view the venereal disease as it now reigns; when we take into account the circumstances which surrounded the ancients; we must come to the conclusion that the disease has at all times existed. We find in the Scriptures descriptions of complaints which might very well be referred to blennorrhagia; truly syphilitic affections, however, are not mentioned in them; but then, what are we to think of *Lepra*?

Hippocrates speaks of an ulceration of the genital organs; Galen mentions the contagious nature of blennorrhagia; and Celsus gives a description of the different affections of the parts of generation. It must be confessed that the latter speaks neither of their causes nor diagnoses, but he overlooks these matters also in the description of other diseases. The Greeks, the Arabs (*Avicenna*, *Aretæus*, *Albucasis*), the physicians of Rome, have one and all

given descriptions which cannot be mistaken. William de Salicet and Gordon give detailed accounts of ulceration of the genitals, and they attribute them to intercourse with women neglectful of cleanliness, and who abound in sanies (1467). Proceeding chronologically, we reach the famous epidemic of 1493-94. This was really a revolution for the disease, not only with reference to the study of the same, but with regard to the ravages it made at that period. The constitutional manifestations caused the local affection to be overlooked,—all the mischief was attributed to the former, and they alone fixed the attention. At that time, then, the disease was looked upon as an inseparable whole. But these hasty views soon gave place to a calmer consideration of the subject, and the links which had been made to connect the heterogeneous parts of these affections were broken asunder.

Alexander Benedict gave his contemporaries a glimpse into the origin of the syphilitic poison. Fernel studied its source, and the different accidents which may follow it. At last, John Hunter came and laid the true foundation of the science of venereal affections. From Hunter's time until 1811, 12, and 13, no advance was made. At this period arose a violent opposition to the then existing doctrines, and it threatened to overthrow all that had been taught since 1493. According to the supporters of the new theory, specificity was an illusion, irritation and inflammation were to account for every thing. These bubbles, however, soon vanished, the spirit of observation triumphed, and venereal diseases resumed their proper bearing; all varieties were placed under the same category, and from that time improvements went on steadily.

In order to appreciate the value of history, it must be remembered that the ancients, up to the famous epidemic, were acquainted with local symptoms; the only

mistake they were making was, that among these local symptoms they did not distinguish the specific from the non-specific. But it has been asked—How did it happen that these same ancients, being familiar with local appearances, did not hit upon the connexion existing between these and constitutional symptoms, or, in other words, the connexion between cause and effect? I answer to this, that they likewise overlooked the relation of simple wounds of the genital organs with the appearances arising from them in neighbouring parts—viz., the relation between epididymitis, blennorrhagia or bubo, and a simple wound of the penis. Besides, it is very possible that the secondary symptoms, which we now regularly observe within a stated period, might have been much more tardy with them, so as to make the connexion pass unnoticed! Is not this very connexion forgotten in our own days by men who daily come into contact with this disease? I may ask, moreover, whether it is proved that syphilis alone was concerned in the epidemic of 1493? Could not glanders, farcy, typhus, &c., &c., have had something to do with it? Did not the famine and misery caused by the wars of Charles V., the expulsion of the monks from Spain,—did not all the disasters of those times, contribute to the outbreak of that fearful epidemic?

When people came to be at a loss as to the origin of syphilis, they thought of ascribing it to unnatural connexion, to the influence of the stars, the heavenly wrath, the air, the water, even to anthropophagy, &c., &c. But is it not more natural to believe, that the epidemic spread under the agency of a cause which had rendered the human body more accessible to the general infection? Do we not every day see patients who, having become locally affected, surrounded by certain circumstances, have escaped secondary symptoms; and who, at other times, under

different circumstances, affected in the same way as before, exhibit secondary accidents?

After this epidemic, the venereal disease became again what it had been before, now that the epidemical tendency was disappearing.

It is in the fifteenth century, too, that the American fable was invented. Sailors were said to have imported the disease from St. Domingo into Italy. Here we must notice that the faculty of inoculation must have been preserved during so long a voyage, and I do not think this at all probable. Besides, how can we imagine that a few men could, at the same time, have infected so many nations? Other circumstances were evidently necessary; and I do not hesitate to consider all this as a mere story. But even were we to admit that we are indebted to the Americans for the venereal disease, we would thereby only remove the limits of our inquiry still further. Could not the Americans ask us, or ask themselves, where *they* had it from? It is quite certain that the disease is not more innate in that country than in any other; and as for the elevated temperature which has been looked upon as one of the causes of the development of syphilis in America, it may be objected that the temperature of some parts of the eastern hemisphere is just as high. We all know that the Arabs successfully used mercury in skin diseases, and that now-a-days we cure with this metal only those cutaneous affections which have a syphilitic origin. Could we not hence infer that these diseases had a syphilitic nature?

This sad complaint has arisen wheresoever sexual intercourse took place; and Voltaire was quite right when he said, It is with Syphilis as with the Fine Arts, it grows, comes to perfection, and no one knows whence it came.

LECTURE II.

BLENNORRHAGIA AND CHANCRE.

THE modern school has succeeded in re-constituting the great family of venereal diseases ; it has attained that end by taking as its basis the experience of past times, by having recourse to experiments, and by bringing together well-authenticated facts. We shall divide this great class into two orders : the first will comprise the non-virulent venereal affections, of which blennorrhagia is the type ; the second will include the virulent, and the type of these is chancre.

Before entering into the details relative to each of the different affections of which these two orders are made up, I will lay before you some general characters which will at once contrast these orders.

First order.—Blennorrhagia, which is the type of this order, invariably affects the catarrhal form ; its seat is always on mucous membranes ; it is connected with no absolute specific origin ; it arises under the influence of the usual causes of spontaneous inflammation in man, resulting from the shock of the passions ; it is contagious, but not necessarily so ; it produces no specific results by inoculation on the skin ; it does not contaminate the system, and is therefore not transmissible by heredity ; it gives rise to phenomena in the organism which have been ascribed to sympathy, metastasis, repercussion, &c. ; it may cause accidents, in the same individual, which result from self-contagion, and which yield to certain specific substances, as resins, &c. ; and lastly, it is aggravated by mercurials, or by preparations of iodine.

Second order.—Chancre, which is the type of the virulent order, invariably affects the ulcerative form; it arises from a specific cause, and from a virus which has definite characters; it develops itself wherever it has been inoculated, either on mucous membranes or the skin; it does not appear spontaneously in man, and finds no one refractory to his action; it contaminates the system so as to alter its natural disposition, and establishes a new diathesis—viz., a morbid tendency in the constitution to produce accidents of a specific character; it is transmissible by heredity, and brings all the sympathies of the system into play, being, in this respect, under the influence of agents quite the opposite to those we noticed in the first order; and lastly, in most cases it yields to mercury.

Such are the general characters of these two orders of diseases; but certain authors have included in the class of venereal affections various appearances which they looked upon as syphilitic manifestations—viz., glandular enlargements, constitutional buboes, vegetations, &c. We shall study these lesions very carefully, so as to distinguish them from truly venereal accidents. I shall also take care to mention the effects produced by the administration of certain substances which have been mistaken for syphilitic phenomena—for instance, the roseola resulting from copiba, the eruptions produced by the introduction of mercury or preparations of iodine into the system.

We shall likewise perceive, in the course of our investigations, that venereal diseases present complications which are apt to modify their form, course, &c.; they may complicate other affections, or be themselves altered by intercurrent maladies. So that I may fearlessly assert, that a thorough knowledge of all other diseases is eminently necessary in order to study syphilis effectually; and I likewise repudiate the name of “special practitioner,” which appella-

tion ought not to exist in the sciences, and should, above all, find no place in medicine.

I might enter minutely into the consideration of the circumstances which have sometimes led into error those who study venereal diseases; I might quote, for instance, the difficulty of rightly observing the deceptions practised by patients upon their medical attendant, the exigencies of society, &c.; but their enumeration is useless—you may easily guess them. I must, however, add, that although these same circumstances are well known to authors on syphilis, they have entirely overlooked them, and have thereby harboured erroneous notions, which have of late been the cause of so many discussions.

Most of the cases which have been called up against the doctrine I advocate had, in some degree, been written under the patient's own dictation, and full reliance was placed in their statements! No means were then known of exploring regions where peculiar accidents lay thoroughly concealed. How could I rely on the exactitude of those cases with that utter confidence exhibited by the men who brought them against me? whilst, even now, I meet with many which, in spite of my being in possession of exploring means of a very satisfactory nature, I cannot clearly make out.

You see, then, that it is indispensable to search for morbid appearances, wherever they may be seated, in order to arrive at unerring conclusions; and, in fact, the statements of patients must be looked upon as of no value.

It was in 1831 and 1832 that I began to use the speculum in search of venereal accidents hidden in regions where no one before me had thought of looking for them. At about the same period, I commenced my experimental inquiries on inoculation. This mode of experimenting was soon vigorously attacked. With some, it was ignorance and cupidity

which induced them to assail me ; with others, timidity, and an indifference to the progress of science ; almost all, however, were jealous to see me continue the great labours of Hunter, Bell, and Hernandez. Our science can only be fostered by experiments, and they alone have yielded those positive results which have annihilated all the arguments framed by hatred, jealousy, and falsehood.

In 1831 began the downfall of the old doctrine (at that time the Hôpital des Vénériens was under the direction of M. Cullérier—a man alike distinguished by superior talents and integrity), and authors on syphilis split into two parties—the one attributing all to specificity, the other rejecting it entirely ; whilst both sadly confounded chancre and blennorrhagia. The first were enthusiastic mercurialists, the latter tormented by hydrargyrophobia. To unite these two doctrines was now a problem, the solution of which promised excellent results. The difficulty consisted in separating the specific from the non-specific diseases—viz., to distinguish chancre from blennorrhagia ; but the data necessary for establishing a true diagnosis were at that period so deficient that it was impossible to attain that end. What was urgently required, before all, was to renovate the diagnostic science, and to find for it another basis. There were two means of accomplishing this : first, by exploring the regions which *might be* the seat of venereal accidents, and by studying the latter ; and secondly, by investigating their properties.

One of the most striking facts connected with these accidents is, that they possess in themselves the faculty of reproduction ; artificial inoculation, then, offered an excellent means of placing the morbid appearances in circumstances the most favourable for observation. Encouraged and assisted by the labours of Hunter, Bell, Hernandez, Prein, &c., I boldly entered the path of experimentation. No sooner had I begun,

than detractors arose on all sides, but they were constantly crushed by those who followed my example. My honoured professional brethren, Messrs. Puch, Serre, De Montpellier, Baumès de Lyon, and Reynaud de Toulon, repeated my experiments, and obtained nearly the same results.

I had my choice of three different modes of inoculation,—1st, auto-inoculation; 2d, inoculation from an affected to a non-affected individual; and 3dly, inoculation of a syphilitic patient upon himself. This latter I adopted, and it is evidently the only mode which ought to be used. The inoculations I made, have given at one time positive, at others, negative results; the former are always of a definite value, the latter have value only in certain circumstances, and when the inoculation has been practised within a space of time which I shall fix in the subsequent part of these lectures.

When inoculation, employed as a means of study, has yielded characteristic results, it may be arrested and its effects prevented. It was, of course, highly important to ascertain this, and it is satisfactory to know, that this mode of experimenting has no influence on the chances of constitutional infection, and that the effects of inoculation may be immediately arrested, provided it be done in time.

But let me now enumerate the objections which have been made against this peculiar mode of investigation.

It has been stated—1st. That any pus, being inoculated, would produce a pustule. This argument falls to the ground; for if, on the one hand, pus, resulting from blennorrhagia, be inoculated, and on the other, pus taken from a chancre in its specific period, the first will yield nothing at all; the second will produce an inoculable pustule—a true chancre.

2d. That inoculation goes for nothing, because it is practised on an individual already full of pus. But

were we even to admit that the man is full of pus, why does the puncture of a needle or the inoculation of blenorrhagic pus produce nothing? Why does the inoculation of pus from chancre alone produce a characteristic pustule—a chancre, in fact?

3d. That in making inoculations, I aggravated the local disease. (This is rather contradictory, since it had been objected before, that inoculation yielded no result at all.) To this I answer, that nothing untoward has ever happened in my practice as a sequel of inoculation; for I always arrest its effects before the fifth day, by destroying the pustule with *potassa fusa cum calce* (pâte de Vienne).

4th. That I increased the chances of general infection by the practice of inoculation. (From another quarter it had been already stated that the contamination of the system always *preceded* the development of chancre: this shows what sort of logic may be expected from these men.) I have proved that a chancre, destroyed before the fifth day of its appearance, was never followed by secondary symptoms; and moreover, that the contamination of the system is not in the ratio of the number of primary sores, but that, on the contrary, the indurated chancre, which always produces general infection, is, for the most part, solitary.

5th. That in cauterizing chancres, I drove the disease towards the inner organs, and prevented its exit; that, in fact, I locked up the wolf in the sheepfold. Now the practice to be deduced from these opinions would be, that the local manifestations must be allowed to take their course, and not be destroyed; that as many outlets for the disease should be established, in order quickly to drive the wolf out of the fold, and thereby multiply the inoculations. This is, indeed, too absurd to need a discussion in this place, and I will now close, by stating, in a few words, the different data which experience has furnished:—1. Primary sores are not always followed by constitutional

infection.—2. Primary sores are the more troublesome the longer they have been allowed to proceed undisturbed. 3. There is no dependence between the development of secondary symptoms, and the number, seat, or size, of the sores. 4. A chancre, followed by the contamination of the system, is usually solitary. 5. Primary sores, destroyed before the fifth day of their appearance, by being thoroughly cauterized with the *pâte de Vienne* (punched out, as it were), are never followed by secondaries.

We, then, may safely have recourse to inoculation; it is the only means of distinguishing blennorrhagia from chancre, and of establishing, in syphilitic accidents, a difference between those which are primary and those which are secondary—viz., the result of general infection.

LECTURE III.

BLENNORRHAGIA; HISTORY; NOMENCLATURE; LOCALITIES; CAUSES.

LET US NOW commence the study of the venereal disease by the order of the non-virulent—viz., blennorrhagia. The name of blennorrhagia has been given to the affection which is looked upon as the type of the non-virulent diseases. This name was introduced by Swediaur, and is, however, not the only one that has been given to this discharge from the genitals. The ancients called it *profluvium seminis*, *gonorrhœa*; later it was designated by the name of *urina purulenta gonorrhœa Gallica*; afterwards came *venereal catarrh*, &c., but Swediaur's appellation is the one which has remained, and which I have adopted. I must, however, state, that it

cannot be looked upon as more exact than the others, for this discharge is not always of the same nature; it consists at first of mucus, then of muco-purulent matter, and, finally, of pus alone; should the blennorrhagic inflammation reach as far as the vesiculæ seminales, it may happen that the matter contains seminal fluid, then of course, the term blennorrhagia would be no longer applicable. A name rigorously consistent with the true nature of the affection would be *mucitis* (inflammation of a mucous membrane). It is extremely difficult to give a good definition of blennorrhagia, and this difficulty mainly arises from the multiplicity of the causes and circumstances which influence its development. At all events, I may venture to state that blennorrhagia is a peculiar inflammation of certain mucous membranes, arising from sexual intercourse. In looking through the different works on the venereal disease, it will be seen that in some a distinction is made between blennorrhagia and syphilis, that in others they are confounded, and that in the remainder blennorrhagia is entirely forgotten. Its existence in very remote times cannot for a moment be doubted, for a description of it may be found in the Scriptures; it is moreover in some degree endemic among the lower animals, and as these existed before man, it may, I think, be admitted that blennorrhagia likewise existed before him.

Galen has mentioned a discharge from the genital organs, transmissible by contagion, but at the time of the epidemic I before mentioned, the conspicuous phenomena which characterized syphilis so riveted the attention, that blennorrhagia was quite overlooked. John de Vigo, Ménard, Hulric, who wrote works on the venereal disease, do not speak of blennorrhagia; Paracelsus mentions a few words about it, but he considers it as the result of the old lepra combined with the new epidemic.—Such is the first period of the history of blennorrhagia. The writers of the

second period, Nicolas Massa, Massiola, Frascator, who have left descriptions of the epidemic, do not mention blennorrhagia; they probably looked upon it as an accident quite distinct from syphilis. By the side of these books, however, there are others written at the same period, which *do* contain something of a discharge from the genitals; and Fernel, who has evinced a very superior knowledge of venereal diseases, who was fully acquainted with all the circumstances connected with the contagion, and who had seen primary as well as secondary sores, mentioned blennorrhagia, and considers it by no means a new disease. In 1564, Fallopius called blennorrhagia a separate symptom of syphilis, and considered it as a new affection. Astruc thought that this symptom did not exist during the epidemic of 1493; he supposes that the different appearances which characterize the evolution of syphilis, have originated at divers periods; so that according to him buboes were known first, then the attention was drawn to singing in the ears, then came the loss of the hair, and so on. This opinion is erroneous: a glance at the development of secondary symptoms will show it immediately. Most of the medical men who studied blennorrhagia after Fallopius, were convinced that this affection was essentially inherent to variola, properly so called. Hunter, who had on his side experience and sound reasoning, fell, nevertheless, into error. Up to the time of Balfour, Jod, Benjamin Bell, and Duncan (the two latter gave more development to Jod's ideas), no effort had been made to assign to blennorrhagia the place it was to occupy. However, the experiments of these authors caused a division to take place among the writers on syphilis, and established a real distinction between blennorrhagia and chancre. M. Baumès de Lyon, moved by a spirit of conciliation, attempted to bring about a connexion between these two diseases; to attain

this end, he admitted for blennorrhagia a semi-virus ; this latter was to have the same origin as chancre, was to possess some of its peculiarities, but he devoid of a few of its properties. Of course he agreed that the blennorrhagic pus could not produce chancre ; that the infection following blennorrhagia was comparatively slight, and that for the most part, it produced only roseola.

Now to come to our own times. I am happy to say, that after an experience of sixteen years, aided by numerous experiments, and by the study of cases very carefully taken at the bed-side of the patients, I have succeeded in giving every one his due. Inoculation has been the means of bringing to light the why and the wherefore of the exceptional cases brought forward by Bell, Hernandez, and their followers ; and by the discovery of the urethral chancre, I have shown how it came to pass that blennorrhagic pus had been believed to yield positive results when inoculated.

Mucous membranes are usually the seat of blennorrhagia ; it may, however, be likewise met with where the skin is continuous with such a membrane (umbilicus, anal region) ; yet the most common and the special seat, for both sexes, is the urethra. After it, the eye and the anus may be mentioned ; blennorrhagic ophthalmia is pretty frequent ; and the blennorrhagia, properly so called, is extremely rare ; and the discharge which is sometimes noticed at the lower end of the rectum, is mostly symptomatic either of syphilitic accidents, hæmorrhoids, or other affections. If nasal and buccal blennorrhagia exist at all, they must be excessively rare ; I have never met with them. There are also peculiar species of blennorrhagia for each sex ; for instance, with man we have the blennorrhagia of the glans, or of the semi-mucous membrane lining the prepuce, or of both together (false blennorrhagia, gonorrhœa spuria, external blen-

norrhagia, balanitis, βαλανοσο, glans posthitis, ποσθιτις, foreskin, balano-posthitis); in the other sex, there is the blennorrhagia of the vulva, or blennorrhagic vulvitis; vaginal blennorrhagia, or blennorrhagic vaginitis; uterine blennorrhagia; uterine catarrh: each of these organs may either be attacked singly, or two at the same time may suffer; they are sometimes affected in different combination, or they may be involved all together.

Many authors have described, in the regions I have just mentioned, specific seats—namely, those where blennorrhagia must necessarily arise, if it is to appear at all; and Hunter has gone so far as to put this question—Whether a blennorrhagia, having the fossa navicularis for its specific seat, retains the same character when it has extended beyond that point? M. Layneau maintains, that the virulent secretion takes place on the anterior part of the urethra, and that the posterior part of this canal, on which the secretion becomes effused, absorbs it again. In females, De Graef admitted the follicles which surround the vestibule as a specific region, and Daran, the uterus.—But M. Mouliniè, of Bordeaux, has lately committed himself so much as to maintain that the mucous glands of the vulva (which are Cowper's glands in the female) secrete the virulent pus.

Let me close what I have said about the seat of blennorrhagia, by a few words concerning the textures where it generally arises. The alterations of tissue which accompany blennorrhagia may be more or less deep; the study of these belongs to general pathology. The first degree of the disease is anatomically characterized by an erythematous inflammation of the mucous membrane (dry mucitis), improperly called dry blennorrhagia, since, etymologically, this term means a discharge of mucus. The second degree affects the follicles (catarrhal mucitis).—The third degree includes the mucous texture, and

its cellular element is invaded ; this is phlegmonous mucitis.

All the causes which can produce an inflammation of mucous membranes may give rise to blennorrhagia, and therefore it is plain that these causes cannot be looked upon as specific.

Predisposing causes must be sought in the age, sex, temperament, climate, season, &c., &c. It appears most often in adults, when the functions of the genital organs are in their full vigour ; it may, however, be observed in the most opposed periods of life ; but the rule is, that the circumstances favourable to its development diminish from puberty onwards. Women are certainly more subject to discharges from the genitals than men, and they are often placed in circumstances well calculated to produce them ; but, on the other hand, they are rarely affected with true blennorrhagia ; and moreover, it is plain that the sort of continual oozing which moistens their organs of generation protects them from morbid secretions. We shall have an opportunity of seeing, in a subsequent part of these lectures, that urethral blennorrhagia, which is the character of blennorrhagia communicated by contact, is very rare in women. Fluor albus, however, which they so often try to conceal, is a very common affection with them, and constitutes an almost inexhaustible source of discharges. Among the different temperaments, the lymphatic predisposes most to a frequent recurrence of discharges. Warm climates are also very prolific in blennorrhagia, probably on account of the greater habitual excitement of the genito-urinary mucous membrane.

Among the predisposing causes, some importance must be attached to the spring, the autumn, to cold and to damp seasons, &c. Among articles of food, we find, also, that spices and salt provisions may predispose ; but some dietetic substances have not only the faculty of increasing discharges when they

exist, or of hastening their appearance when they are to arise, but even to engender them altogether on the slightest provocation—as, for instance, *asparagus*, and, among beverages, *beer*. The fact of former blennorrhagic affections, a blennorrhagia on its decline, alterations in the texture of the mucous membrane, lining the urethra, ringworm, scrofula, a tubercular diathesis, gout, rheumatism, &c., are, one and all, predisposing causes, though, for the most part, merely casual ones. There is also a blennorrhagia symptomatic of secondary syphilitic accidents, having their seat in the canal of the urethra. In children, a discharge from the genital organs is sometimes noticed at the period of dentition, or when they are affected with worms, especially *ascarides*. Calculi, or gravel, may, by their passage through the urethra, provoke a mucous or muco-purulent secretion; catheterism may act in the same way; as well as any irritating substances. Swediaur gave himself a blennorrhagia by injecting liquor ammoniæ into his own urethra, and in spite of this, he held that the blennorrhagic liquid is of a virulent nature.

Pus from chancre, merely deposited on a mucous membrane, may do no more than irritate it, and thus will produce a discharge; but this liquid is not inoculable. Blennorrhagia may be caused by excessive venery, and by the disproportion of the sexual organs; and thereby you see that it may result from the contact of two perfectly sound individuals. It has often come to my knowledge that the disease has been engendered by uterine catarrh, and menstrual fluid, the ichor of a cancer, the lochia, and most often by fluor albus.

Let us now inquire if there is such a thing as a special cause for blennorrhagia—special, in the strict acceptation of the word. Some authors have shown an utter indifference about the solution of this question; and those who have made experiments in order

to solve it have very often drawn erroneous conclusions. I will now enumerate the latter.

If it be admitted that pus from chancre acts as an irritant, as it is known to do on mucous membranes, upon which it is merely applied, then it can also have a specific action on these membranes. Every body agrees as to the specific action of pus from chancre, either on the skin or mucous membrane, but no one can explain it. So, then, according to Hunter, pus from chancre applied to the skin, begets a chancre, and the same pus applied to a mucous membrane produces blennorrhagia; the origin is the same—the effects vary according to the texture acted upon. We shall soon see that this doctrine is incorrect. Swediaur thought he could conclude, from his observations, that a woman affected with blennorrhagia alone could communicate a chancrous ulceration. By the side of these assertions we may place those of Jod, Bell, and Hernandez, who maintained that a chancre, either inoculated on the skin or mucous membrane, always engenders a chancre, but that blennorrhagic pus never produced a chancre. Bell, however, admitted some exceptions to this. Such was the state of things when I began to repeat all these experiments, and here are my conclusions:—

1. Whenever muco-purulent matter, taken from a mucous membrane free from ulcerations, is inoculated, the results are negative.

2. The inoculation of pus taken from a chancre, in the period of its progress, whether it be practised on the skin or mucous membrane, produces inevitably a chancre.

3. Pus from chancre merely deposited on the surface of a mucous membrane, may act in two ways: first, as a simple irritant, it may cause an inflammation, followed by a muco-purulent secretion; secondly, if this pus deposited on the mucous mem-

brane comes to produce an ulceration on it in virtue of its irritant action, a real inoculation takes place, just as if this pus had been directly applied to a denuded surface : the results will be a *chancre*.

A chancre is often conspicuously situated on a mucous membrane—then the origin of the secreted pus is easily discoverable ; but when it is placed behind the vulva, on the cervix uteri, in the urethra, or on the neck of the bladder, upon the internal surface of the prepuce, or round the glans, in complete phimosis, then the discharge alone betrays the existence of the chancre ; and as that discharge proceeds from a mucous membrane, it is hastily and erroneously called blennorrhagia. Swediaur, who was aware that urethral ulcerations only could produce a virulent blennorrhagia, nevertheless goes on confounding blennorrhagia with chancre. As for myself, I am convinced that the matter secreted by a hidden chancre produces a discharge of symptomatic character, and that the matter of it, being inoculated, causes the development of a primary ulceration, presenting all the characters you are so well acquainted with.

Although my predecessors have entirely missed the true origin of the discharge I mentioned, it must be confessed that they have made very judicious remarks on virulent blennorrhagia, and quite analogous to those which I offered to the discharge symptomatic of the existence of a chancre.

They all agree that virulent blennorrhagia is much rarer than simple non-specific discharges ; that the former hardly ever requires mercury, and that, contrary to chancre, it seldom is followed by secondary symptoms ; these are well-nigh the very circumstances which accompany the concealed chancre.

The genital organs were formerly looked upon as the emunctories of the liver, and all the imorbid secretions were considered virulent. More recently it

has been asserted that blennorrhagia must be ascribed to a specific cause, and the reason alleged was, that it did not arise spontaneously. But I have proved that it may do so, therefore this argument falls to the ground. Some authors on syphilis have put the question, whether there might not be something specific in the secretion of the mucous membrane itself. This has been resolved in a very uncertain and incomplete manner. What I can state for my part is, that the morbid secretion of one mucous membrane becomes the cause of an affection in another upon which it has been applied. The morbid secretion is irritating. I must acknowledge, however, that in the inflammation of the canal of the urethra there is something of a special nature which is not noticed in balano-posthitis. Thus, arethritis and balano-posthitis may produce different effects on the individuals affected with them, though both affections may have been caught at the same source, and almost at the same time. The latter of these diseases, for instance, is never followed by arthritis or purulent ophthalmia, whereas the former may have these sequelæ. In this respect, the blennorrhagia of the vulva is exactly similar to balano-posthitis. Chancre, on the contrary, always produces the same effects in whatever region it may have its seat.

In order that the blennorrhagic secretion may become a cause of inflammation, there must not only have been a certain amount of nervous expenditure, but the pus must also have a certain acrimony; the more the purulent element is predominant in the mucous secretion, the more apt is it to engender inflammation. Indeed, the mucous membrane must possess rather a large share of susceptibility to favour the development of blennorrhagia. There must exist, therefore, a sort of active sympathy between the sound and diseased mucous membranes. This is the reason why we so often see an individual with whom

these peculiarities do not exist remain free from disease in spite of repeated intercourse with a woman affected with a discharge ; he may almost be looked upon as having become *acclimatized* ; whereas the same female, within the same period, will spread blennorrhagia among others. Such facts have come to my knowledge. M. Cazenave gives, on this head, an explanation which is any thing but complimentary to the female sex ; he says namely, that women, in these cases, harbour in themselves a syphilitic principle which only manifests itself at a certain temperature.

LECTURE IV.

CONTINUATION OF THE CAUSES OF BLENNORRHAGIA ;
 SYMPTOMS ; PROGRESS ; DURATION ; COMPLICATIONS ;
 DIAGNOSIS ; PROGNOSIS ; PROPHYLAXIS.

SEXUAL intercourse is no doubt the most ordinary mode of transmission in blennorrhagia. In the coitus we find all the conditions necessary to its development. It is, however, not indispensable that the tissues should be in a state of sexual excitement for contagion to take place, for it is sufficient that the secretion of one inflamed mucous membrane be deposited on another, to allow this secretion to produce in it an inflammation entirely similar. It is well known that the muco-purulent matter secreted by the urethra, placed on the mucous membrane of the eye, will occasion a blennorrhagic ophthalmia. Another mode of transmission has also been mentioned, but the possibility of it is at present no longer credited. I allude to the story of a jealous husband, who, in order to punish his wife, had contrived to contract blennorrhagia, and attempted to communicate it to

his faithless partner, by making her swallow milk in which muco-purulent matter, obtained from his own person, had been mixed. We can hardly believe that this muco-purulent matter could, after being absorbed, have been carried, by the circulation, to the genital organs of the woman, there to develop blennorrhagia; no one ever thought of finding out whether the lover who had excited the husband's jealousy might not have been, long before the administration of the treacherous milk, in a state favourable to the transmission of blennorrhagia.

Be this as it may, there are cases mentioned of individuals who accidentally swallowed liquids containing blennorrhagic muco-purulent matter, and who felt no inconvenience therefrom. Hunter, on the contrary, gives one of a child who, under these circumstances, experienced no ill effects. Indeed, it is extremely difficult to understand how blennorrhagic matter, supposing it even to be admitted, unmixed, into the stomach, could be conveyed to the genital organs by the torrent of the circulation.

Those who have attempted to prove that blennorrhagia is a virulent disease, have brought forward incubation as an argument. Examples of it have been quoted, ranging from twenty-four hours to fifty-two days. But, I may ask, have the patients been closely watched from the first to the fifty-second day? Did any one take the trouble of ascertaining in what state these patients were when the disease broke out? No answers are given to these queries, and I conclude, therefore, that such cases are of no value. If I may trespass for a little upon general pathology, I would ask whether we do not almost constantly notice a certain lapse of time between the application of a cause and its effects, during which time, the symptoms are in some degree concealed? Is there no bronchitis, except when the mucous expectoration is completely established? And yet most

medical men will acknowledge the existence of blennorrhagia only when they see a purulent discharge; but what they overlook is, that the disease, before this discharge took place, had passed through a peculiar stage, which I shall describe hereafter.

I admit incubation neither for blennorrhagia nor chancre. With some, the accidents gradually and insensibly arise from the first day, and reach the inflammatory stage after the expiration of five or six. Then the discharge is abundant enough to excite the attention of the patient, or of his medical attendant, and both date the onset of the disease from that moment. With others, the discharge appears the very next day after improper intercourse; but the inflammation mostly takes from one to five days to reach its complete development. The discharge generally appears on the sixth day.

Symptoms of Urethral Blennorrhagia considered generally.

The beginning of this disease is often marked by an exaltation in the functions of the organ, by an exaggeration of its normal sensibility, vitality, and secretion; in a more advanced stage, pain comes on, the secretion disappears, and the surface of the mucous membrane becomes dry; but this state of dryness is soon replaced by morbid secretion. The affected parts are first moistened by a transparent mucus; a little later, a certain proportion of pus appears, when muco-purulent matter is formed; lastly, pus alone is secreted. The colour is at first a whitish pale; it becomes afterwards straw-coloured, or of a darker yellow. When the secretion is very abundant, and contains a few blood-globules, it becomes greenish; and the more the globules increase, the more rusty the green colour will turn. When the pus increases greatly, it assumes a sanious appearance; it may even become sero-sanguineous;

but, as a general rule, it may be said that the colour of the secretion varies in proportion to the quantity and the quality of the pus. It is important to be acquainted with these different shades, for the knowledge of them may be very useful in diagnosis. I do not mean to say, however, that the green colour is characteristic of virulent blennorrhagia; and I may here mention a case of red blennorrhagia, quoted in an article of the "Dictionnaire de Médecine:" the author of which thinks the red colour was owing to the fact of the disease having been caught from a woman just menstruating. Richerand also thought that virulent blennorrhagia secreted a copper-coloured pus. Some surgeons lay a great stress on the *smell* of the secretion, and they fancy they can, by means of this character, distinguish a virulent from a simple blennorrhagia. It is true that the genital organs often exhale a shocking smell, which Morgagni very justly compared to the odour emanating from decayed cod-fish; but this smell has nothing to do with the morbid secretion; it arises solely from uncleanness in the part, particularly in very fat people.

Progress of Blennorrhagia considered in general.

We very seldom notice any premonitory symptoms of the disease, such as febrile excitement, or functional disturbance; the inflammation afterwards runs through all its stages to reach a complete cure, or rather, to pass into a chronic state, as we notice in most cases. So then, we have in the acute form very little tendency to a satisfactory termination, and a very marked one to the chronic state; such are the characters of the usual progress of blennorrhagia. The cure is the more difficult to accomplish, the more concealed the affected parts happen to be; urethritis, for instance, is more difficult of cure than balanoposthitis. The nature of the functions of the diseased parts contributes likewise very much to retard the

cure. Thus we know that the passage of the urine retards the cure of urethritis. Blennorrhagia may begin by the chronic state, and so continue; on the other hand, it sometimes passes from a chronic to an acute state. It may, in general, be said that the acute form is an inverse ratio to the number of times one individual has been affected with blennorrhagia; the oftener he has had it, the less marked is the acute form. When the disease begins to decline, the secretion alters in character: from being purulent it becomes muco-purulent; then mucous, with a few globules of pus; but this pus is no longer intimately mixed up with the mucus, as it generally is when the disease is on the increase, but is merely suspended in it, and isolated in a few dots, as it were. The stains on the linen are grayish, with a black dot in the centre. With some people the secretion is very like the leucorrhœal secretion.

Duration.

The usual duration of blennorrhagia is from six to eight weeks; but this law is not an absolute one. There are, to my knowledge, blennorrhagias which, having been caught at the peace of Amiens in 1800, were still going on in 1840.

Structural alterations.

As soon as blennorrhagia affects a mucous membrane, it produces alterations in the textures which may be more or less obvious. At first it is a simple effusion followed by alterations in the form, calibre, and capacity of the canal lined by this mucous membrane; plastic changes then take place, and these produce inflammatory congestion, thickening, and hypertrophy of the tissues.

The inflamed parts may become eroded, and these erosions are often followed by real ulcerations. The cicatrix which forms on the ulcers will, of course,

produce alterations of form, capacity, consistence, &c., on the parietes of the canal. The granulations may, when they assume a vegetative form, give rise to obstructions. If the congestion persists, it soon degenerates into a hard hypertrophy; or else, if the plastic lymph which forms it is re-absorbed, the parts become contracted, the cells which contained the plastic matter disappear, the mucous membrane becomes atrophied, thinned, and the result is at last a stricture.

The laws I have just enumerated are those which prevail in general pathology, and we, in fact, see that the inflammations which attack the genito-urinary mucous membrane, have the same consequences as those which affect other mucous membranes.

Some of these consequences have been looked upon as impossible by very good authorities. Hunter, for instance, denies the existence of ulcerations, but he gives only the post-mortem examination of two executed culprits to support his opinion; it will be quite sufficient for me to state that I have often met with these ulcerations both in living and in dead subjects. The alterations of tissue which take place in consequence of blennorrhagia, may, in their turn, be the cause of the continuance of certain symptoms, and be the origin of more or less grave accidents. The ulcerations, for example, keep up a purulent discharge. The urine pent up behind strictures assumes irritant properties, and finally produces great alterations in the mucous membrane on which it lies, so as in turn to excite in it an inflammation, followed by a muco-purulent secretion.

Accidents which may complicate Blennorrhagia.

Some of these accidents are inherent to each species of blennorrhagia: I shall mention them in the description of these individual species; others are common to all varieties. Let us now review them:—

1. There is the inflammation of the neighbouring lymphatic vessels and glands. Whatever the seat of hæmorrhagia may be, the lymphatics, and after them the glands, may become affected. But these accidents are as frequent in chancre, or in the blennorrhagia symptomatic of chancre, as they are rare in simple blennorrhagia. When they *do* occur in the latter affection, they are simply of an inflammatory character, and easily controlled; the pus which they yield, in the rare cases where suppuration takes place, is not inoculable.

2. Blennorrhagia is very often complicated with abscesses more or less circumscribed, and these are generally situated externally to the mucous membrane, and are never inoculable.

3. Sanguineous exhalation, or hæmorrhage consequent upon a rupture of the urethra.

4. Blennorrhagic ophthalmia; this complication has wrongly been imputed to metastasis, or repercussion.

5. Blennorrhagic arthritis, which has just as erroneously been attributed to these causes.

Differential Diagnosis considered in general.

Blennorrhagia does not acknowledge any especial cause, or one which might beforehand be determined; and it is impossible to trace its source by the assistance of symptomatology alone. You see, then, that there is no *virulent* blennorrhagia, save that which is produced by an urethral chancre. And this is the place for unfolding before you the elements of the differential diagnosis, and giving you the means of distinguishing the urethral chancre, first from simple blennorrhagia, and secondly from the discharge symptomatic of secondary accidents.

1. In the diagnosis of chancre we have to consider two orders of symptoms—the one leading to a rational diagnosis of chancre, the other to an absolute one.

Elements of the Rational Diagnosis.

The pus is rather of a serous than of a mucous character ; it is thin, loaded with organic detritus, rusty, and sanguineous ; there is a fixed point where pain, thickening, and a circumscribed induration, exist ; the glands of the groin are often enlarged. If the source of the disease be attempted to be traced, these signs will lead to the discovery of a chancre ; there is, however, still but a probability of it.

Absolute Diagnosis.

The absolute diagnosis is derived from the inspection of the textures, and from inoculation ; this latter is an incontestable and uniform proof. The results of inoculation are always positive in the first seven days of the disease, provided it be carefully practised ; if the result be then positive, you may be sure that there you have concealed chancre to deal with ; if the result be negative, you have to contend merely against a simple, non-virulent discharge. *After* the first seven days, reliance must be placed in inoculation only when the results are positive ; but if they are negative, you must not at once conclude that there is no chancre, for in this case the ulcer may have passed the specific stage, and be no longer inoculable.

2. If the blennorrhagia is symptomatic of secondary symptoms, then inoculation gives no results ; the only thing to be done is to distinguish it from simple blennorrhagia : herein the diagnosis is very much assisted by the precedents, the co-existence of other accidents of a secondary nature, and the treatment.

3. In simple blennorrhagia, the only diagnosis to be made is to distinguish between the greater or lesser degree of inflammation, to ascertain the accidents which may complicate it, and the different parts which may be affected.

Prognosis considered in general.

The prognosis of blennorrhagia depends on its intensity and its duration; it will also depend on the seat of the disease. We know, for instance, that blennorrhagia will last longer in proportion as the mucous membrane affected is more deeply seated, and thereby rendered more difficult of being exposed. The more an individual has had attacks of blennorrhagia, the more easily will the disease be contracted, and the more difficult it will be to cure it; but the symptoms will always diminish in intensity. The prognosis must vary according to the different species of blennorrhagia.

Treatment considered in general.

There is a means which morality condemns, which religion forbids, but which philosophy and hygiene may allow,—I might almost say advise;—there are cases, indeed, when sexual intercourse may be imperative, and yet at the same time there may be the danger of giving or contracting blennorrhagia; here prophylactic means must be had recourse to. *Mediate coitus*, the male organ being artificially protected by a pellicle, may, indeed, have real advantages during the existence of blennorrhagia. I hardly dare to mention the hygienic means proposed by M. Pigeaux—I mean, masturbation. The *mediate coitus*, however, is not always effective as regards preservation from disease; and Madame de Stael was right in saying, when speaking of this means, “It is a breast-plate against pleasure, and a cobweb against danger.”

Hygiene.

Mucous membranes must not be left too long in contact; repetitions and prolongation in the coitus must be avoided, particularly when there are doubts. It is advisable to wash the parts which are suspected

to be impregnated, either with astringents, the urine, or other liquids. On the male side the act ought to be complete and rapid. As the ejaculation carries off any virus that might lie in the urethra, it is a very good cleansing means, as far as this canal is concerned.

So, then, to resume—protection of the organ, complete and rapid coitus, performed egotistically, ejaculation, micturition, repeated lotions, such are the elements of the prophylactic treatment. After the coitus, the predisposing causes which have been mentioned should be avoided, particularly beer, asparagus, baths, &c.

LECTURE V.

GENERAL REMARKS ON THE TREATMENT OF BLENNORRHAGIA ; VARIETIES ; OPERATIONS FOR PHIMOSIS AND PARAPHIMOSIS.

THE most important point to be considered now, and one well worthy of discussion, is the *abortive treatment* of blennorrhagia. By this I mean the treatment which nips the disease in the bud, as it were. Before I enter on this subject, I must state that the complications of this affection hardly ever occur but when the inflammation has reached its highest degree, and persisted for a certain time. They mostly attack individuals who have not attempted any treatment, and there will be so much the more chance of escaping them, as therapeutical means have been used sooner after the appearance of the disease. The proper time for commencing the abortive treatment is at the very onset of the discharge, and before the acute stage has set in. To fix the time more exactly than this is impossible, because the acute stage with

some patients comes on two or three days after connexion ; with others, six or fifteen days elapse ; and there are people with whom very acute phenomena appear after 24 hours. In this latter case the abortive means can of course not be thought of. Let me impress upon you, as a general rule, that the abortive treatment is to be used before the acute stage, and as near as possible to the application of the cause of the disease. If this rule be overlooked, no cure will be obtained by it, and very serious mischief may ensue. Some precautions are necessary to insure the success of the abortive method ; they may be reduced to three. First, we must procure the isolation of the mucous membrane whenever it is practicable ; secondly, give perfect rest to the genital organs ; and thirdly, exclude all aliments and beverages which might give the urine irritating properties.

Therapeutical Means.—The substances used in the abortive treatment must be chosen among those known under the name of direct agents. Astringents sometimes succeed, but the most powerful agent, the best for bringing about a modification of the mucous membrane, is unquestionably nitrate of silver. It changes the vitality of the membrane, and substitutes to the original inflammation a new one, whose principal character is its short duration ; in this respect we may look upon the effects of the nitrate as really miraculous. A feeble dose of it acts as an irritant, and aids the development of the disease, but a full one destroys the morbid element, and replaces it by its own action ; this, as we all know, lasts but a short time, and leaves the mucous membrane in a healthy state. Mr. Carmichael originated this abortive method a long time ago ; but it had fallen into oblivion until Mr. Daubeney, an army surgeon, revived it by exaggerating its advantages a little.

When we have to deal with an accessible mucous membrane, the solid nitrate of silver may be used ;

but when it cannot be exposed, a solution of fifteen grains of the nitrate to one ounce of water may be had recourse to. This salt alone may thus effect the cure; but it will be advisable to employ some adjuvants along with it, as cubeb and copaiba, in large doses, and these will aid the cure powerfully. Other therapeutic agents may likewise be used, and, indeed, it will be proper to take advantage of all the means which are likely to concur in controlling the disease. If the abortive treatment should fail, and especially if the disease has grown worse under its application, it must be suspended, and the ordinary means of combating blennorrhagia be employed. When you are about to apply the abortive method, you must be careful to apprise your patient of the sudden accidents it may cause, for their occurrence might alarm him, and shake his confidence in this treatment, when he is just on the eve of cure. When these abortive means do not succeed in arresting the disease, we see the usual phenomena of inflammation appear in succession; recourse must then be had to antiphlogistics, baths, diluent drinks, low diet, and revulsives on the intestinal canal. When I come to speak of particular cases of blennorrhagia, I shall point out how each of these means is individually to be applied. It is generally believed that a complete cure may be obtained by antiphlogistic remedies alone; however this may be, I would not advise you to continue them long, on account of a tendency to chronicity peculiar to these inflammations. When the disease is on the decline, anti-blennorrhagics should be used—viz., copaiba and cubeb; but it is only in *urethral* blennorrhagia that they can be depended upon. In the other forms revulsives may be employed if necessary, yet they must be suspended as soon as the local inflammation has been subdued, and then the time has come for astringent applications. When the discharge lasts a very long time without

any pain, it is often owing to a laxity in the intimate texture of the mucous membrane. In these cases we sometimes succeed with tonics, either used topically, or administered internally. But in such circumstances I would suggest a very close examination of the tissues affected; this should, indeed, never be neglected. The patient ought to be desired to pass water, and by the introduction of a catheter immediately after, it is sometimes discovered that a stricture is the cause of the long continuance of the discharge. What would you think of a medical man, who, for having omitted this examination, were to use the abortive treatment to cure a discharge symptomatic of a narrowing of the passage?

Let us now consider the varieties of blennorrhagia.

False blennorrhagia.—False blennorrhagia (gonorrhœa spuria, posthitis, balano-posthitis) may be either general or partial; idiopathic, or symptomatic of certain lesions: as chancres, secondary accidents, ring-worm, eczema, herpes, &c. Phimosis is very apt to give rise to it; for it favours the stagnation of the sebaceous secretion and of the smegmor, and these acquire thereby irritating properties calculated to engender the disease. The less the glans is covered by the prepuce, the less will this peculiar affection be liable to occur.

Symptoms.—Balano-posthitis begins by a slight itching on the glans or prepuce; this pruritus soon becomes constant and very intense, inflammation sets up in the part, the prepuce turns red, swells, and passes into a phlegmonous state, as well as the semimucous membrane of the glans, which assumes the same vivid colour. The produce of this inflammation is more distinctly purulent than the secretion of urethritis; it is very like the pus secreted by a blistered surface, and contains a great many flocculi. If the inflammation reaches a high degree of intensity,

it may bring on ulceration of the mucous membrane, and the secretion will then turn of a rusty colour. The erosions of the mucous surface are generally ill-defined, irregular, and very different from chancre, which is round and perfectly circumscribed. It is likewise very easy to distinguish these erosions from mucous tubercles. When the patients find no difficulty in uncovering the glans, they experience no pain during erection or micturition; but if there is phimosis, the urine comes in contact with the diseased surfaces and causes severe scalding, and the erections become very painful. Such circumstances may easily deceive the unwary surgeon, and lead him to suppose that he has to deal with urethritis; and he will be still more puzzled, if the closure of the prepuce prevents him from seeing the meatus urinarius. The diagnosis will, however, be much facilitated by the careful analysis of each symptom. For instance, if the pain on micturition is felt merely at the extremity of the urethra, and at the moment when the urine finds its way between the glans and prepuce, it will then be, in some degree, a peripheric pain, which the patient will be able to distinguish, from the scalding within the urethra. Pressure, also, will be an excellent means of distinction; for in balano-posthitis, the pain on pressure will only reach from the extremity of the prepuce to its mucous reflection on the glans, and the whole course of the urethra, behind this point, may be pressed without producing any uneasiness. You must notice, finally, that the pain occasioned by erections is so much the more intense as the prepuce is shorter.

Progress.—This is generally an acute disease, and errors of diet may carry this acute state to a very high degree. It rarely becomes chronic.

Complications.—Acute balano-posthitis may be complicated by single œdema: if this œdema persists for a long time, it becomes hardish, tough, and

scirrhus. The inflammation sometimes assumes an erysipelatous form and ends in abscess. The parts may be attacked by gangrene, reaching more or less deep, but it usually extends no further backwards than the reflection of the mucous membrane of the prepuce on the corona glandis, and a natural circumcision is very often the result. The mortification generally begins towards the extremity of the organ; the eschar makes its way from within, outwards, until it perforates the external surface of the prepuce and the glans, soon passes through this opening as through a window. It sometimes happens that the glans itself mortifies, but the sphacelus is mostly superficial, and produces a sort of decortication. The gangrene of the prepuce stops when it has reached the frænum, just where the nerves and vessels of the part meet to form a complete net-work. Balano-posthitis may also be complicated by an inflammation of the lymphatics on the dorsum of the penis, and this may extend to the glands of the groin and give rise to adenitis (*aduv*, a gland), but this adenitis, which is so frequent in other lesions of the genital organs, is extremely rare in balano-posthitis.

One of the most common complications is paraphimosis; it may be caused in two ways:—first, by the violent retraction of the prepuce over the glans; secondly, by the intensity of the inflammation. It may therefore take place suddenly or gradually. In general, the more complete the *phimosi*s, the less is *paraphimosi*s to be apprehended; but when it *does* occur, it gives rise to the following phenomena:—The submucous tissue becomes infiltrated; the edge of the prepuce, confined behind the corona, exercises a circular constriction on the part, and this strangulation increases with the congestion of the tissues. True gangrene may be the consequence of this state of things, but you must observe that the mortification attacks the *strangulating* parts alone, and that the

strangulated textures almost always escape. It is very rare to see sphacelus reaching them ; the ulceration proceeds from without, inwards, and follows a circular direction.

Prognosis.—Balano-posthitis is a very slight affection, and not at all difficult to cure ; serious complications rarely attend it, and it is seldom followed by epididymitis, purulent ophthalmia, or blennorrhagic arthritis.

Treatment.—The treatment of balano-posthitis, when it is not complicated by accidental or congenital phimosis, is extremely simple. An unstimulating diet, rest of the affected organ, washing the parts twice daily with a solution of nitrate of silver (two grains of the nitrate to a hundred of water), the prevention of contact between the mucous membrane of the prepuce and glans, by the insertion of dry lint, will be the only means necessary to arrest the disease. If the treatment be begun early, cold and astringent applications will suffice. When balano-posthitis is complicated by phimosis, and the reduction of the latter is likely to produce paraphimosis or lacerations in the edge of the prepuce, it will be advisable to leave the parts undisturbed, and use, as far as possible, the dressings recommended above ; taking care to make injections between the glans and prepuce with the same solutions as those employed for the lotions. Even the solid nitrate of silver may be used to cauterize the mucous surfaces. In phlegmonous paraphimosis recourse must be had to antiphlogistic means—viz., leeches to the inguinal regions, bleeding from the arm if there is reaction, soothing lotions, and injections between the glans and prepuce ; yet, if gangrene be apprehended, we must refrain from venesection. The penis should be supported, and great care ought to be taken to keep it away from the leech-bites, because a very troublesome inoculation would take place if the balano-posthitis were con-

nected with chancres. Poultices should be avoided, for they have no advantages over other emollient applications,—quite the contrary, for they will often give rise to an œdematous infiltration of the tissues, and keep up a sort of discharge. Diluent drinks, laxatives, and baths, will yield good results. As regards the latter, I think that the entire bath should be preferred ; for the hip-bath often produces congestions in the genital organs. I have often afforded my patients great relief by the use of camphor as a sedative for the pain accompanying erections. Soft beds, much clothes on them, and all books which might lead to erotic ideas, should be eschewed.

Phimosis.—When the surgeon has to deal with balano-posthitis, complicated by phimosis, he has the choice of two modes of treatment: he may either operate, or confine himself to the therapeutic means which I enumerated a short while ago. The rule formerly was, to operate at once ; but the illustrious Cullérier very justly opposed this practice ; for phimosis, which is the accidental result of balano-posthitis, generally disappears when the inflammation has been subdued ; and under such circumstances it would be worse than useless to perform an operation. Still I would advise you to operate when the phimosis existed prior to the balano-posthitis ; but you should always endeavour to find out beforehand whether the prepuce conceal chancres ; for if this were the case, it would be a counter-indication. The consequence of an operation in such a case would be a large chancrous ulcer on the wound, inflicted by the knife. My line of practice is this:—I endeavour to subdue the inflammation, and to modify the affected surfaces ; but I operate as soon as the prepuce, in spite of my treatment, begins to turn purple, and when gangrene is at hand. I pay no attention to concealed syphilitic ulcerations when matters have come so far, because the gangrene neutralizes

them. But should you, for some reason or other, *even then* refrain from operating, you will find that the destruction of parts stops at the reflection of the semi-mucous membrane of the prepuce, and that a natural circumcision, as I stated before, will be the result of the mortification.

Paraphimosis.—When paraphimosis complicates balano-posthitis, it occurs either gradually, by the progress of the inflammation, or suddenly, in cases of congenital or acquired phimosis, by the violent retraction of the prepuce behind the glans. In recent paraphimosis, when the circular edge of the prepuce is sufficiently wide, and the inflammation slight, the indication is to attempt the reduction; and this should be done without delay when there are doubtful ulcerations on the organ, for the strangulation may have a very dangerous effect upon them. When paraphimosis is very stringent, complicated by ulcerations of the edge of the prepuce, or by adhesions with the subjacent tissues, we should at once free the parts with the knife, at the risk of producing inoculation of the wound.

Before I have done with balano-posthitis, I will say a few words about the operation for phimosis and paraphimosis.

1. *Operation for Phimosis.*—A narrow bistoury, with its point covered by a wax bead, is first passed between the glans and prepuce, on the dorsal aspect of the organ. When the bead has reached the point where the mucous membrane of the prepuce is reflected on the glans, the bistoury is to be thrust through the whole thickness of the former. Then the operator should turn the edge of the instrument towards himself, and cut forwards along the mesial line until the knife reaches the edge of the prepuce, which it completely divides. This incision leaves two lateral flaps, which look very ugly. To remedy this deformity, these flaps may be pared down with

the scissors or the knife ; but there always remains an awkward prolongation of the prepuce hanging from the frænum. The method I adopt when the phimosis is complicated by a hard or inflammatory swelling is the following :—An incision is made along the mesial line, as in the preceding operation, and another is added on either side of the frænum ; then each of the flaps is to be seized by flat forceps, whose ends are placed parallel to the reflection of the mucous membrane on the glans, and cut away in front of the instrument. This is a very satisfactory operation, and leaves no deformity. Especial care should be taken to avoid the urethra, and you must keep in mind that it has been wounded by first-rate surgeons. When the incision has been carried into hard and inflamed tissues, it is sometimes difficult to stop the hæmorrhage. In such a case I pass a needle a little below the bleeding point, and apply a twisted suture. The compression effected by the latter is generally sufficient to command the hæmorrhage.

I will now describe a method of operating of which I am the originator: it is used principally where there are no complications; it is a real circumcision. Before I do this, however, I must tell you that strange mistakes have been made on this head; those who have not attended to the rules I have laid down have sometimes been obliged to dilate the aperture of the prepuce after cicatrization, it being still found too narrow, or have even been driven to perform a second operation; on the other hand, it has happened that too much of the preputial substance has been removed. Hence it is plain that the limits of the section should be marked before commencing.

My method is as follows:—The penis is allowed to remain in its natural position, and no traction is used; a circular mark is made with ink upon the prepuce, about two lines anterior to the base of the glans and parallel to the corona; a long and strong needle,

its point covered by a wax bead, is then introduced between the glans and prepuce, and made to pierce the whole thickness of the latter, on the mesial line, and a very little in front of the circular mark. The mucous membrane and the skin of the prepuce are thus fixed, and the needle is allowed to remain. Behind it, and in a longitudinal direction (the needle being a little raised), a fenestrated forceps, with notched edges, is then firmly applied; it is very like the common polypus forceps, and is left in the charge of an assistant. The fenestræ of this instrument correspond to the circular mark and the glans; at this stage of the operation, the latter is to be pushed backwards. The next step is to pass sutures, five or six in number, through the fenestræ; and when all the threads are applied, the prepuce is shaved off with a bistoury made to glide between the needle and forceps. The latter is then withdrawn carefully, so as not to disturb the ligatures. The assistant should be desired to press the forceps very tightly when the prepuce is being shaved off; if this be neglected, the prepuce will yield, and the sutures will be cut. When the forceps is removed, the arteries which are noticed to bleed should be tied or subjected to torsion; the threads which pass above and below the glans are then divided in their centre; and the respective ends of each half resulting from this section are tied, to bring the mucous membrane in contact with the skin. Of course there will be twice as many sutures as there were threads passed.

Treatment.—We should, after this operation, enforce rest, low diet, aspersions of cold water, and camphorated pills; union by first intention rarely takes place completely. The submucous cellular tissue will generally be found infiltrated with serosity on the next day, but it is gradually reabsorbed. The sutures ought to be removed on the fourth day; they might, if left longer, lacerate the tissues. The parts are usu-

ally healed up by the tenth or fifteenth day, excepting in those cases where the union by first intention takes place as early as the fourth or fifth.

Treatment of Paraphimosis.—This affection may be divided into two categories, the first containing the reducible, the second, the irreducible, paraphimosis. Reducible paraphimosis may be complicated by simple or inflammatory œdema: when this is the case, we should, before attempting the reduction, get rid of the serosity by means of repeated punctures; and cold applications may also be used to hasten the resolution. The reduction should be effected as follows: The penis is taken full hold of, and a gradual compression effected, from the extremity of the glans, to its base; the blood being thereby pressed out of the vessels, leaves it pale and flabby, and this moment is taken advantage of, to push the glans within the prepuce. It has been said that it would be impossible to seize the edge of the prepuce, and carry it over the glans, but the manner in which the prepuce is applied to the glans, in paraphimosis, was not duly considered when this assertion was made. I think that the best method is to take a full hold of the penis with one hand, and bring the prepuce forwards, whilst with the other the glans is pushed backwards. After the reduction, we ought to prescribe rest, cold affusions, camphorated pills, and purgatives.

It is very advisable, when the paraphimosis is irreducible, or when its reduction would require great efforts, to operate at once, observing, however, the precautions which I mentioned before. It is worth noticing, that the operation for *phimosis* is sometimes necessary after the reduction of *paraphimosis*.

It has been proposed to remove the strangulation by a certain number of incisions made around the edge of the prepuce; but I would not advise you to do this, for you would thereby produce several cicatrices, and favour the narrowing of the preputial extremity. The

manner of operating for paraphimosis is pretty nearly the same as that for phimosis, except that the incisions are made behind, instead of before the glans. The thick, mucous rim which surrounds the corona is first divided along the mesial line; a narrow-bladed bistoury is then to be introduced under the edge of the prepuce, and its point carried longitudinally backwards, for about an inch; the skin is transfixed from within outwards, and the instrument is made to cut forwards—namely, towards the operator, until it reaches the edge of the prepuce. If a few cellular bands have escaped the knife, they should now be cut. Two thick projecting masses sometimes remain on both sides of the glans, after the division of the constricting ring; these gradually diminish, and generally disappear after some time; if they produce too much deformity, they should be cut away.

The treatment after this operation is the same as the one recommended to be used after the operation for phimosis.

LECTURE VI.

URETHRAL BLENNORRHAGIA (URETHRAL MUCITIS, BLENNORRHAGIC URETHRITIS).

THE causes of this affection are extremely various; I could not venture to review them now, without repeating almost every thing that has been said under the head of general considerations. I will merely mention the following circumstances which seem to be favourable to its development—viz., large size of the penis, great width of the meatus urinarius, hypospadias, incomplete and too protracted coitus; all these may bring on the disease by their influence alone, independently of contagion. Urethral blen-

norrhagia may be divided into stages, which follow each other regularly when the inflammation is allowed to proceed undisturbed. In the first stage or period, the balanic region only is affected; the inflammation then extends backwards, and reaches the spongy and bulbous portions; the membranous region is afterwards attacked; and lastly, the prostatic portion, and sometimes even the neck of the bladder, become involved. It was only when blennorrhagia reached no further back than the glans, that Hunter supposed it to possess virulent properties; his opinion was, that, posteriorly to the balanic region, the disease was no longer virulent; this idea however, which might seem absurd, according to the doctrines I advocate, was in some degree founded upon facts. This will become evident by the following considerations. We know that there is no such thing as a *virulent* blennorrhagia, except when a urethral chancre is the exciting cause of the same; but a urethral chancre is almost always seated in the balanic region, and when the pus which it secretes comes in contact with the mucous membrane which covers the glans, after being reflected from the meatus, it irritates this membrane, yet without inoculating it. We must, therefore, not wonder that Hunter, who was not acquainted with the existence of the urethral chancre, should have believed that the discharge issuing from the balanic region was virulent, and that, when it came from parts situated behind the glans, it had no such properties. Blennorrhagia generally comes on from three to eight days after the coitus. It begins by a slight itching, which sometimes escapes the attention of the patient; this is followed by a rather agreeable titillation, and an abnormal state of excitement of the genital organs. Actual pain, much increased by micturition, soon succeeds these symptoms; both lips of the meatus turn red and swell; the mucous membrane protrudes

from it; and the margins of this opening are glued together by the mucus, which blocks it up. The surface of the glans, if these symptoms are not arrested, assumes a vivid red, becomes highly inflamed, and micturition brings on severe scalding in the fossa navicularis. This burning pain must be attributed to three causes.

1. The acrimony of the urine.
2. The inflammatory narrowing of the canal.
3. The inflamed state of the mucous membrane.

The mere mentioning of these causes will be sufficient for you to understand their mode of action. The pain, which hitherto had been intermittent, becomes continued, is accompanied by a sense of weight, and increased by the contact of the clothes, as well as by pressure; this pain is more and more acute the deeper the inflammation reaches, and the more this inflammation assumes a phlegmonous tendency. The secretion, which is first limpid, or very slightly opaque, becomes thicker and more deeply coloured; the inguinal regions get painful, and adenitis is not long in appearing. The glans is then red, swollen, and indurated; on its inferior portion, a very hard cord may be felt; this has been mistaken for a urethral chancre, but it is the canal of the urethra, in a congested state; thickened lymphatic vessels may often be felt running from the sides of the indurated part of the glans, and traced to the internal side of both inguinal regions, where they terminate in obstructed glands. If the inflammation be not controlled, it invades the whole spongy portion of the organ, and this gives rise to a new train of symptoms—viz., a painful tension of the urethra; uneasiness along the part of this canal which is anterior to the scrotum; and a feeling of tightness and anguish between the testes, just on a level with the bulb. When the inflammatory congestion has reached more deeply still, another and more alarming symp-

tom appears, I mean chordee. Hunter has given a particular description of this phenomenon, as being of an especial nature, but it is merely a result of the inflammatory congestion; for, since the canal of the urethra has lost its elasticity, it cannot adapt itself to the development of the corpora cavernosa caused by erection, the penis must then bend and take the shape of an arc, of which the urethra is the chord. The pain during the erection in chordee seems principally to be concentrated where the urethra has the least elasticity, where all the elements of the inflammation are gathered together—namely, at the penoscrotal angle. We see, therefore, that chordee is a sign of inflammation in the spongy portion of the organ. Urethral mucitis rarely stops at the bulb, it extends almost always beyond it, and attacks the membranous portion of the canal. Great uneasiness and even very intense pain are sometimes felt about the perinæum; patients experience distressing spasms at the back of the scrotum, as the resisting cord which the urethra forms does not extend so far backward; and this explains why the pain on erection is not lessened by lowering of the penis. Pressure on the perinæum increases the agony, and sometimes renders it unbearable. The inflammation is characterized by a new set of signs when it has reached the prostatic portion of the urethra—viz., increase of the perinæal pain, feelings of anguish, &c. When the patients attempt to sit down, or to cross their legs, they are instantly prevented from doing so by exquisite pain. The passage of the urine produces scalding and a sensation of burning, which proceed from the posterior part of the canal. The jet of urine is very wiry, and may assume all the shapes to which strictures give rise. The testicles become very tender, the cremasters perform sympathetic vermicular movements, constipation comes on, and the neck of the bladder gets at last involved. The desire to pass

water becomes more frequent, and so much so as to give rise to a real incontinence of urine. The pain caused by micturition is at this period sharp in the extreme; the wish to evacuate continues after the bladder is emptied; and this desire is rendered exceedingly distressing by a very severe vesical tenesmus. The last drops of urine ejected are opaque, lactescent, and sometimes contain blood. This blood, and the mucus which renders them so dull, are expressed from the follicles of the prostate gland in the last moments of micturition. It not unfrequently occurs that these last drops are replaced by an oozing of blood and pus. The mischief mostly stops at the cervix vesicæ; but it sometimes reaches the bladder itself, and produces a blennorrhagic cystitis, which may assume either the catarrhal or the phlegmonous form. The inflammation may, in very rare cases, be propagated to the kidneys, along the ureters; this is blennorrhagic nephritis. This affection of the kidney is far from being as frequent as certain authors have believed; indeed, they have often given the name of blennorrhagic nephritis to lumbago produced by cubebs and copaiba. These nephritic pains disappear in a few days by the suspension of the remedies used against the blennorrhagia. As to the secretion, it must be noticed that in urethral blennorrhagia it contains no flocculi. I need not mention the different modifications which it undergoes, as they have been fully stated in the general considerations which I offered in the preceding lectures. When the disease has reached its highest point of intensity, it remains in *statu quo* for a few days, and then begins to decline; the pain diminishes, the discharge becomes clearer and more limpid, but the erections may still exhibit the phenomena of chordee, because the rigidity of the tissues is rather slow in disappearing. It is rare to see the affection completely cured in this way; it mostly becomes chronic, and the pain then

is insignificant ; but a muco-purulent discharge persists, to which the name of gleet is given. This discharge is apparent only in the morning, because the mucus accumulates in the night. Some patients reach this chronic period in a slow, gradual, and regular manner ; but the disease is, in most cases, liable to various fluctuations, caused by errors of diet. Sexual intercourse sometimes gives rise to a total relapse ; but the fresh urethritis, thus occasioned, does not pass through all the stages which I have described ; it assumes at once the purulent form the very next day after the coitus. These relapses have received the name of *blennorrhagia by repetition*.

Let us now review the accidents which may complicate the disease which I have just attempted to describe.

1. *Inflammation of the lymphatic glands*.—It hardly ever occurs but when we have to deal with the balanic period of blennorrhagia. It is a very rare complication, and when it does come on, it can easily be controlled by ordinary means.

2. *Febrile reaction*.—Urethritis sometimes occasions slight feverishness, and this febrile state may assume the intermittent type. These general symptoms mostly occur when the inflammation has reached the neck of the bladder. It is of some importance to notice this coincidence, so that the patients may not be subjected to useless medications.

3. *Dysuria*.—Dysuria, which may be looked upon as merely a symptom of blennorrhagia, may become so severe as to be justly reckoned among the complications of the disease. It may be followed by complete retention, caused by spasms in the urethra, but this never happens but when the inflammation is seated in the musculo-membranous portion of the canal. Pretty large sized catheters are, in such cases, easily passed into the bladder, yet the patients

cannot pass water without this assistance. The retention may also be caused by the inflammatory congestion of the parietes of the urethra in any portion of the canal: but this congestion generally runs in knots, for the inflammation in these cases, as in phlegmonous erysipelas, has a tendency to gather into isolated points.

4. *Abscess.*—Urethral abscesses, as a sequel of blennorrhagia, are pretty frequent; they may be seated either in the depressions to be found on each side of the frænum, or at the peno-scrotal angle, or somewhere between these two points. Cowper's glands are very apt to become involved, when the inflammation extends behind the bulb, and this is mostly the cause of the perinæal pain and uneasiness which are so characteristic of mucitis seated in the membranous portion of the urethra. An abscess forming in Cowper's glands is peculiar in this respect—viz., that it is situated on the sides of the raphé: one gland only is not unfrequently affected, just as we see one vulvar gland or one testis becoming involved, as a sequel of blennorrhagia. When urethritis reaches further back than the membranous portion, it may give rise to inflammation in the prostate or in the epididymis, but rarely in the body of the testis. But before I take up the consideration of these complications, I have a few words to add about abscesses. When they occur during the phlegmonous stage of blennorrhagia, they are the consequence of the extension of the urethral inflammation to the subcutaneous cellular tissue surrounding the organ; they might be called extra-urethral abscesses. The pus secreted in them has a tendency to make its way either to the mucous or cutaneous surface; if left to themselves they will almost certainly open into the urethra. The accidental aperture which takes place in these cases is a real internal blind fistula; the urine which penetrates into the sac of the abscess

acts as an irritant, causes ulceration in it, and produces a thinning of its walls from within, outwards, until a second opening is made, by which a communication between the cutaneous and mucous surfaces is established; the fistula is then complete, and gives passage to the urine. These fistulæ are very apt to form on the portion of the urethra which is anterior to the scrotum, a portion, as you know, where the soft parts are endowed with great mobility; this latter circumstance is extremely unfavourable to the cure of these abscesses; it will therefore be very advisable, when their presence has been ascertained, to open them early, so as to prevent the ulceration of the mucous membrane of the urethra. Let this suffice for the present; I shall have occasion to recur to the management of these cases hereafter.

5. *Inflammation of the prostate gland.*—This is a very rare complication; when it does occur, it may generally be attributed to the intensity of the inflammatory phenomena or to mistakes in the treatment. When the affection of the prostate gland comes on, it causes an aggravation of all the existing symptoms; we have then increase of the perinæal pain, throbbing, difficult and extremely agonizing micturition, retention of urine, constipation or painful defecation, &c. This condition of the prostate gland causes the patients to suffer immensely when they attempt to sit down, or to cross their legs; even such a thing as a regular groove impressed on the fæcal matter has been spoken of. This is supposed to be formed by the enlarged prostate gland protruding as an unyielding mass into the rectum, at the time when a portion of fæces of sufficient consistence is passing under it; but I should think that this groove must be obliterated when the anus discharges the contents of the rectum, for it is well known that this intestine is much narrower at its extremity than in that part which corresponds to the prostate gland. The diagnosis will be

very much assisted by a manual examination of the rectum, and the finger introduced into this intestine will easily ascertain the amount of congestion, or discover any fluctuation, should the gland already contain pus. When the prostate yields to the finger a sensation of irregular size, it is a sign that one lobe only is affected; the inflammation sometimes merely glides along the gland to settle on the vesiculæ seminales; the congestion will then be found, on examination, to be situated at some distance from the mesial line. The generative functions assume, in such cases, a morbid activity, and the patients are much troubled and distressed by nocturnal emissions.

It is of great importance to mark these distinctions; for the vesiculæ have a very resisting feel at this period, and this might be mistaken for fluctuation. I need not say how dangerous an incision into these organs would be. The local symptoms of an inflammation of the prostate gland, and of the vesiculæ seminales, are very severe; but they are not always accompanied by a general disturbance of the system; however, it sometimes happens that they give rise to vomiting, constipation, tympanitis, and other nervous phenomena, along with feverishness; indeed, the inflammation may travel from the sub-peritonæal cellular tissue to the peritonæum itself. Abscesses of the prostate gland may open into the rectum, and it is generally in the act of fæcal expulsion that the evacuation of the pus takes place; but the purulent collection, in most cases, makes its way to the surface by the side of the urethra or bladder, either in front, or at the back of the cervix. If the pus burst into the bladder, it only makes its appearance on micturition; if it breaks into the urethra, it is immediately ejected without requiring any effort on the part of the patient. When an abscess bursts in either of the two latter ways, it may be followed by urinary fistulæ; but these may not occur at all

when the pus is discharged by the rectum. You will see, when I come to speak of the treatment of these cases, that it is wise to give exit to the matter before the collection is considerable.

6. *Rupture of the urethra.*—Chordee is very frequently the cause of this accident ; it may occur spontaneously during an erection or ejaculation, but mostly during the sexual act. In this country it is very apt to take place as a result of a popular practice. Common people are in the habit of forcibly breaking the hard cord which the urethra forms during erection. This violence is mostly followed by hæmorrhage, caused by the rupture of the urethra ; and this loss of blood may sometimes be so considerable as to call for energetic means to arrest it. At all events, it produces the same effect as an artificial abstraction of blood, and gives ease in most cases, except when styptics are employed, for these often increase the irritation. Those who resort to this violent remedy get rid of chordee for a time, but they expose themselves to much more serious complications—viz., urinary infiltration and urinary fistulæ.

7. *Induration of the corpora cavernosa.*—The study of this lesion has been much neglected. The inflammation of the mucous membrane of the urethra may gradually spread around until it reaches the cavernous texture ; plastic lymph is effused in the cells of the latter, and forms an indurated knot, on which the erections have no power. This phenomenon is very analogous to chordee, in which the spongy structure is similarly affected. The corpora cavernosa during erection in these cases, fill with blood and swell, except in those points where the hard plasticity exists ; they are, in some degree, kept back and tied down on the sides where the induration lies, and in that spot they form a curve. If the plastic kernel is situated on the dorsum of the cavernous bodies, it causes the penis to assume a dorsal concavity—the glans then turns towards the pubes : if the induration

is lodged in the inferior surface, the penis bends towards the perinæum, and the curve forms again where the hard knot is placed; but where the whole thickness of the corpora cavernosa is invaded by the lymph, that part only which lies posterior to the induration will be susceptible of erection, and the portion of the cavernous bodies situated in front of this remains soft and moveable, like the short end of a flail. This affection is not painful, and might pass unnoticed, were it not that it becomes very obvious in erections; yet, to say the least of it, it is very uncomfortable. When this congestion depends on a recent inflammation, it may be dispersed by appropriate means, and the subsequent callosities prevented; but when the plastic lymph is organised, all remedies are powerless. If this state of things is owing to tertiary syphilitic symptoms, there is a chance of cure. We see therefore that the induration of the corpora cavernosa is not always the result of blennorrhagia; it may acknowledge many other causes—namely, wounds, contusions, sudden twisting of the organ in a turgescient state, cavernous apoplexy during erection, &c. Besides these, you will notice that I mentioned tertiary syphilis as a possible cause of this complication. In this latter case, therapeutical means are very likely to be successful.

It remains now for me to mention the accidents which may complicate blennorrhagia, when it is on the decline. I will merely enumerate them now; in a subsequent portion of these lectures I shall enter minutely into details about them. We have, first, blennorrhagic affection of the testis; then, blennorrhagic arthritis; and lastly, blennorrhagic ophthalmia. In the chronic stage other accidents occur—namely, stricture, affections of the bladder, spermatorrhœa, impotence, &c.; but before considering each of these, let us enter particularly upon the treatment of blennorrhagia, and the means of preventing the disease.

LECTURE VII.

TREATMENT OF BLENNORRHAGIA.

WHEN I laid before you, some lectures back, general considerations relative to the treatment of blennorrhagia, I took care to point out all the prophylactic means which we have at command. Let us this day enter upon the treatment of the disease when the latter is fairly developed. When blennorrhagia is assailed just as its first manifestations become apparent, it may, like many other inflammations, be stopped short—and you have seen that I give the name of abortive treatment to the aggregate of the means which are thus employed to nip the disease in the bud. The abortive treatment, judiciously used, within the first twenty-four hours of the onset of the affection, succeeds, in most cases, in an admirable manner, provided the precautions I pointed out, when treating of the matter in a general way, be duly attended to. I may safely say, that the failures which have been recorded are to be attributed much more to the circumstances in which the means were applied, than to any deficiency in the means themselves. I have mentioned before, that the inflammation, during a few of the earlier days, affects principally the balanic region. This is the time for attacking it with caustics; and among those which are in general use, nitrate of silver is certainly the most efficient. The urethra may be touched with this salt, in the solid state, by means of M. Lallemand's *porte caustique*; but you will find that patients have a strong objection to this mode of cauterization; and it must be owned, besides, that it is not possible to cauterize uniformly in this manner. I would there-

fore strongly advise you to give the preference to injections. The latter are an excellent means of curing blennorrhagia—and indeed I do not know how a cure could be obtained without them. Yet how violently some people deprecate them. It has been alleged that injections produce strictures; but this is a mistake; far from doing so, I am bound to say, that they often prevent them; they are to be looked upon as prophylactic measures against strictures, and not as giving rise to them. Is it not with injections that we control blennorrhagia at its very onset?—and what more likely to give rise to stricture than a prolonged blennorrhagic discharge? Is it not a well-known fact, that the chances of stricture always increase with the duration of blennorrhagia? Those who have accused injections of doing so much mischief must have referred to the time when Bell used them indiscriminately, in all cases, and without attending to the distinctions which are carefully studied in our days. When a surgeon in those times was applied to for the removal of a stricture, he invariably found, on inquiring into the history of the case, that injections had been used; and this led, of course, to the suspicion, that the latter had much to do with the production of strictures, and they were at last looked upon as the sole cause of them. In order to render abortive injections effective, you must use a glass syringe of easy action, with a solution of fifteen grains of the nitrate to one ounce of distilled water. The patient is first desired to pass water, and then made to sit on the edge of a chair, without troubling him with a compress on the perinæum, as it is sometimes practised; the penis is to be taken hold of, slightly stretched, and the pipe of the syringe gently introduced into the meatus, taking care to press the lips of the latter so as to bring them into close contact with the pipe. The injection is to be made suddenly, to take the mucous membrane by surprise, as it were; for it sometimes happens that

the urethra contracts, and opposes the progress of the liquid. Half the contents of a small syringe are sufficient to moisten the whole canal. You must not neglect apprizing your patient of the peculiar sensations he will experience after this, so that he may not look upon symptoms which are but transient consequences of the abortive treatment as signs that the disease is growing worse. These sensations are the following: very intense pain coming on soon after the operation, and an increase of the discharge; the mucous membrane begins to secrete a serous, sero-sanguineous, or sanguineous fluid; and this is soon followed by a phlegmonous suppuration, of a creamy consistence, which forms a plug in the urethra. The first micturition after the injection gives excessive pain, and the distress is greatest in the balanic region. The stream of urine may assume all the different forms which strictures generally produce. The pain may, however, be mitigated, if the patient plunge the penis in cold water while micturating, and refrain from any effort. All this may take place within twenty-four hours, and these unpleasant symptoms will generally vanish before the expiration of that time. Those which usually persist a little longer are the sanguineous discharge and the creamy suppuration which appears on the meatus. Care should be taken not to resort to new injections until those have entirely disappeared. The disease, with some patients, is suddenly arrested after the urethra has secreted a few drops of very thick, muco-purulent matter; with others, the cure is preceded by the discharge of a stringy mucus, which gradually diminishes in quantity, and soon entirely disappears. But when greenish muco-purulent matter makes its appearance, just as it did before the injection was used, it is a sign that the blennorrhagia is persisting, and that we have failed in cutting it short.

The peculiar characters of the disease generally reappear towards the third day after the application of

the abortive means, when the latter have proved powerless in controlling it. We may therefore say, taking the mean of the time which elapses in different cases, that the abortive injection is to be renewed at the expiration of two days. If, however, the first injection were to produce none of the symptoms which I have just enumerated, it should be repeated on the same day.

It may now be asked,—Whether the abortive treatment I have described is not liable to give rise to very unpleasant consequences? I may answer thereto that this, like many other treatments, has its advantages and its drawbacks. It cannot be denied that it may produce lypothymia (*Λυπη*, dolor; *Θυμος*, tuberculum carnosum) or pain in the glans, faintness, alarming hæmorrhage, a retention of urine, consequent upon the swelling of the mucous membrane; but all these will yield to ordinary means, and do not constitute a sufficient reason for giving up this peculiar mode of treatment, which has undoubtedly rendered very great services to humanity.

To secure all the benefit which the abortive treatment holds out, we should not confine ourselves to injections; they will very often succeed without the assistance of any other agent; but as they sometimes fail when used alone, we should be careful to combine them with the internal use of copaiba and cubebs. These substances and the injections should therefore be made to act simultaneously, and it is indispensable to give them in large doses. The injections modify, and create a new action in, the mucous membrane, and copaiba and cubebs, by yielding their principles to the urine, contribute powerfully in rendering that modification more effective.

I think this is a fit opportunity for introducing a few remarks relative to the employment and action of these two therapeutic agents. Among the substances administered internally for the cure of blennorrhagia,

copaiba ought to take the first rank. It is in some degree a specific remedy for the urethral variety of the disease; but its specific action is annulled when it is used against the other species of blennorrhagia. It acts in three ways,—1st, by revulsion; 2d, by its general action on the system; 3d, by direct influence on the surface which it is expected to modify.

1. *Revulsive action.*—When copaiba acts on the bowels, it may bring about a revulsion on the intestinal canal, and thus possibly establish a cure; it then acts like any other purgative, as colocynth, &c. But you must not trust to cures thus obtained, for it often occurs, that when the revulsion ceases, the blennorrhagia returns; so that I would lay it down as a general rule, that the purgative action of copaiba is not to be sought for, when we administer this substance against blennorrhagia.

2. *General action on the system.*—The blood being modified by the principles of the copaiba, may, in its passage through the textures of the mucous membrane, act upon it in a peculiar manner; but it is plain that this mode of action is very feeble, since those varieties of blennorrhagia which have not their seat within the urethra, are in nowise benefited by its administration.

3. *Direct anti-blennorrhagic action.*—Copaiba, after being taken up by the torrent of the circulation, is elaborated in the kidneys so as to acquire new properties. Thus it is that the urine of persons who are using copaiba has a peculiar smell, very easy of recognition for those who have had practice in these matters. This principle, the result of the renal elaboration, is contained in the urine, and it is by means of this peculiar element that the affected surfaces become modified. I have had occasion to observe the disease we are now studying, upon individuals who had a urethral fistula, situated sometimes two inches, or at other times two inches and a half, posterior to the meatus. In one

of these, the vesical portion only of the urethra was at first affected with blennorrhagia; but it travelled from behind forwards till it had fairly settled in the balanic region also. By the use of copaiba I succeeded in controlling the discharge which issued from that part of the urethra which was situated posteriorly to the fistula—namely, the portion placed under the influence of the urine; but the blennorrhagia persisted in that division of the canal which lay anterior to the fistulous opening, as the urine did not come in contact with that division. This anterior discharge, if I may so call it, was cured by injections. I remember another patient who had a fistula in the same region; he could make his urine issue by the meatus in lowering the penis, by which means he brought the lips of the fistula together, and closed it; but when in the act of micturition he raised the organ, the fistula became patent, and the whole fluid passed through it; he applied to me for a blennorrhagia which occupied the whole length of the urethra; I saw at once that this was a good opportunity for studying the action of copaiba, and clearing up any doubts which might remain, without injuring the individual in the least. After having prescribed copaiba, I desired him to evacuate the contents of the bladder solely through the fistula. A few days afterwards, the discharge from the portion of the urethra situated posteriorly to the fistula had entirely disappeared, but it persisted in the part anterior to it. I continued the use of copaiba, but advised the whole of the urethra to be moistened by the urine; in fact, I told him to allow his water to pass through the meatus. This settled the matter in a few days, and the spongy portion of the urethra was soon freed from all discharge. These facts will, I hope, suffice to prove the special action of copaiba. Some people have thought, in arguing from these undoubted properties of the substance, that blennorrhagia might be cured by applying the balsam directly

upon the affected mucous membrane ; but this mode of administration has never succeeded ; and besides not curing the disease, it irritates the parts very much. Copaiba may be used in three different ways : first, by direct application : this has been entirely abandoned ; secondly, as an agent upon the intestinal canal, being introduced by the mouth ; and as a similar agent, thrown into the rectum.

Casualties to which copaiba may give rise.—It occasions, for the most part, very disagreeable eructations ; vomitings, which are caused either by an insurmountable repugnance, or by a gastric irritation ; diarrhœa, brought on either by intolerance of the remedy, or an irritable state of the bowels ; it may even produce enteritis. Vomitings which are induced by repugnance or by intolerance are accidents yielding no benefit as regards the cure of the disease ; but the diarrhœa which is produced by intolerance of the remedial agent may, on the contrary, be very beneficial. Copaiba acts very rarely on the nervous centres, but in certain cases, congestion of the brain has been known to be the result of its administration, and in such cases the medical adviser is of course obliged to give it up. The use of copaiba sometimes gives rise to a cutaneous irritation, which may go so far as to produce an exanthematous eruption. It is especially during the autumn and the spring, that this is liable to occur, and the rash usually makes its appearance soon after the first few doses. The most common of these eruptive forms are : roseola, lichen urticatus, and even sometimes urticaria.

I have sometimes seen an eczema, and the different varieties of erythema, follow the use of copaiba ; but roseola is the most usual eruption connected with the use of this substance. Its appearance is preceded and followed by rather severe itching, and the patches, either disseminated or grouped together in certain parts of the body, are of a vinous, lively, and shining

colour. The cutaneous phenomenon may extend all over the frame, and be almost instantaneous; if partial, I am not aware that it shows a preference for any particular region, but its principal character is an evident tendency to concentration upon isolated points. It often breaks out over the large joints, and mostly on the side where the extension of the limb is performed; also behind the ears, and sometimes on the posterior part of the neck. Febrile disturbance never accompanies the eruption, unless the latter be connected with a particular state of the system, which may account for the pyrexia. If all these characters were not sufficient to establish an accurate diagnosis of the nature of the cutaneous manifestations, there is a pathognomonic one which will at once clear up any doubts—namely, the rapid disappearance of the eruption on the cessation of the copaiba. This roseola generally fades away from the first to the eighth day, after the balsam has been left off. This peculiarity alone (if attended to) would have been sufficient to prevent all mistakes; but it has too often happened, that many of those practitioners who confine themselves to these diseases, and who ought to have known better, have confounded this exanthematous eruption with secondary syphilis.

Copaiba may likewise give rise to another accident, which has led some astray: I allude to lumbar pains, which have so often been mistaken for symptoms depending on urethral mucitis. Patients placed under the influence of this substance are often attacked by a sharp pain in the lumbar region, which they compare to the reception of repeated blows. Do not fall into error on this head, and be careful not to set this down to blennorrhagic nephritis, as some have done. For if renal blennorrhagia were looked upon as the cause of these pains, it would turn out to be a very frequent complication of the disease; whereas, on the contrary, it is extremely rare. A proof of the correct-

ness of the opinion which ascribes the lumbar pain to copaiba alone, may be obtained in a couple of days in most of the cases we have to treat. Let the drug be given up, and all the uneasiness in the back will disappear, thereby setting aside any idea that it depended on the extension of the blennorrhagia to the kidneys.

LECTURE VIII.

M. RICORD'S DEFENCE OF THE NEW DOCTRINE.

BEFORE I proceed to the consideration of the second portion of our inquiries—viz., the study of the *virulent* venereal diseases, I must beg leave to interrupt the methodical order we have hitherto followed in the history of the venereal affections, as the Académie de Médecine, a learned body, whose scientific worth is so generally acknowledged, has just thought fit, in consequence of a paper on syphilis being reported upon, to discuss the new doctrines which I am advocating. Since I cannot defend my opinions *vivâ voce* among these gentlemen, not having the honour of a membership, I am induced to make use of this channel, in order to answer, in a few words, the arguments which have been brought against me. You, of course, understand that there cannot be any question about *persons*, I have only to deal with *opinions*, and when these are openly discussed, I think I have a right to take hold of them and examine them with unflinching impartiality. I am actuated by the love of truth, and by a sincere wish to promote the interests of science, and I am, moreover, anxious that you should become acquainted with all the bearings of the question. Two very important points have been discussed: first, that eternal hankering about the

identity of blennorrhagia and chancre—an identity which is said to exist both in their nature, kind, specific cause, and consequences, the latter circumstance being particularly dwelt upon, as both affections *seem* to produce secondary symptoms, similar in their nature but different in their form. The second point at issue is, the abortive treatment of blennorrhagia and chancre. You know how often, in this hospital, I have succeeded in showing you why secondary symptoms sometimes *appear* to be the result of a simple blennorrhagia. On these occasions, I have proved that, strictly speaking, virulent blennorrhagia differs in no ways from chancre, for you have, in both, the same causes, the same lesions, the same consequences; and I hope I have left no doubt in your minds about the following axiom—Virulent blennorrhagia is the result of a urethral chancre.

The foundation of this doctrine does not rest upon assertions of patients concerning the ailments they had twenty or twenty-five years ago, but upon the close watching of the sick, independently of their own tale. I firmly believe in the existence of urethral chancre, *because I have seen it*, both in the living and the dead. I will not say, like some people, that I have been *fortunate* enough to make a post-mortem examination on any patient of mine affected with blennorrhagia, but I will rather say, that I have had the misfortune to lose some patients, in whose urethra I have found chancres. I have shown these pathological preparations to the Académie de Médecine, they were there recognised as genuine, and the committee appointed to report upon my communication acknowledged the real existence of chancres, situated in the spongy, and some even in the membranous portion of the urethra. Now these were palpable facts, and it is only from such undeniable data, and after having thus *seen* the urethral chancre, that I drew the conclusions which have been so often

attacked since. In order to prove the possibility of chancre being placed so far back in the canal of the urethra, I have brought forward an argument which I beg now to mention again, and you may convince yourselves how rigorously correct is my mode of reasoning, by observing the patient lying at No. 10 in the fifth ward. This argument may be briefly stated as follows:—A urethral chancre in the balanic region is very common; in many cases you need but hold the lips of the meatus slightly apart to see it very plainly. This fact no one denies. Now this chancre may extend backwards in such a way that its anterior margin may be perfectly apparent, whilst its posterior limit may be entirely hidden to the eye, and this often takes place in cases which, in other respects, do not admit of the slightest doubt. It is plain, then, that this posterior limit escapes our observation; but is this a reason for denying its existence? This chancrous ulceration must of course end somewhere or other behind the point which comes under the cognizance of your eye. But why should the chancre not just as well *begin* as *end* in parts which you cannot see? Is not this a fair deduction? All that part of the canal that you can open to view may be healthy, whilst the posterior division may be affected with chancres. Reasoning alone might convince the most incredulous, but I will now state an actual proof.

You are aware that my opponents call blennorrhagia any discharge from the urethra, whether it be purulent, muco-purulent, &c. Now, you have all seen a patient lying in No. 16 of the third ward; his symptoms were, on admission, purulent secretions per urethram, so that he would have been classed, by those who antagonize my opinions, among the blennorrhagic category. A few days subsequently, we saw, at the meatus, a chancre, which no doubt had extended from behind forwards, since no trace of any thing of the kind had been found on admission.

I might almost say that the urethra had driven forward its chancre to give you a sight of it. But if all this is not sufficient, how could the experiments which I daily perform here be resisted? I take two patients, one affected with purulent balano-posthitis, and the other with chancre on the glans. I retract the prepuce in both cases, and I inoculate each with his own pus. The first invariably yields a negative result—viz., the inoculation does not take; in the second, we always produce a chancre. In proceeding in this manner, we plainly see the parts affected and the results obtained. But if you were to try the same experiment over again, without raising the prepuce from the glans, and merely collect the pus which issues from the preputial orifice, do you think that the result of this second trial would not be exactly the same as that of the first? The phenomena are the same; but in the one case you see whence the discharge proceeds—in the other you do not. Now, why should it be otherwise, when we operate comparatively upon pus from simple blennorrhagia, and pus from blennorrhagia symptomatic of chancre? I fearlessly ask whether it is logical or consequent to resist facts and arguments like these? M. Gibert, who says that my doctrines have found a great many supporters (your presence here shows that herein he is not mistaken), maintains that my *hypothesis* of a urethral chancre is an error. But how does he attempt to prove that there are virulent blennorrhagiæ without that ulceration which, in my opinion, is their necessary starting point? How does he try to convince people of the non-identity of chancre and virulent blennorrhagia? Merely by stating that he never saw a urethral chancre. But how can I help that? Feeling his weakness he calls Hunter to his assistance, and says that this great physiologist made a post-mortem examination of two culprits who had blennorrhagia upon them when they were executed;

that he opened the urethra, and found no ulcerations. Of course he did not, since these men had only simple blennorrhagia. If he had met with chancres, the case would no longer have been a blennorrhagic one, but a case of urethral chancre. Hunter found what might, *à priori*, have been expected—viz., a simple inflammation of the mucous membrane. The facts cited by Morgagni are of the same description; he, like Hunter, like Gimelle, performed the necropsy of four *blennorrhagic* subjects, and found no ulcerations, nor was it possible that he should find any. But the important question is this,—Was there one among all these individuals who, being merely affected with a phlegmasia of the mucous membrane, at the time when the post-mortem examination was made, had *secondary symptoms* upon him, *proving that the system had been contaminated by blennorrhagia without the concurrence of chancres?* Not one. They all had blennorrhagia, but nothing more, and chancres in the urethra were out of the question. But Morgagni, who is always brought forwards, and from whose works people are so fond of deriving a little support for their views,—Morgagni, who searched in vain for ulcerations in the urethra of subjects who had died with blennorrhagia, had discovered urethral cicatrices upon some of the bodies he examined. Now it is clear that these cicatrices must have been preceded by loss of substance and destruction of tissues; so that we may conclude that Morgagni has examined *some* subjects who, at their deaths, were affected with blennorrhagia, and who neither had nor could have urethral chancres, and *others* who really had had such chancres, as proved by the cicatrices found upon them. My learned friend, M. Velpeau, does not deny the possibility of urethral chancre; he is too sensible to contend against averred facts, but he adds that they must be very rare. He states that he saw patients affected with secondary and tertiary symp-

toms twenty or twenty-five years after simple blennorrhagia. I do not doubt it; I and many others have met with similar cases. But I may ask, and this is an important point,—Who diagnosed these patients' affections? Who can come forward now, as having, so long ago, seen and observed the blennorrhagia which is accused of having brought on this secondary mischief after so many years? We have no one to refer to but the patients themselves; and how could they make out whether their disease was simple blennorrhagia or a discharge symptomatic of urethral chancre, when we medical men find it so difficult to distinguish these two affections? In circumstances like these, nothing can be decided without actual experimentation. What value can we therefore attach to cases of so doubtful a nature? Again, it is urged: "The number of people who have secondary symptoms after simple gonorrhœa is too large to allow us to suppose that they all had urethral chancres." But where are your figures? Who stands for the veracity of patients? Must we not take into account all the licit and illicit modes of infection? Have any facts been strictly watched and carefully verified during any lapse of time—say, fifteen or twenty years? Nay, had thirty and even forty or fifty cases been scraped together—a number which, in the eyes of many medical men, would be very large, how could these militate with the hundreds of cases of blennorrhagia which every year pass through these wards without any secondary symptoms? Another member, who, like M. Velpeau, is a professor of the faculty, said,—“Whenever I have opened the urethra of a subject affected with blennorrhagia, I always found swelling, redness, &c., but never any chancres.” But this is plain enough, and I can only repeat what I was saying just now: These patients had simple blennorrhagia only; they could, of course, have no chancres in

their urethras ; and besides, this is merely talking of the few cases which have died, and no wonder that nothing like a chancre was found, for the urethral variety is very rare. For my part, in the space of sixteen years, I have only met with two subjects who, on a post-mortem examination, presented chancres in the posterior part of the urethra. Another distinguished surgeon, M. Roux, so extensively known both by his skill and honourable conduct, is also against me, and will give no belief to the existence of the urethral chancre ; but he adduces no argument to support his incredulity ; he merely says that such is his intimate conviction. Of course I cannot discuss convictions ; we require facts in the study of science — convictions have no weight. As for M. Lagneau, who some time back reported on my paper, and himself presented to the Académie the pathological preparations which I sent along with it, he states it to be his opinion, that out of ten thousand cases of blennorrhagia, there is not one where the discharge is kept up by a urethral chancre ; yet it was he who established from my preparations that the existence of chancre in the canal of the urethra is an acknowledged fact. But where are the cases which prove his opinions?—where are the necropsies ? There is nothing of the sort brought forward ; all that is offered are—convictions and strong belief : that goes for naught. People rarely die of blennorrhagia, or during its continuance : this explains how, in the course of sixteen years, I have only twice found the urethral chancre in the posterior part of the urethra, in the many post-mortem examinations I made. As the number of persons labouring under blennorrhagia with whom I come in contact is infinitely above the number of those who die with the disease upon them, it is not surprising that I should have more opportunity of finding the urethral chan-

cre on the living than on the dead. It is generally by pressure that its presence can be made out.

Since January last, I have had no less than ten cases of blennorrhagia symptomatic of urethral chancre. The diagnosis and prognosis of these cases were clearly made by means of comparative experimentation, and I then showed that the urethral chancre may be followed by secondary symptoms, but that simple blennorrhagia has no such sequelæ. I may, then, safely say that the attacks directed against my doctrines have in no way invalidated them, that my arguments have not been met, that the non-symptomatic blennorrhagia is essentially different from chancre, that the latter has no identity but with itself, and that these facts are proved by careful observation and experimentation. I moreover maintain that no observations are to be looked upon as possessing any value, except those made with due caution by the medical man himself; whilst the statements of patients are to be entirely rejected as insufficient, and made up of stories and fabrications.

The second question which I have to enter upon now, relates to the abortive treatment of blennorrhagia and chancre. You are fully acquainted with every particular concerning the former, but the latter I have not yet touched upon, although I am just on the eve of doing so. You will, then, allow me to anticipate a little upon what I have to say about chancre, as the abortive treatment, now to be discussed, relates both to the latter and to blennorrhagia, and that they cannot well be separated. I will merely state, in order to forestal any misapprehension, that my doctrine runs thus: a chancre destroyed by caustic within four days of improper intercourse may entirely disappear, without having time to contaminate the system; with this proviso, however, that the induration of the base have not commenced. Now, to return to the question at issue: I must say,

at the very outset, that the gentleman who reported on this matter thinks that it is possible to destroy a primitive chancre before it has had time to taint the system. M. Velpeau is of the same opinion, but he considers these cases very rare. I confess, likewise, that they are very rare, but simply because we are seldom consulted in time. M. Roux would like the disease to be left to itself; and M. Lagneau, in a matter of such importance,—in a question involving moral and physical responsibility,—forgets himself so far as to say that my method originates from the guard-house, and that my having been an army surgeon accounts for this. He might just as well have said that Jenner's discovery originated in the cow-house. He goes on to say, "How do we know what we are doing when we cauterize a chancre? Are we sure that we have to deal with a chancre? And besides," he continues, "the author of the new theory declares that a chancre has no special characters; this, however, is a complete error—chancre always has an especial stamp upon it." Now, I have been watching chancres for the last seventeen years, and I need not tell you how many pass under my notice every twelvemonth; and I am not afraid to declare, were I even taxed with ignorance, that there have been cases where I found it impossible to give a decisive opinion with regard to a suspicious ulceration; and I am, unfortunately, not the only one thus puzzled. I have seen men of talent—men who, in fact, are our masters—look upon superficial, indurated chancres, which six weeks afterwards gave rise to a fine crop of secondaries, as slight non-syphilitic ulcerations. But I find that the time is elapsed; I shall continue this subject when we meet again.

LECTURE IX.

M. RICORD'S DEFENCE OF THE NEW DOCTRINE.

AT our last meeting I took a rapid survey of the points at issue regarding my doctrines, and I think I was just considering the difficulties connected with the diagnosis of chancre, when the dial stopped me. These difficulties are certainly very great, and since men of eminence, as I before mentioned, fell into such strange errors, I began to consider whether there was not full excuse for such mistakes? whether chancre was at all times identical as to periods, aspect, character, consequences, species? whether its appearance is the same on all textures? whether it is ever true to itself as to seat, complications, and peculiarities of the patient? whether the characters which are ascribed to chancre are sufficiently constant to judge infallibly of any given ulceration? Now with the assistance of inoculation I can answer all these questions, and I can lay down this axiom, which you have often heard in this hospital—viz., that the peculiarities of chancre are to be found neither in its form, colour, induration, and shape; nor in the physical characters of the ulceration, nor in its duration: all these are liable to endless variety;—the diagnosis must entirely rest on the pus secreted by the sore, which, during a given time, is always identical: inoculation is the only means to be relied upon in order to give an opinion; although it is often possible in plain cases to diagnose by the aspect of the sore alone. Now comes the question about the abortive method both in blennorrhagia and chancre. It has been asked whether it is of any use, whether it generally

succeeds, and whether it is quite harmless? One of the speakers considers that blennorrhagia ought to be allowed to take its course, because complications provoked by rather a violent treatment are very dangerous. To this I have nothing to answer but that the most destructive ulceration is the very one which infects the least. Now as to chancre, it is alleged that secondary symptoms have made their appearance in spite of cauterization. But let me ask at what period this cauterization was made? Is it four, five, ten days, or a month after infection? that is of no use, so far as secondaries are concerned. Again: it is brought against me that a *cauterized* chancre may be followed by a bubo; but I need only tell my adversaries that a chancre which is not submitted to any treatment at all, will also produce it; and besides, we know that blennorrhagia and chancre, left to themselves, are more frequently followed by epididymitis than when treatment is used. How then can the remedy be accused of producing bubo when it is proved that it occurs much oftener in the absence of any treatment? After this, a very fair query was put by M. Bousquet—viz., Is it quite certain that the nascent chancre, which you expect to destroy, is at its outset a purely local disease? why should not chancre, as well as the matter of cowpock, begin by general contamination? M. Bousquet has written several excellent works on vaccination, and his opinion therein expressed is, that the virus of cowpock has first a general effect on the whole system, and that the local phenomena follow this disturbance. But let us examine this subject carefully; and first I may ask whether it is absolutely unavoidable and necessary every time a virus is placed in contact with an absorbing surface that it should be absorbed? We all know that there are substances belonging to this class that cannot be absorbed at all. But is there no difference as to promptitude of action, constancy of effect, &c.,

among those which are easily taken up? Arsenic, for instance, placed upon an ulcerated surface, in the ointment of Frère Côme, would give rise to very disastrous consequences, if absorbed. But look at tartar-emetic; does it excite emesis when applied on the skin in the form of ointment? By no means; its effects are merely local; it produces a decided ecthyma clearly of a variolous character. Now this pustule takes from three to eight days to attain its full development, and the mean between these two figures is just about the time which the cowpock pustules take to form. Now I am sure no one will for a moment suppose that the action of tartar-emetic is general before it becomes local; and yet you cannot help perceiving the close analogy between the development of pustules resulting from tartar-emetic and those springing up by the absorption of the cowpock matter. If the effect of the antimonium tartarizatum were general at first, vomiting would be one of the earlier symptoms, and the pustule would appear subsequently to the emesis. Now I mean to say that the matter of cowpock acts exactly in the same manner as the tartar-emetic; its characteristic pustule takes just the same time for making its appearance as the ecthyma from tartar-emetic, and where is the proof that vaccine matter acts generally before its local effect can be noticed? To this, some have answered, "if you inoculate the cowpock matter again just at the moment the pustule of the first vaccination appears, you produce no effect." This is not correct, for the experiments daily performed around us prove the contrary position. M. Husson used to call the interval during which the vaccine matter remains powerless, the period of inertia. And, moreover, you must notice that it sometimes happens that in the most favourable cases for inoculation, when every thing seems to favour absorption, the matter will not take. Nay, the virus may even

be placed in contact with absorbent vessels, and fail to be taken up? To resume then: we may fearlessly say that there are some circumstances in which a virus, although applied, is *not absorbed*, and that in others the surface acted upon by the virus may be modified in such a manner as either to favour or prevent absorption. Just allow me one illustration. Suppose you make six little punctures with your inoculating lancet; three sometimes will take and three not, or it may happen that none at all will produce any effect, and yet six months afterwards you perform the same operation, and you thoroughly succeed. How can you explain *that*? But this is not all; remember the experiments of Eichhorn. He takes several children and vaccinates them all. A week after, when the pustules are fully developed, he begins the same operation over again. With one the aptitude is lost, and nothing appears. With a second, the pustule comes forward, but modified, and runs through its stages in half the time which the first pustules took. With a third, the reproduction of pustules is just as complete as if the child were vaccinated for the first time, and yet he has been a whole week under the influence of the virus. What must we conclude from these facts? That in the first of these three children the matter has acted completely; in the second incompletely; and in the third the virus has evidently acted but locally. Now I have, I think, proved that the effect of vaccination is not necessarily general at first, but were I even to grant the reverse, I cannot for a moment side with those who maintain that the action of the syphilitic virus *must*, like the vaccine matter, act first on the system at large and locally afterwards. For, with regard to the syphilitic virus, we must admit either one or other of these positions—namely, that there is, in pathology, but one single virus, and then there would be no need of searching for differences;

or that there are various kinds of virus; originating from different sources, and producing effects which are not analogous. Now, if we admit this latter supposition, why should the syphilitic poison be expected to act like the vaccine matter? If the syphilitic virus were to act in the same manner as the cowpock, it would no longer be true to itself—it would lose its identity; in short, it would become vaccine matter. And yet, independently of this discussion, there are certain analogies between these two virulent agents, which have not, as yet, fixed the attention of pathologists, and which I will now point out to you.

When the syphilitic virus has produced its effect on the system, it exhibits, like the virus of cowpock, its own peculiar pustule. When the general infection is thoroughly established, in syphilis, there is still a possibility of provoking the appearance of a pustule; but the chancre is then quite local, never assumes any induration, and has a great tendency to abnormal forms—viz., the phagedænic, serpiginous, &c. M. Bousquet has tried the experiment of burning the vaccine pustule, but failed, by this means, to prevent the general effect; and the aptitude of the individual for absorbing the virus was not regained by this cauterization. M. Itard has gone still further; for immediately after the pricking of the lancet with vaccine matter he washed the part with water, yet it took in spite of that. He washed it, another time, with chloride of lime; the pustules appeared just the same. In a third instance he used diluted ammonia, with the identical results. Now, so much for vaccine matter; let us now see how I fared with the syphilitic virus. I have repeated Itard's experiments with great care, substituting the pus of chancre to the cowpock matter, and have obtained the same results—viz., the chancre always made its appearance after inoculation, in spite of the ablutions. I succeeded, however, in preventing the

development of the pustule by cauterizing the inoculated surface with potassa fusa cum calce (Pate de Vienna).

Now to return to M. Bousquet, to whom I was alluding just now: you must notice that his experiments will afford us some instruction as to the time when cauterization is of any use. He cauterized the pustule as soon as it appeared; but it takes three, four and even five days, in coming forward after the inoculation, and sometimes more; and this is just the space of time which I fixed (three or four days) as the probable limit after which the individual can no longer expect to be shielded, by cauterization, from the occurrence of secondary symptoms. In such a case you can only act locally—the general symptoms are beyond your reach.

M. Renault, one of the most distinguished professors of the Veterinary School of Alfort, has performed several experiments on the inoculation of glanders: he cauterized the puncture forty-eight, twenty-four, and even twelve hours after inoculation, and in all cases did that frightful disease appear, with the whole train of terrible phenomena which usually accompany it. What does this show? That in the inoculation of glanders twelve hours are amply sufficient to contaminate the system, and that cauterization is useless after that time. But the Alfort professor has had the good sense not to attempt the establishment of false analogies; he has merely stated what he has seen, without subjecting syphilis to the same laws as glanders—unlike those who have concluded from the phenomena of cowpock to those of syphilis. Remember, that what is true of the one is not necessarily true of the other. For instance, does arsenic pass as rapidly into the circulation as hydrocyanic acid? Why should we expect that variola, hydrophobia, syphilis, glanders, and cowpock, should run through the different stages of their

evolution in a period identically the same? If the venom of the rattle-snake kills a man in a few hours, is that a reason why syphilis should do the same? So, then, it is clear that there is no sort of connexion between glanders and syphilis, either as regards rapidity of progress or incurability. Malignant pustule and carbuncle are much more rapid in their progress than all the affections I have hitherto mentioned; and yet no medical man will be so imprudent, so negligent, nay, so dishonest, as to remain inactive when he sees an individual upon whom carbuncle or malignant pustule is springing up. Will he not immediately try to destroy the local mischief, in the hope of preventing the disturbance of the system which follows it? You will not find one surgeon who will do nothing at all, and quietly look on, for fear of its being too late. My idea is, that it is our duty to contend tooth and nail against the disease, and that we ought always to give a chance to our patient by energetic interference.

All these observations and arguments of mine have been met by mere assertions, unsupported by proofs, whereas I am asking for facts. And to show you how anxious I am of being fairly attacked, I defy any one to bring forward a patient deeply and completely cauterized by me, within the three days that follow the inoculation, who has exhibited, six weeks or two months afterwards, symptoms of constitutional taint. I do not work in the dark; the doors of this hospital are open to every one; and I invite all those who doubt to come and convince themselves with their own eyes. Now to resume, in a few words. The various virulent substances comport themselves differently as to their absorption; in fact, there is a distinct and peculiar kind of absorption especial to each virus. This position being granted (and I think it can hardly be disputed), we at once see the possibility of attacking the inoculated surface when

the tissues are still contending against the invasion of the virus ; whilst they still possess sufficient vigour to prevent its entrance into the torrent of the circulation. Every one, besides all these considerations, acknowledges that cauterization is very good practice as regards the removal of the *local* accident ; and why, then, should this same cauterization be refrained from ? why should this merely local symptom be allowed to progress, when it can be healed in a few days ? Were the advantages of cauterization confined to this alone, it would be sufficient to induce every right-thinking surgeon to use it. But some object that the appearances of the local ulceration guide the medical man as to the treatment to be employed against the general infection ; that the sore is, in some degree, a touchstone, a sort of *syphilometer*, an outlet for the virus. If this were true, I would no doubt advise you not to interfere with the chancre : but it is no such thing ; the constitutional infection bears no ratio whatever to the number, the extent, or the duration, of the primary sore. On the contrary, the observation of facts proves that the indurated chancre, which is almost sure to be followed by the taint of the system, is generally solitary. And if you were strictly to act according to the opinions of my opponents, do you know what would happen ? You would be led to multiply the chancres artificially by inoculation, and to cover the patient with specific ulcerations, to render the constitutional infection less probable. The more chancres you could produce, the less fear of general contamination there would be. But this is too absurd for me to dwell upon it any longer. Keep then in mind, that the local accident can in no way prove beneficial ; that the general infection is not in proportion with the size of the chancre (since a very small one can do much constitutional mischief, and a very large one, none at all) ; that the chancre does nothing but irritate the textures upon which it

is seated ; and that in the cowpock contamination, as well as the syphilitic, when you implant into the system a new dose of contagious virus, the general infection having already been brought about by a former dose, you cannot produce the constitutional contamination over again.

From all this I may deduce that any virulent purulent matter may—first, act locally ; or, secondly, remain without the least effect upon the part on which it had been deposited ; or, thirdly, may even in some instances enter the economy without giving rise to any manifestation at all.

One word more, and I have done. Professor Moreau expresses an opinion which is more likely to convince us of his excellent moral principles, than of any scientific truth. He says, first, that blennorrhagia and chancre are one and the same disease, and can both contaminate the system ; secondly, that syphilis, under whatever form it may appear at first, is contagious in all its stages, and transmissible even when no manifest symptoms of the disease can be detected, particularly when the individual who has once been affected did not use any specific treatment. To support his opinion, he tells us of women who, being models of virtue, and placed above any kind of suspicion, have presented symptoms of syphilis because they were married to men who had had the disease a long time before, and who for many years had been supposed perfectly cured.

Now upon this I have only one thing to answer to M. Moreau—namely, that medical men of honourable and upright principles are often made the dupes of their patients ; and that in morals, as well as in many other things, there is an enormous amount of deception, the major part of which is practised by the fair sex.

LECTURE X.

I AM sure I need not apologize for having detained you some time with the defence of my doctrines. I trust I have fairly met all attacks which have been directed against them, and I will now conclude the treatment of blennorrhagia. (*Vide* LECTURE VII.)

Mode of administration of copaiba, and its doses.

Some practitioners give copaiba in increasing doses, beginning with fifteen grains a-day; they go on augmenting until they have reached five drachms per diem, and they very rarely push so far as seven or eight drachms. When the maximum has been reached they diminish the doses until they reach again the quantity they started with. It seems to me that this is bad practice, for it tends to accustom the economy to the therapeutic agency of the drug, and thereby to diminish its effects. I greatly prefer commencing by pretty strong doses, three or four drachms a-day, and then increase the dose gradually. It has also been attempted to divide the administration of the drug in such a way as to keep the disease constantly under its influence, and to avoid any purgative effects. But it is here to be noticed, that when this balsam is continually in contact with the intestinal canal, it may occasion in the same the development of morbid phenomena of a very unpleasant nature. The best part of the day for taking the copaiba is in the intervals between the meals, and three doses per diem are quite sufficient. The same dose is to be persevered in until the discharge has disappeared, and it is wise to go on for a few days after the apparent cure, in order to forestall any thing like a relapse. The action of copaiba

upon blennorrhagia is generally gradual, but it is sometimes very rapid. In the latter case great caution should be used, for the cure is mostly but temporary. Three or four days after the cessation of the discharge it is advisable to diminish the doses, in such a manner as to extend the treatment ten or twelve days after the cure. I then confidently let the patients give up the drug, and they generally do well.

People who are taking copaiba are subject to very intense thirst, accompanied by a peculiar dryness of the throat, which makes them take an enormous amount of liquid; but they should be recommended to drink moderately, and to pass water less frequently, so that the active principle of the copaiba may be in a more concentrated state in the urine.

A practitioner sometimes congratulates himself on having cured his patient when he ascertains that every kind of discharge has ceased, but he often finds himself deceived; nocturnal emissions come on, and these, which the patient looks upon as very favourable, from the relief they procure him, seldom fail to recall the mucous discharge. In these cases there is no other alternative but to resume the copaiba. Sexual intercourse must be strictly interdicted until about fifteen or twenty days after the cure, and even at that period indulgences of this kind are very liable to occasion a relapse. The disease, in such a case, is no longer contagious, but it reappears with renewed intensity upon the patient, who was just rejoicing in the consciousness of having got rid of it.

Formula for the administration of the copaiba.—The less the drug has been triturated the more efficacious it will be. The most powerful formula, but at the same time the most disagreeable to take, is Chopart's prescription—viz., Copaiba, rectified spirit, syrup of tolu, peppermint-water, orange-flower water, of each, two ounces; spirit of nitric ether, two drachms: mix. One ounce and a half or two ounces to be taken in the morning.

But this is extremely repulsive to the taste, so that efforts have been made to modify this formula in different ways. The following is the mode of administration which I am very fond of using:—Copaiba, syrup of poppy, syrup of tolu, of each, one ounce; peppermint-water, two ounces; orange-flower water, an ounce; powdered gum acacia, sufficient to form an emulsion, of which three, six, or nine table-spoonfuls may be taken daily.

Patients sometimes take this with much difficulty, so that I generally give a few corrigents along with it: for instance, a glass of lemonade, charged with carbonic acid gas, after each spoonful, &c. Copaiba has been given in the form of pill, or in capsules, in order to avoid its immediate action upon the stomach. It has even been given in an electuary, united with cubebs; but I prefer keeping each substance distinct, and when one of them is but ill borne, I have recourse to the other. I have already mentioned, I think, that copaiba acted very efficaciously when it produced no purging effects. To insure its not running off by the bowels, practitioners often combine it with rhatany or opium; but when the balsam causes too inconvenient a constipation, this must be obviated by purgatives.

It may now be seen that copaiba stands foremost among the anti-blennorrhagic remedies; but it must not be forgotten that its use is fraught with certain unpleasant effects, from which cubebs is quite free. Cubebs is generally much better tolerated by the system than copaiba; it does not occasion eructations, rarely vomiting, and the drug is generally borne very well in cases where copaiba cannot be given. Cubebs acts in some degree as a tonic to the stomach, seldom produces any diarrhœa, but is rather apt to constipate; it rarely gives rise to a cutaneous eruption, and succeeds as quickly as copaiba in stopping blennorrhagic discharges. The daily dose of cubebs is from half an ounce to an ounce, to be divided into three equal

parts, each to be taken morning, noon, and night. Some practitioners begin with ten drachms, and even two ounces. During the administration of cubebs, it is often requisite to give purgatives; yet I combine it very often with alum, in the proportion of half a drachm to the ounce, or with the subcarbonate of iron, in the proportion of half a drachm or a whole drachm to the ounce of cubebs. A good menstruum is water or bread, or else it may be taken in capsules. As for the mode of administration, the same rules are to be observed as those laid down for copaiba. A succedaneum of cubebs and copaiba may be oil of turpentine, Venetian turpentine, Canada balsam, &c.; but the action of these substances is very weak, and by no means comparable to that of copaiba and cubebs.

This completes what I have to say on the abortive treatment, and it now remains to be inquired whether, in using it, we always succeed in cutting short the disease. I am unfortunately obliged to answer in the negative; and besides, not curing, it is liable to give rise to very inconvenient accidents—viz., inflammations, gastro-intestinal irritation, cutaneous eruptions, &c. In such cases we must stop the anti-blennorrhagic treatment, and combat these peculiar complications, in order to prevent their assuming a dangerous character. You must not fall into the mistake of supposing that the fact of the economy tolerating the administration of the remedy is a guarantee of its efficacy against the disease. It is no such thing; and if we persist in going on with the drug in spite of its inefficiency, we allow the affection to proceed; it then soon reaches a decided inflammatory state, and the remedy leaves no traces but the remembrance of its very disagreeable taste. The patients, in these cases, revolt against the copaiba, and we are obliged to change the treatment altogether. It is advisable then to give diluent drinks—to recommend to the patients to pass water often, and in small quantity—and to prescribe

baths, but tepid ones only, for a high temperature is liable to cause congestions in the urethra. The state of the bowels ought to be closely watched, for constipation is one of the causes of the inflammation of the prostate gland, the testis, the vesiculæ seminales. Castor-oil or saline purgatives will be the most efficacious and trusty purgatives in these cases. Should the inflammation proceed or increase, antiphlogistics ought to be had recourse to. Abstraction of blood from the inguinal regions ought to be prescribed if the affection has not reached beyond the glans, and from the perinæum if the inflammation has had time to proceed backwards towards the membranous portion of the urethra. Be careful never to apply any leeches to the penis itself; many well-known and very unpleasant consequences may be the result of this practice. If the blennorrhagia were to produce a general febrile disturbance of the system, it would be advisable to take blood from the arm. Antiphlogistic means alone will sometimes effect a cure, but these cases are very rare. When you perceive that the disease is on the decline, you must modify your treatment if you would not allow a chronic affection to set in; this is generally effected by the use of copaiba. In some very rare cases, very large doses of the latter or of cubebs have been given, when the antiphlogistic means have failed to control the inflammation. This is rather a violent way of going to work, but it is well to know the fact, and such doses may be given where emollient applications and bleeding have been of no avail. Balsams may also be introduced into the system by the rectum, but their action is then extremely limited; this should never be prescribed but when the stomach cannot be brought to tolerate them. Should you, however, determine to throw in the copaiba by the rectum, you may use the following formula:—The yolk of an egg; copaiba, five drachms; decoction of poppy, three ounces and a half: mix, for a cold injection.

Patients should be recommended to take first a simple non-stimulant injection, merely to evacuate the rectum, and to endeavour to retain the enema, of which I have just given the composition. They have sometimes much difficulty in doing that. The injection will be borne all the better for a few drops of laudanum; the tolerance is sometimes very long in being established, and three or four enemata are rejected before we succeed in accustoming the intestine to this peculiar medication. I must not forget to state that M. Ratier has advised capsules of copaiba to be placed in the rectum: this, when well managed, may turn out an advantageous mode of administration. Before closing what I have to say concerning the anti-blennorrhagic medication, I wish to take a glance at the accidents which may complicate the acute stage of the disease.

First. *Erections*.—They must be controlled by antiphlogistics; but they sometimes yield very easily to camphor, either in the form of enema or pills. As to injections, about three grains of camphor may be dissolved in four yolks of eggs, and a fourth part of this thrown up at different times; or from four to six of the following pills may be administered:—Camphor, two scruples; extract of lettuce, two scruples: mix for twenty pills. Soft and warm beds must be eschewed. You will be pleased to notice that camphor does not act similarly upon all individuals.

Secondly. *Retention of urine*.—The obstacle to the passage of the urine is often situated in a circumscribed point of the membranous, spongy, or prostatic regions. As long as the obstruction is not well defined, we must refrain from using the catheter; on the contrary, we ought merely to enforce antiphlogistic measures and emollient applications; baths also may do a little good. But if the retention has been complete for a certain time, if it resist the antiphlogistic treatment, and the bladder is getting distended, delay

would be dangerous, and a catheter is to be introduced with great caution. The textures with which the instrument comes in contact are soft, in a state of inflammation, and very apt to get lacerated; we must therefore go very gently to work, using either a gum-elastic or a silver catheter. By neglecting to proceed slowly and cautiously, we run the risk of making false passages, which would be another very unpleasant complication. When the catheter has reached the bladder, the urine is to be drawn off, and if the instrument passed freely along the urethra, it may be withdrawn again as soon as the vesical contents are evacuated; and then we should proceed vigorously with antiphlogistic means. If, however, the catheter passes with difficulty,—if it be held tightly by the urethra,—if the parietes of the canal seem to exercise an irregular pressure upon it, the best practice is to leave the instrument in the urethra; for there may be doubts as to the possibility of introducing it again after having withdrawn it. I must not omit to say, that by leaving the catheter, we may cause the development of a higher degree of inflammation, and even sometimes of extra-urethral abscesses; but in the meantime we secure to the patient the due performance of a very important function—viz., that of passing urine. It will then be requisite to leave the catheter until it moves freely in the canal. In those extreme cases, where no instrument whatever will pass, forced catheterism with the *sonde à dard*, or even puncture of the bladder, may be had recourse to. I think I may dispense with describing these operations just at present.

Thirdly. *Urethral hæmorrhage*.—It is generally caused by chordee, the introduction of a catheter, lacerations, or rupture of the urethra. This complication may easily be controlled by cold applications, or by making the patient sit on a thick plug, kept forcibly applied to the perinæum; cold injections will

sometimes succeed just as well. If the hæmorrhage were to persist, in spite of these means, a catheter should be introduced, in order to exercise a certain compression on the textures which yield the blood; and when the rupture is situated in front of the scrotum, a circular pressure may be added; for by this means the whole of the parts are tightly applied on the catheter. But you must be very careful how you use this circular compression; for I need not tell you here of the disastrous consequences that may arise from an ill-directed or too long-continued pressure on the genital organs. If you should be able to make out that the hæmorrhage you have to contend with proceeds by way of exhalation, you might try the ergot of rye; it often controls the bleeding in a remarkable manner.

Fourthly. *Cystitis situated at the neck of the bladder.*—I shall not repeat now what I said, some lectures back, upon the symptomatology of this accident. The treatment requisite in this case may be entirely confined to the use of antiphlogistics, sedatives, and laxatives. However, it happens pretty often that these means entirely fail, and that we have the mortification of seeing the vesical tenesmus, and the uncontrollable desire to pass urine, continue unabated. When things have come to this pass, we must have recourse to cauterization with M. Lallemand's porte-caustique. A quotidian intermittent is a peculiar complication sometimes accompanying cystitis in the neck of the bladder: this will generally give way by the very means directed against the vesical inflammation. If we should perceive that the fever becomes tertian, if it were to turn into an independent affection, we should have recourse to the usual treatment of intermittent fevers.

Fifthly. *Abscess.*—An abscess of the urethra should be opened very early, when it is of easy access; for I must say, that I prefer the opening of the sac to be

premature than to be delayed too long; but be careful, before you open such an abscess, to tell your patients of the possible consequences of such an operation; for they are, as you know, but too much disposed to ascribe the results of the natural progress of the disease to the means employed to combat it. It is therefore of great importance to apprise them, that in spite of the external opening the pus may still perforate the urethral parietes, and thereby establish a complete fistula. Whatsoever the peculiar condition of the abscess may be, you must adopt as a general rule, to keep away from the urethra when you give exit to the purulent matter. An abscess of the prostate gland may, according to the part of the organ which is affected, point towards the urethra, the perinæum, or the rectum; in the latter case, I would advise you to evacuate as soon as you are satisfied that the tumour fluctuates. When the abscess points towards the urethra, we often open it by the mere introduction of the catheter.

Treatment of blennorrhagia when the disease is on the decline.

When the acute period is over, we see all the inflammatory symptoms gradually disappear. Micturition gives no longer any pain, but the discharge persists. This is the time for having recourse to anti-blennorrhagic remedies, and it will be advisable to give up baths while the patient is under the influence of these agents. He had better likewise drink little, refrain from any violent exercise, and wear a suspensory bandage; for the neglect of these precautions would considerably interfere with the successful results of the treatment. Cubebs and copaiba ought to be the principal substances employed in this stage, and they are to be used in the same form and the same doses as was advised for the abortive treatment. Injections must be allowed to stand over for a later pe-

riod. The internal anti-blennorrhagic agents just mentioned are often sufficient to cure urethral blennorrhagia completely; but if they should, after some time, be found ineffectual, they ought to be aided by means of a more direct nature—viz., injections. These will give rise to no inconvenience, provided the pain on micturition have ceased, and there be no chordee, or painful erections. Even in this declining period very large proportions of nitrate of silver may be injected, and any unpleasant consequence arising therefrom is easily removed. But I prefer prescribing the following injection:—Sulphate of zinc, acetate of lead, of each fifteen grains; rose water, seven ounces. Mix for an injection. Three injections may be made daily, and care must be taken to shake the bottle so as to suspend in the liquid the sulphate of lead, which forms a sediment.

The acetate of lead might be left out without inconvenience; the injection would thereby be rendered simpler, and no less effective; about fifteen grains of laudanum will be a great improvement. Some use the acetate of lead by itself, and others the nitrate of silver, in a small proportion—viz., one grain of the salt to seven ounces of water. Hunter generally prescribed an injection of one grain of corrosive sublimate to seven ounces of water. The immediate effect of these injections is to increase the discharge; but it soon diminishes again, and this diminution either leads to its total disappearance, or to the re-establishment of its original amount. In the latter case, fresh injections must be used. The treatment should be extended eight or ten days after the cure, and the injections are to be left off before the copaiba.

Chronic stage.—When the discharge has reached the chronic stage, it will be important to ascertain whether some pathological alteration of the urethra is not the cause of its long-continuance. When, after a careful investigation, no lesion is discovered in the

canal, we may confidently have recourse to a well-regulated treatment, which must, however, be less active than in the periods before mentioned. I have used with great advantage, Venetian turpentine in pills (six-grain pills, the turpentine being solidified by the agency of calcined magnesia); tar-water; decoctions of the leaf-buds of the pine, of the leaves of the uva-ursi, &c. These may be sweetened by the following syrups:—Balsam of tolu, a pound; catechu, three drachms. Mix. Or, Balsam of tolu, a pound; citrate of iron, half a drachm to two drachms and a half.

I have very often seen these gleetish discharges arrested by these means, particularly when the diet was good, without being too stimulating. Cold sea or river baths may be prescribed, due regard being had to the peculiarities of the patients. It often happens, however, that the disease continues unabated, in spite of all treatments, and this goes sometimes so far, that the patients get tired of drugs. An attempt should then be made to get rid of the discharge by powerful injections as used in the abortive treatment, or by weak ones often repeated. Tonic and astringent substances, like wine, tannin, rhatany, &c., have also been employed as injections, and have yielded good results. Creosote taken inwardly and applied externally has been recommended, and even iodide of iron has been used for injections with various results. Should the discharge still persist, we may try bougies; these may either be introduced, as usual, simply to isolate the surfaces, or be covered with astringent ointments—viz., alum, or nitrate of silver. Gelatinous bougies, either plain or anointed, will often melt away in the urethra; this is a very great drawback to their use. When I simply had in view to keep the affected surfaces asunder and isolated, I used dry lint in longish pledgets, which answered very well. In very bad cases, it

will be found necessary to cauterize the urethra with nitrate of silver, by means of Lallemand's porte caustique. If even this should fail, there is nothing left but blisters, which may be applied to the pubes, the groins, or the perinæum, but never on the penis itself. Finally, I am bound to state that certain discharges, which had defied all therapeutical means, have disappeared after moderate sexual intercourse.

Chronic discharges will sometimes resist all the remedies that are used against them; the cause of this very unpleasant persistence may then be looked for in peculiar states of the system, which are far from allowing of easy removal; such as a lymphatic temperament, scrofula, urethral lesions, tubercles in the canal, in the prostate gland, or in the bladder, ring-worm, rheumatic taint, &c. These causes may, independently of any other, keep up a blennorrhagic discharge, and it is therefore important to remove them; or if this be found impossible, at least to modify them by the therapeutical means adapted to each affection. It is very rare, indeed, that a blennorrhagic discharge is kept up by secondary or tertiary syphilitic symptoms; but it is well for you to know that this has happened. I shall refer to this circumstance when I speak of syphilis; I cannot enter into it at present. There is no doubt that organic lesions of the textures of the urethra are the most frequent causes of the very prolonged gleet discharges, and these lesions, if traced back, will generally be found to have followed attacks of urethritis. But the study of these pathological alterations would naturally lead to the consideration of strictures, which I cannot discuss now without encroaching upon the order we have adopted. I will therefore leave them unnoticed for the present, and begin in my next lecture the study of other accidents more immediately connected with blennorrhagia. The first of these will be the blennorrhagic affection of the testis.

LECTURE XI.

BLENNORRHAGIC AFFECTION OF THE TESTIS.

MANY different names have been given to this affection—viz., venereal tumour of the testis, venereal obstructions, hernia humoralis, gonorrhœa fallen into the scrotum, blennorrhagic orchitis, urethral orchitis, hydrochitis, &c. None of these appellations is strictly applicable, if due regard be paid to the nature and seat of the disease; but this will become apparent as we proceed.

The epididymis is the principal and very often the only part affected, but the inflammation, in some few cases, spreads to the other, elements of the testis; thus it may attack singly, either the epididymis, the vas deferens, the body of the testis, or the tunica vaginalis; or else it may affect two of these parts at the same time, and even sometimes involve them all together. Just in the same way we see inflammation single out the trachea, the bronchi, the parenchyma of the lungs, the pleura, or attack two, three, or all of these organs at the same time. Urethral blennorrhagia is by far the most frequent cause of epididymitis, while it is worthy of remark, that balanitis and balano-posthitis never give rise to it. Swediaur erroneously imagined that the disease under consideration was always the result of virulent blennorrhagia; it is very probable that this mistake arose from the fact that urethral chancres, situated in the balanic region of the urethra, produce disease of the testis by giving rise to a blennorrhagic discharge. As regards the different regions of the urethra, it may be noticed that epididymitis seldom appears when

the urethritis still occupies the balanic part of the canal, and that there is more likelihood of its occurrence when the inflammation has reached the prostate gland, which extension may take place between the second and fourth week after the onset of the disease. I have here the authority of Hunter, who was well acquainted with these facts. Epididymitis generally comes on when the acute stage is over, and when there is but a small amount of discharge left.

Circumstances favourable to the development of the blennorrhagic affection of the testis.

First and foremost, I must mention the long continuance of blennorrhagia, as greatly predisposing to the disease; and in the face of such a fact, it is hardly to be credited that men of high standing and character could advise surgeons to let blennorrhagia take its course undisturbed. The peculiar disposition and structure of the testes, their occasional large volume, the length of the vas deferens, the thickness of the cord and variocoele, have, one and all, been reckoned among the circumstances favourable to epididymitis. Experience has shown that the left testis is oftener attacked than the right, but statistical reports do not agree in this respect; those whose right epididymis gets inflamed generally wear the scrotum on that side. Both epididymes may become affected at the same time, or successively; the same side may experience several relapses, and one attack of epididymitis predisposes to subsequent ones in the same organ. To complete the list of the causes which I have mentioned, I must add, ill-timed sexual intercourse, masturbation, protracted continence, undue excitement of the generative organs, their sudden exposure to cold, bruises, pressure, contusion, long-continued erect posture, horse-riding, fatiguing walks, straining, wrestling, and constipation. Authors on this subject have regarded blennorrhagic epididymi-

tis as an accident resulting from the treatment, and attributed the testicular affection to a sort of repercussion, arrest, or metastasis of the inflammation; even copaiba and cubebes have been accused of causing the mischief. But by careful investigation, I have found that most of the patients who suffer from epididymitis have used no treatment, or have been satisfied with linseed tea and slops. It must be confessed on the other hand, that an ill-judged treatment, the too frequent use of catheters and bougies, may favour the transmission of urethritis to the elements of the testis; but the most frequent cause lies in the blennorrhagia itself; and it is therefore evident that all those means which are resorted to in order to remove it, act as prophylactics to the affection of the testis.

Premonitory symptoms.—The testicles feel heavy and dragging; there is uneasiness and dull pain in the groins; frequent desires for micturition; and shootings through the whole scrotum. Pressure on the epididymis causes intense pain; the spermatic cord feels thickened; a tumour, formed by obstruction in the epididymis, becomes apparent; and this swelling looks flattened from side to side, on account of the pressure of the patient's thighs. There is pain along the cord, and the course of the crural nerve, as well as in the lumbar region. Febrile reaction may or may not occur, and the mischief is generally confined to the epididymis, with an occasional effusion into the tunica vaginalis, which latter is then merely an epiphenomenon, unconnected with any inflammation of the tunica itself, being only a lesion of secretion. This passive hydrocele, the size of which is very variable, exercises a certain compression on the testis in front, while the inflamed epididymis does the same posteriorly, so that the body of testicle experiences a pretty considerable pressure on all sides. The effused liquid is quite transparent, and the tunica

perfectly sound ; tapping and post-mortem examination have proved me this. The inflammation of the tunica is extremely rare ; I only remember two cases where it occurred. The pain is then more acute and superficial ; there is more fever, and the slightest motion causes great suffering ; the transparency is lost ; the subscrotal cellular tissue gets involved ; the scrotum turns of a bright red, and a puncture gives issue to a purulent and flaky fluid. The body of the testis itself may, in some rare instances, be attacked ; the pain is then still more intense, and of a strangulating kind ; the elasticity of the organ disappears, it forms a uniform mass with the epididymis, becomes heavy, and loses all fluctuation ; the uneasiness in the groin increases, inflammatory fever is set up ; hiccough, syncope, nausea, and vomiting come on ; the sensibility of the organ becomes exaggerated ; and the cord feels extremely tense. The inflammation of the body of the testis does not materially increase the volume of the whole tumour, because the tunica albuginea resists the enlargement, and this is likewise the cause of the strangulating pain felt in didymitis.

The blennorrhagic affection of the testis is an acute disease ; it will reach its highest point of intensity in three or four days, and the acuity is increased when the testis itself becomes engaged. The symptoms are less distressing when patients have experienced former attacks, and in these cases they may assume an indolent character. The general duration is from thirty to thirty-five days, and the manner in which the disease terminates is as follows :—by delitescence, when the inflammation gives way very early, and by simple resolution, a little later ; when it becomes chronic the lymph gathers in different parts of the organ, and forms indurated nodules, which, in lymphatic or scrofulous subjects, are any thing but satisfactory ; you will generally find these kernels in the epididymis. In simple hyper-

trophy, the testis feels smooth, uniform, and soft, but in the case just mentioned it is hard and rugged. Suppuration is rare, and its occurrence is always a bad sign, for it generally points to the presence of tubercles; yet it may sometimes merely destroy the subscrotal cellular tissue, and do no further mischief, while the epididymis hardly ever suppurates. We may therefore look upon epididymitis as a trifling affection, when it is free from complications; the effusion which sometimes accompanies it is gradually absorbed as the epididymic inflammation declines, but it will sometimes persist, and become the exciting cause of a hydrocele. Vaginalitis may end either in resolution, or in adhesion of the two serous layers after the absorption of the liquid, or, which is more frequently the case, in suppuration and abscess. Orchitis or didymitis also ends either by resolution or suppuration, but the resolution often goes beyond the natural limits, and produces atrophy. Before I speak of the treatment, I will just mention a few peculiarities resulting from a deviation in the normal descent of the testis.

When the testis remains in the inguinal canal it is liable to different lesions, which might be mistaken for a suppurating bubo; so that you must always ascertain, before you make any incisions, whether both testes have descended into the scrotum. I was once, myself, on the point of evacuating the pus of what appeared a bubo, when I noticed that the corresponding half of the scrotum was empty; and another time, I was preparing to open a tumour in the perinæum, which I took for an abscess of Cowper's glands, when I made the same discovery. In this latter case the testis had descended lower than usual. I remember a case, where a testis, arrested in the inguinal canal, became inflamed by hard riding, and another, where inflammation took place, as a result of blennorrhagia. There is even a case mentioned,

where the testis got into the crural canal, and appeared on the internal and anterior aspect of the thigh ; if this had been attacked with inflammation, I need not tell you how disastrous the results of an incision would have been. In cases where the testis remains within the abdomen, its inflammation may be mistaken for peritonitis, enteritis, abscess in the iliac fossa, &c. This inflammation is, however, extremely rare, for the testis thus imprisoned in the abdomen is almost completely atrophied.—(*Mackenzie.*)

The blennorrhagic inflammation of the elements of the testis may be followed by plastic indurations or alterations, which might be confounded with a cancerous sarcocele ; therefore, when we wish to draw the prognosis of an affection of the testicles, we may at once take a favourable view of the case, when we discover that blennorrhagia has preceded it. But bear in mind, that didymitis may become the exciting cause of the evolution of tubercles in the body of the testis, and that the inflammation of this organ may become the origin of divers kinds of degeneration within its texture. Even syphilitic sarcocele may spring up when the diathesis is syphilitic ; but when the poison of lues is put into play, the inflammation ceases: the same remarks apply to the cancerous diathesis. To resume : I beg you will recollect the two following axioms :—First, blennorrhagic epididymitis has hardly any tendency to end by suppuration ; didymitis or orchitis has. Secondly, epididymitis leaves the epididymis in a state of hypertrophy ; orchitis leaves the body of the testicle in a state of atrophy.

Treatment of epididymitis.—This may be either prophylactic or abortive ; either adapted for the acute or the declining period.

The prophylaxis consists in getting rid of the blennorrhagia as soon as possible ; and whilst we are attempting to do this, to remove all causes which might aid the development of epididymitis, by advising rest,

the use of a suspensory bandage, attention to the bowels, and the avoidance of any excitement of the generative organs. The disease may be nipped in the bud in the following manner:—Rest in the horizontal posture, elevation of the scrotum, the application of a thick layer of knife-grinder's clay to the testicles, ice, lotion of acetate of lead, and cold injections. In the acute stage, when the inflammation is fairly developed, when there is congestion and an effusion of plastic lymph, we must have recourse to the following means:—Rest, decubitus, elevation of the scrotum (congestion in the veins of the cord, and an increase of inflammation in the testes, will arise, if they be allowed to remain pendent), frictions with equal proportions of belladonna and laudanum on the scrotum, along the spermatic canal, in the lumbar region, or on the internal and anterior part of the thighs, to relieve pain; low diet, diluent drinks, and local abstraction of blood (if the inflammation runs high, without febrile reaction), either along the course of the spermatic cord, from the perinæum, or around the root of the scrotum, but never from this organ itself. I have mentioned before why I object to this. The opening of a few veins of the scrotum with the lancet has been advised, but you obtain very little blood in this manner. Warm baths are useful, but you must watch their effects; hip-baths should be eschewed altogether—they favour congestions.—(*Lisfranc.*) Saline purgatives act in the same way as bleeding, since they produce a serous derivation from the intestinal canal. When there is much fever, it is advisable to bleed from the arm; venesection very often relieves pain, and should never be omitted when the body of the testis shares in the inflammation. The treatment which I have just described proves insufficient with some patients: I would then recommend to apply the same means, with renewed vigour, and if, in spite of all, suppara-

tion takes place, to give exit to the matter without delay. M. Vidal has revived a practice formerly introduced by Jean Louis Petit—viz., to free the tension of the tunica albuginea, by an incision into the same, whenever he makes out that the body of the testis is involved. I think this a very judicious course, although some surgeons exaggerate the danger of it; indeed, the fibrous coat of the organ seldom escapes in the tapping of small hydroceles. This incision is to be made with a lancet, and may be from half an inch to an inch in length. Some practitioners apprehend a hernia of the seminiferous vessels, but experience has shown that this fear is groundless. If the effusion in the tunica vaginalis is inconsiderable, and there is but little pain, you may await its absorption; but when the hydrocele is large, and there is much tension, you should tap. As soon as you have ascertained the presence of abscess, you must give exit to the matter, to prevent the encroachments of the purulent sac. But it may now be asked, what is to be done about the discharge, whilst we are treating the testicular complication? As long as we are combating the acute stage of orchitis, we must refrain from the anti-blennorrhagic remedies, although the discharge may be going on. If it has completely ceased, you must not, like some practitioners, endeavour to re-establish it. This is detestable practice; for besides increasing the inflammation of the testes by this uncalled-for intervention, it not unfrequently provokes irritation and inflammation of the prostate gland, and of the neck of the bladder. Catheterism, often repeated, and the introduction of the matter of another blennorrhagic patient, are used for the purpose of recalling the discharge. Both these modes are dangerous, but the latter is extremely so; for who can vouch for the non-existence of urethral chancres in the patient from whom the matter is taken?

A word about compression, as practised by Friecke, of Hamburg. At the very onset it is a very good thing, particularly when combined with proper hygienic precautions, and low diet. Strips of adhesive plaster are first applied around the root of the testis, to prevent it from slipping from those which are to be carried, in a circular manner, to its lower part, a portion of which is left bare. To this, other bands are to be applied in a longitudinal direction, and secured by circular ones upon them. If an hour after the compression has been effected the pain is gone, the pressure may be allowed to continue; but if there be much and increasing suffering, it must be given up, for fear of gangrene. At all events, patients who submit to this mode of treatment must be closely watched, the loose parts re-applied, and strangulation of the upper strips prevented. Compression must be avoided when there is the slightest inflammation in the cord, for the part of the latter which is beyond the reach of the pressure becomes doubly inflamed by the violence done to the part constricted. I would advise Friecke's method in that peculiar kind of epididymitis which I have called sympathetic.

Treatment of the declining stage.—You must not be in too great a hurry to give up emollient applications, low diet, &c., and do not begin discutients until the pain is gone and the heat abated. These may consist of Goulard's extract, solution of sal ammoniac, aromatic fomentations, frictions with mercurial, belladonna, iodide of potassium, or iodide of lead ointments. Do not use Vigo's plaster* too soon, for it is very apt to recall the inflammation; give in these cases a fair trial to compression, for with all

* *Emplastrum Vigo cum mercurio* is an old preparation lately revived (Zimmerman mentions it in his *Traité de l'Expérience*). It is composed of simple plaster, yellow wax, Burgundy pitch, ammoniacum, bdellium, olibanum, mercury, styrax, and oil of lavender.

the precautions I have mentioned, it may assist remarkably. When you order mercurial frictions see how far your patients are affected by them, and recollect that some persons are fearfully salivated by a very small dose. Soap, as well as conium plaster, I have found to answer very well in some cases. Plasters, besides the effect produced by the drugs they contain, act by keeping the parts in a sort of vapour-bath, formed by the retained perspiration. If resolution were not brought about by these means, calomel and conium in repeated small doses might be tried. When all these remedies fail you may suspect the existence of a symptomatic hydrocele, which it is important to get rid of. An iodine injection, and the iodide of potassium internally, will probably effect this. When a scrofulous diathesis is in the way of the cure, give cod-liver oil, steel and bitters, and order sea-bathing, with a generous diet. If the tumour assumes a carcinomatous degeneration, we must have recourse to amputation. But whilst the patients are undergoing this treatment, what must be done for the discharge if it still persist? When the declining period of epididymitis has arrived, I pay great attention to the urethral discharge, besides treating the affection of the testis; for were we to neglect this we would allow the primary cause of the disease to continue. I advised you to overlook for awhile the blennorrhagic discharge at the first onset of the epididymitis, because the means employed to control this complication would be in the way of the other anti-blennorrhagics; but when the affection of the testis is on the decline, the two treatments may be used at the same time, and the sooner you conquer the discharge, the sooner you get rid of the epididymitis.

Functions of the organ.—The use of a suspensory bandage must be kept up some time after the cure, and sexual intercourse should be refrained from for

a long period after the cessation of the inflammation. Seminal constipation may become a cause of excitement, and of a re-appearance of inflammatory symptoms; we could not then consistently advise continence. The seminal fluid will, in these cases, assume a rusty colour, which is owing to lacerations of the ejaculatory vessels, just as they occur around the anus after long constipation; these solutions of continuity are the result of the distended state of the spermatic vessels. When this rusty colour persists for some time it indicates a fungous state of the lining membrane of the seminiferous vessels.

Blennorrhagia in the female.

I shall be able to begin to-day the study of blennorrhagia in the female. It may have its seat on the vulva, in the urethra, the vagina, or the uterus respectively, or on two, three, or all these parts together. Before I enter into details, I must apprise you that women give many more blennorrhagias than they get in return, that they not easily contract the disease during the menstrual period, and that they often are shielded in the interval by leucorrhœal discharges. I have described, when I was occupied with general considerations on this subject, the symptoms common to all blennorrhagias: I will now merely mention those which are peculiar to the different parts of the female organs.

1. *Blennorrhagia of the vulva.*—It may be confined to the surface of the mucous membrane, may reach deep within it, settle in mucous glands and follicles, or, lastly, may have its seat in the vulvar glands, which I compared to Cowper's. The patients, before any thing becomes apparent, experience an unusual excitement of the parts, and are inclined for sexual intercourse; pruritus, heat, tumefaction, and redness soon come on, and at first there is only an

exaggeration of the usual secretion, which takes place at the meeting of the nymphæ, but it soon becomes irritating, and increases the inflammation; then the discharge turns muco-purulent, and more and more characteristic, as a greater number of follicles get involved. If the inflammation travels into the substance of the parts, swelling and obstruction occur, which easily pass into the phlegmonous state; the nymphæ, in these cases, acquire an exaggerated size, they project beyond the vulva, and experience a strangulation which might be compared to paraphimosis. A true phlegmon may follow this state, and with pregnant women the blennorrhagic inflammation may run along the genito-crural fold, as far as the anus, and give rise to a very inconvenient and fœtid discharge. The inflammation of the vulva may reach the ducts of the vulvar glands, so well described by M. Huguier, and even the parenchyma of the gland; its volume then increases, it may be felt within the labium, and the inflammation may end in abscess or in resolution. When a chronic obstruction persists, cysts will form in the gland, on account of the impervious state of the ducts. Vulvitis frequently gives rise to an extreme sensibility of the vulva, particularly with young women; and when the inflammation of the vulva goes on for some time, the vulvar opening becomes the seat of a regular atresia. Blennorrhagic vulvitis is very troublesome; it excites the generative tendency, and tortures the imagination, particularly in dreams.

Before mentioning the other varieties of blennorrhagia in women, allow me a few words about the treatment of vulvitis. As prophylactic, I recommend cleanliness; for this disease may, like blennorrhagia in man, arise from a neglect of hygienic measures. At first, advise low diet, the isolation of the affected surfaces, lotions with a solution of nitrate of silver, two parts of the salt to one hundred

parts of water, and entire baths. If the inflammation has reached deep, we ought to insist upon low diet, the application of leeches to the inguinal regions, and the use of lotions of nitrate of silver. Finally, if phlegmon set in, we should repeat the abstraction of blood, and as soon as fluctuation is ascertained, make an incision; for the suppuration has a tendency to destroy the cellular tissue, and to run towards the rectum and perinæum; and from this peculiarity very troublesome recto-vulvar fistulæ may arise. If the abscess is situated in the vulvar gland, an opening should likewise be made; but if you suspect the existence of a cyst, around which the inflammation might have spread, you may wait a little before freeing the pus. Recto-vulvar fistulæ belong to general pathology, yet I will venture to tell you, in a few words, how I treat the disease. I use, first, compression along the whole course of the fistula, when recent; a little later I employ injections, with strong solutions of nitrate of silver, or cauterization of the tract with the solid nitrate. This cauterization must be very rapid, because the tissues will contract at the first touch, and prevent the stick of nitrate of silver running all along the fistula. I have also seen good results from the scarification of the membrane lining the fistulous tract.

Blennorrhagic urethritis in women.—Women are just as subject as men to urethral blennorrhagia, and it may be said that in this respect the former are quite peculiarly situated; for they are never affected by this kind of blennorrhagia but in consequence of sexual intercourse; whereas vulvitus and vaginitis may spring up independently of coitus; and therefore you easily understand why the urethral variety is so much more rare than the others. I might explain the rarity of urethritis by noticing—first, that the vagina and the cervix uteri are the only parts exposed to the contact of the blennorrhagic matter in coitu; and,

secondly, that the emissiones urinæ have a powerful cleansing action.

Symptoms.—Titillation, itching, irritating and burning urine, frequent micturition, pain and heat in the part. Afterwards, if the disease be not checked, dysuria, and sometimes even retention. When the cervix vesicæ shares in the inflammation, the micturition is still more frequent and painful, and the last drops are mixed with blood. The least pressure on the urethra causes excessive agony, and thereby sexual intercourse is rendered impossible. The inflammation runs through the same stages as have been described when speaking of urethritis in man, chordee excepted. It may terminate in resolution, or pass into a chronic state; but this latter is very little minded by women, as they are more accustomed to discharges. Urethritis may cause in this as well as in the other sex thickening of the lining membrane of the urethra, and eventually stricture, which, however, with women, is extremely rare.

Treatment.—We find here the same indications in both sexes. The abortive means, and cauterization with the *porte caustique*, may succeed very well. But women seldom apply for medical aid until when the disease is fully developed,—so that the abortive treatment is seldom called for. The other remedies will be as before mentioned—copaiba, cubeb, &c. If you have to treat a decidedly acute case, you must use antiphlogistics and emollients first, and take up anti-blennorrhagics afterwards.

When speaking of vulvitis, I omitted to mention, that after a chronic case we often are consulted about obstinate secretions, which proceed from between the nymphæ and the carunculæ myrtiformes; and these secretions become very apparent when pressure is made on the part. Astringent lotions and caustics do no good here, because the mischief lies in deep-

seated glands, with very narrow ducts. There is no other way but to incise deeply, and either cauterize or isolate the cut surfaces with lint. The analogue of this disease may be found among men, especially in those who are affected with hypospadias. By this incision we rid our patients of an extremely disagreeable oozing, which, in general, has proved as troublesome to the sick as to their medical attendant.

To return to urethritis: I must warn those who, in a medico-legal case, have an investigation to make, that all traces of a discharge per urethram may be effaced, for the time being, by a micturition immediately preceding the examination. To make sure of the case, a finger should be introduced into the vagina, and pressure made from below upwards all along the canal of the urethra; if urethritis exist, the meatus will discharge a small amount of muco-purulent matter. Blennorrhagic bubo, which is rare with men, is still more so with women. We have seen, moreover, that blennorrhagia situated in the balanic region commonly produces it; and this region does not exist in the female sex. On the other hand, notice, in conclusion, that vulvitis, which is analogous to balano-posthitis, leads as little to bubo as this latter affection.

When we meet again I shall take up *vaginal blennorrhagia*.

LECTURE XII.

VAGINAL BLENNORRHAGIA.

THIS is, in fact, a vaginal blennorrhagic catarrh, and is of very common occurrence. The inflammation is mostly superficial, but it may occupy the follicles, the whole thickness of the mucous membrane, and the sub-mucous cellular tissue. The symptoms are, heat and pain, greatly increased during defecation and micturition, and more or less unfitness for coitus. Yet, you must bear in mind that this vaginal blennorrhagic catarrh may set in and continue for some time without attracting much attention on the part of the patient. The disease is often confined to that portion of the vaginal mucous membrane which is reflected on the cervix uteri, and it then bears much analogy with balanoposthitis in man, which, as you know, occupies the cul-de-sac formed by the reflection of the mucous membrane of the glans on the prepuce. When the whole vagina is engaged, erosions and granulations soon follow the redness of the part, pus may be detected in the discharge, and the granulations may increase to such a degree as to assume the character of vegetations. The tricomonas* has been discovered in the pus, and its presence has by some been looked upon as depending on the specificity of the disease: but I cannot admit this, for we do not find it, in the discharge of the male urethra, brought on by the contact of this very vaginal pus. The matter finds a ready exit with women who

* Tricomonas—a name given by M. Donné, in 1836, to an animalcule found in the pus of vaginitis. He named it thus, as he thought it resembled the monas by its trunk, and the trichoda by its cilia.

have had children ; but with others it will be necessary to make a manual examination, to ascertain its existence, as it accumulates in the vagina, and never appears at the vulva but on defecation or micturition. Whenever it is desirable, for some reason or other, accurately to trace the part whence the discharge arises, the speculum should be used, except during phlegmonous vaginitis, or excessive sensibility of the organs. But when this sensibility is unconnected with inflammation, you must gradually accustom the parts to the contact of foreign bodies by pledgets of lint, &c., and by cautious increase of their size you will succeed in accomplishing the tolerance of the speculum. Not a very long time ago it required a consultation of three medical men to decide upon its application ; but in our days it is in common use, without any such preliminaries ; still I would advise certain precautions, which you will do well to remember. Leave your patients the free choice of the persons who are to be present ; always insist upon the assistance of a third party ; avoid making unnecessary preparations, and do not resort to any thing like entreaties, but show firmness. Let the speculum be warm, and well anointed, and use the bivalve variety. I have had one made, in which the pivot on which the valves turn corresponds to the entrance of the vagina, a part which is the least sensitive of the whole canal. The index and middle finger of the left hand are applied to the sides of the fourchette, and the ring-finger depresses it ; the closed speculum is placed on a level with the plane of the vagina, and rests on the ring-finger. As you pass along the canal, you turn the valve on your right, superiorly, and to your left ; the other valve lies in the opposite direction. By this turn, you bring the greater diameter of the instrument on a level with that of the vagina. As you advance along the latter, you must turn the handle of the speculum towards the patient's left

thigh, so that one of the valves may correspond with the anterior part of the vagina; the other with the posterior. When you get near the cervix (the exact situation of which is ascertained beforehand, by a manual examination), you may withdraw a little, and in pushing slightly forward, the valves will seize the neck of the uterus as the cup takes hold of the ball in the toy so named. In this manner you will get a good view of the parietes of the vagina and the cervix, and be able to withdraw the instrument without the slightest injury to the part.

Treatment.—The abortive means which I have mentioned so frequently may do exceedingly well here, when we are applied to early. It will consist, as you know, of strong injections of nitrate of silver, or brushing the part with the same salt in a solid state. I was the first to use this treatment in vaginal and uterine blennorrhagia. Glass syringes should be used for the injections, and the pelvis kept elevated, for the liquid would otherwise hardly penetrate, and would run out as soon as injected. See, also, that every trace of the solution be carefully cleansed away, to prevent indelible stains on the linen. When you use the solid nitrate, introduce it as far as the neck, and withdraw it on touching the parietes of the vagina in a spiral manner. Rest, and low diet, added to this treatment, will, in most cases, be sufficient to effect a cure.

The keeping the inflamed surfaces asunder by plugging was introduced by me originally, and has since been much recommended by Hausmann. I perform it generally by means of a small bundle of lint, to which a thread is connected; the latter is allowed to hang out of the vulva, and the patients can change the plug, when saturated, without being in need of any assistance. But we are seldom consulted at an early stage; advice is sought when the parts are ready to run into a phlegmonous state. We must

then at once energetically use antiphlogistics, emollient and sedative injections, as bran-water, mucilage of quince or linseed, and fomentations of poppy-heads, &c. ; but be careful to apply the leeches on a part not likely to come in contact with the muco-purulent matter, for the co-existence of a concealed chancre might cause a syphilitic inoculation. As soon as you have got rid of the acute symptoms, it will be advisable to prescribe the astringent injections—viz., a solution of nitrate of silver, two parts of the salt to one hundred of water ; to advise rest of the generative organs, and the exhibition of steel. Alum, acetate of lead, and sulphate of zinc, may also be used as injections. In chronic cases, I find it useful to plug the vagina with lint, imbibed with astringent solutions ; and when the discharge continues very obstinately, I look for granulations or ulcerations, which I destroy forthwith with the solid nitrate.

Mere hypersecretion, which is often a sequela of vaginitis, may be controlled by any mildly astringent or tonic injections, as a decoction of walnut-leaves &c. Copaiba and cubebs, taken internally, are of no use here ; the mode of action of these substances, on which I dilated some time ago, sufficiently accounts for this. M. Piorry has tried the injection of both drugs, mixed with water, or other menstrua, but obtained no satisfactory results.

Remember, when your patients are convalescent, to advise a continuance of injections of cold water, sea-bathings, &c. If you notice that you have to deal with scrofulous, lymphatic, or chlorotic subjects, you must use means to modify these different states, for they are extremely prone to keep up the discharge.

Uterine Blennorrhagia.—It is now proved that blennorrhagia may reach the uterus, and even run along the Fallopian tube to the ovary. There is no difference between simple uterine catarrh and uterine blennorrhagia, so that I need not insist upon the de-

scription of the latter disease. I will, however, trouble you with a few words about the consequences of it—viz., hypertrophy of the mucous membrane, granulation and ulceration of the cervix. These do not constitute distinct symptoms of uterine blennorrhagia; they are mostly owing to a peculiar pathological state of the surfaces. It has long been held that they were the result of the irritating nature of the uterine discharge, just as herpes labialis is the result of coryza, and it was moreover alleged that the posterior lip of the os tinæ was more often affected, as being more constantly in contact with the secretion. These views are not correct; for, in the first place, we often find ulcerations on the anterior lip, and secondly, were we even to grant that the discharge does the mischief, it would remain to be proved that the posterior lip, except in the dorsal decubitus, is the lowest part of the os, for in the standing or sitting posture the fundus leans forward, and the anterior lip becomes thereby the lower one. Yet, without denying *in toto* the influence of the discharge on these ulcerations, I am more inclined to attribute them to the pressure which the posterior lip experiences from the recto-vaginal septum, in women with whom constipation is an habitual state, and whose rectum contains scybala. Notice that these erosions are irregular in shape and not circumscribed, whilst a chancre in this situation, as in all others, would be more or less regular and isolated. Baglivi has tried to aid us in the diagnosis between blennorrhagic vaginitis and uterine catarrh, asserting that the latter is essentially chronic, and the former acute, but it is no such thing; it is lucky, however, that we have nothing to do with the causes in order to effect a cure, for as soon as the inflammation of vagina or uterus is developed, we must pay attention to the symptoms before us, and act in accordance with them. The only distinction which it is important to make, is to

find out whether we have simple blennorrhagia and chancre to deal with.

Treatment of uterine blennorrhagia.—If you are consulted in time, use the abortive treatment ; here, however, I prefer the solutions of nitrate of silver to the solid salt, for with the latter we succeed in touching but a few points of the affected surface. It was with me that injections into the cavity of the uterus originated. I have used a great variety of them—viz., nitrate of silver, the liquid nitrate of mercury, iodides, alum, zinc, and emollient solutions, and I have never witnessed any serious accidents from them. But still it must not be overlooked that very fearful hysterical symptoms may follow such injections, and they may completely simulate an attack of metro-peritonitis. These frightful manifestations will subside altogether in a couple of hours. It has been contended that the injection might escape into the abdomen,—and experiments have been made on the dead subject to prove this,—but the liquids were thrown in with such force, that they would have ruptured the uterus if they had not entered the Fallopian tube ; and besides, the absence of contractility in the dead fibre must also be taken into consideration. I make the injections in the following manner. A very small canula is introduced within the neck of the organ, and it must be so small that it may move quite freely in the cavity of the cervix ; as much liquid as a common tea-spoon will hold is then pressed gently into the uterus ; it moistens its mucous membrane, and flows back again by the sides of the canula and the tube connected with it ; it is therefore quite impossible, in this manner, that any part of the injection should pass along the Fallopian tubes. M. Vidal, one of my colleagues, has repeated these experiments, and used the same solutions ; in the account of them he has, however, forgotten to mention whence they originated. If it is desirable that none of the liquid remain within

the uterus, you must use a double tube, to allow of a current to and fro. Another mode which I have found very useful, is, to place a small sponge soaked in the medicated liquid within the cervix; the solution is then squeezed out by pressure on the uterus, and is diffused through the cavity without giving rise to the symptoms which injections are apt to bring on. I have known the disease persist in spite of all these means, and indeed the uterine, howsoever produced, are the most tenacious discharges of all; search must then be made for ulcerations on the neck of the uterus, and if found, cauterize them with the nitrate of silver or the liquid nitrate of mercury. These caustics may even be carried within the cavity of the cervix, but before applying them, care should be taken to remove the muco-purulent matter, which, in the uterus, is very dense and adhesive, whilst the secretion of the vagina is generally thinner. M. Récamier has proposed, in cases of persisting discharges, combined with a fungous mucous membrane, to introduce a curette into the uterus, and scrape the parietes; and Hausmann advises to plug the vagina under the same circumstances. In fine, you will do well to use your best exertions to free your patients from this distressing complaint, and to effect this you must not only attempt all the means I have enumerated, but likewise look to their general health, to the enforcement of hygienic measures. As to the latter, you must see that the wearing of thin shoes and stockings in damp weather, and sudden changes from a dry and warm abode to a cold and damp one, be carefully avoided, and warmth to the legs and feet be duly attended to.

Blennorrhagic affection of the ovary.—This is very rare: it may be sympathetic, or the result of an extension of the inflammation through the Fallopian tubes by the mechanism of conception. The symptoms are, pain in one iliac fossa, or in both, as also

in the hypogastric region; if, during a vaginal examination, the uterus be pushed to the side where the pain is complained of, the latter diminishes, as by this displacement the ligament is slackened; but if the uterus be pressed to the opposite side, the tension of the ligament will increase the pain. M. Vidal has observed cases of blennorrhagic ovaritis at the Hôpital de Lourcine (the Paris Lock Hospital), but I can offer you no *post-mortem* examinations on the subject. It appears that the disease generally terminates in resolution. I am rather disposed to think that many ovarian dropsies and other affections of this organ may have blennorrhagic ovaritis as their primary cause. Let me mention, in conclusion, that this disease is exactly the analogue of epididymitis.

Anal blennorrhagia.—This is extremely uncommon, although muco-purulent discharges from the lower part of the rectum are of frequent occurrence; but these are generally caused either by hæmorrhoids, eczema, or prurigo ani. An unnatural connexion with such predispositions is very likely to bring on a discharge which has nothing to do with blennorrhagia; but the latter disease, engendered by actual contagion in this region, is excessively rare, particularly as the mucous membrane here is not very sensitive. The disease is ushered in by heat and itching in the part, difficulty of defecation, &c.: if the affection remain unchecked, the constipation becomes more painful, and perinæal abscesses form. The passage of fæcal matter is calculated to keep up the disease, but I have generally succeeded in controlling it in those cases which have come under my care. At the onset, I cauterize superficially with the nitrate of silver, and throw up injections of cold water; to this I add mild purgatives, as magnesia or sulphur; and in the phlegmonous stage, antiphlogistics and emollients are to be used, as I several

times have had occasion to mention. Nasal and buccal blennorrhagias have been admitted, but their existence is far from being proved; people affected with blennorrhagia may experience an attack of coryza without the nasal secretion being necessarily of a blennorrhagic nature. The buccal variety is just as hypothetical; at least, I have never seen it, and yet, if such a thing existed, it would be the most easy of detection.

Blennorrhagic ophthalmia.—I will enter this day upon a very interesting topic—viz., blennorrhagic ophthalmia. This is a very fearful disease, and one which ought to be combated with the greatest energy. The general opinion is, that ocular blennorrhagia is exclusively the result of the direct application of the pus to the eye. I myself thought so once, but experience has made me alter my views on this subject. Remember that purulent ophthalmia occurs only with urethral blennorrhagia, and that balano-posthitis, vulvitis, and uteritis, never produce it: this is a very curious fact. Yet vaginitis, simple uteritis, and vulvitis, may bring on urethritis, and the latter may *then* engender blennorrhagic ophthalmia; it seems as if there were something peculiar in the inflammation of the urethral mucous membrane. Another fact is, that this ocular affection is more frequent in men than in women. So, then, we start with two well-settled points—viz., blennorrhagic ophthalmia is always connected with *urethral* blennorrhagia, and it is more frequent in the male than in the female sex.

First variety: blennorrhagic ophthalmia communicated by contagion.—It is a fact beyond doubt, that pus resulting from urethral blennorrhagia applied to the conjunctiva produces blennorrhagic ophthalmia. It has been said that the pus never reaches the globe of the eye, and is generally applied to the eyelids only; but it is obvious that a very small extent of conjunctiva coming in contact with the pus by the

play of the eyelids is sufficient to spread the disease. The urinary functions are likely in one sex to cause the hand to be soiled with pus, whereas in the other it is not the case; hence the greater frequency of the affection among men. Look at new-born children; does not the contact of the puriform matter of the uterus and vagina with their eyes engender a great many blennorrhagic ophthalmias? Those who will needs ascribe the affection before us to a general disposition, acquired by the effect of the disease on the system, have had their patients watched very closely during the whole day, and observed the most scrupulous cleanliness, and still the eyes became affected; but who knows whether these restrictions were enforced at night? I cannot admit such cases as having any weight in the question; and besides, there are some others which it is impossible to explain on mere constitutional influence. For instance: a blennorrhagic patient loses both eyes by an ophthalmia of the same nature; his brother, who slept with him, experiences the same ocular affection, but gets cured, and not the slightest discharge from the generative organs could be found. Is not this direct contagion? A woman by accident used, as a wash for her eyes, a solution of acetate of lead, which her husband, affected with urethral blennorrhagia, had unfortunately been employing as a lotion; violent ophthalmia came on, and on examination she was found quite free from any discharge whatsoever. Welsh admits all this, but denies auto-contagion. He says that he has seen the blennorrhagic pus of a patient applied to the subject's own eye without doing any harm. This case goes for nothing; for there must be, beforehand, a certain predisposition in the eye to take the disease, even when exposed to contagion. The muco-purulent matter secreted by the conjunctiva, being applied to the urethra, will give rise to urethritis: this fact has even led some to think that

urethritis was the result of Egyptian ophthalmia ; whilst others have contended that Egyptian ophthalmia was, on the contrary, the result of urethral blennorrhagia, and that the ocular affection had spread from the eyes of one individual to the eyes of another. There is, in fact, so much similarity between these diseases, that it is difficult to decide which was the original affection. This variety of blennorrhagic ophthalmia occupies, generally, but one eye ; yet the other may suffer, either by sympathy or the contact of pus. This last mode of transmission is pretty frequent, since patients are very apt to lie on the sound side, to avoid pain, and they thereby favour the trickling of the matter from the inflamed eye to the healthy one, particularly those whose ossa nasi are rather depressed. The ocular disease may be communicated by contagion, when the blennorrhagia is merely of a few days' standing, and the eye may suffer severely without the organs of generation being affected in the least ; indeed, I cannot help thinking that many of the purulent ophthalmias which we receive in our hospitals have very often urethritis as their primary cause. As for the disease spreading by a sort of aura blennorrhagica, I must say that such a thing is quite improbable, for there would be very few patients of this house who would escape ophthalmia, living, as they do, in a regular blennorrhagic atmosphere.

Second variety: metastatic blennorrhagic ophthalmia.—It is generally acknowledged, that there are patients who suffer from the ocular disease, as a result of urethral blennorrhagia, quite independently of contagion. I am ready to agree to this, not because I am told that these individuals could not possibly carry the pus to their eyes, for there is no certainty about this, but from the aspect, rise, and progress of the disease. I may notice here, that blennorrhagic ophthalmia, which springs up without contagion, is often connected, although not necessarily so, with a rheumatic diathesis.

Having now stated the two varieties I acknowledge, I can take up the symptoms of the first. I have already stated, and I must repeat, that a discharge of a very recent date may contaminate the eye; and, moreover, that the infecting properties of the pus are retained for months afterwards; in fact, as long as the matter remains irritating. I am, of course, understood to speak of the muco-purulent discharge of *urethral* blennorrhagia alone, both as to the variety by contagion and by metastasis. Ophthalmia by contagion is very rapid in its progress; it attacks usually one eye only, but the other may suffer consecutively, whether by sympathy, contact of the matter, or metastasis. Some patients experience first great heat in the eye, others pruritus; they soon complain of a sensation of sand in the organ, the conjunctiva gets vascular, but the inflammation is still confined to the mucous membrane lining the lower lid; it then reaches the inferior oculo-palpebral sinus, and thus it ascends towards the upper lid. The matter secreted is at first mucus, and afterwards it becomes muco-purulent. There is no secretion at the very beginning; but this dry period is so short, that it mostly passes unnoticed. The whole eye, as I mentioned, is not invaded at once; but the entire organ soon gets involved; the mucous membrane is injected, and turns of a brick-red; the inflammation attains a high degree of intensity the temple and eye experience as yet little pain; the lachrymal secretion is abundant, bursts forth in gushes, and causes a severe scalding—the analogue of ardor urinæ; the sub-mucous cellular tissue gets involved in the mischief, and presents at first simple, then phlegmonous, œdema; it is quite a repetition of balano-posthitis; the lid swells, becomes convex, reddens highly, and looks erysipelatous; its own weight bears it downwards, and causes it to cover the lower lid, which latter is thus pressed against the globe of the eye;

real trichiasis ensues, which tends to increase the irritation ; if the lower lid should likewise swell, then will its margin be on a level with the tumefied upper palpebræ, and ectropium is often the result of this state of things. The infiltration soon invades the whole of the sub-mucous cellular tissue, the puffed-up mucous membrane forms a thick rim around the cornea, and we have chemosis. As the disease proceeds, pain in the head comes on, and phlegmonous symptoms appear. There is but little intolerance of light at this period ; but the deeper parts of the organ at length begin to suffer, and the cornea gets involved. The appearance of the secretion passes through the same stages which we noticed in urethral blennorrhagia ; it is first of a light yellow, gets then a little deeper, then brownish, and in bad cases, sanguineous and very thick. We shall see a little later how the nature of the pus has been taken advantage of to aid the prognosis. The two palpebræ may get quite glued together, and they form internally a cavity, where the pus and tears lie stagnant. The eye remains in contact with these irritating substances, and the disease is so much the more destructive as the palpebral aperture is narrower ; whilst balano-posthitis is just in the same way the more troublesome as the *preputial* opening is smaller. Patients do not find their sight impaired up to a certain period of the disease, and the cornea is perceived clear and brilliant in the middle of the conjunctival swelling ; but it is at last attacked also, after a resistance due to the difference of texture. It loses its transparency ; a plastic effusion takes place ; it becomes twisted and of an opal colour ; it softens, and little purulent deposits form between its layers ; these abscesses burst either externally or internally, and more or less complete perforations ensue, the consequences of which vary according to their size and the nature of the substances injured. The cornea is with some patients

very quickly destroyed; it perishes in some degree forthwith, particularly when the chemosis is fully developed. The inflamed parts undergo transformations which you should be acquainted with; the mucous membrane assumes a granular and rugged appearance; the granulations become larger as the disease advances; but they attain a considerable size only in cases of long standing, and which have been neglected. The ophthalmia can run through all its stages, destroy the eye, and spread to the internal parts of the organ in twenty-four or forty-eight hours, but it takes mostly five or six days. If the disease have resulted from contagion, and if one eye only is attacked, the progress will be the faster; and when nothing is done to stay the mischief, the eye is sure to be lost. The favourable signs pointing to the decline of the inflammation are the decrease of size in the lids, the cessation of febrile symptoms, the diminution of the secretion, its change from pus to mucopurulent matter, the fading of the redness, the lessening of the chemosis, and the easy separation of the lids. If the affection has been transmitted by contagion, there is no danger of a relapse; it does not kindle again at the slightest provocation, as we find it doing in cases of metastasis.

Differential diagnosis.—The principal guide to the diagnosis is the existence of a urethral blennorrhagia or contagion from one individual to another. There is no sign, except these two circumstances, which may assist the inquirer in distinguishing this disease from Egyptian ophthalmia; the general aspect of these affections, their progress, the nature of the pus, their intensity, are pretty much the same. Some importance has been attached, by M. Leries, to the swelling of peri-auricular glands, as pointing to non-virulent affections; but dwelling upon these signs is of no use, since there is no such thing as virulent blennorrhagia.

Prognosis.—This is in general unfavourable. Mr. Lawrence states that the eye was lost in nine cases out of fourteen. Whilst I was an *interne*, under Dupuytren, I never saw one eye saved, the perforations always destroyed the organ; but matters have changed for the better since that time, and we now preserve as many eyes in this disease as we lost at that period. The surgeon must watch his patient closely, and he will be amply remunerated for his trouble, by the satisfaction he will feel in saving a valuable organ placed in such jeopardy.

Besides the varieties of blennorrhagic ophthalmia hitherto mentioned, there is one alleged to spring up as a consequence of a constitutional blennorrhagic infection. I have only to state that it can have no existence, since we do not admit of a constitutional taint being ever the result of blennorrhagia properly so called.

Third variety: sympathetic blennorrhagic ophthalmia.—When one eye is affected by contagion, the other may partake in the disease, independently of purulent contact, and of the state of the constitution. This may readily be admitted, since we often see a simple ocular inflammation of one eye, without any secretion, pass to the other, when contagion, metastasis, or the general state of the system, are out of the question: and do we not sometimes see these phenomena occur after the operation for cataract performed on one eye only? Authors have admitted an ophthalmia sympathetic with articular inflammation, but I think this the mere coincidence of a catarrho-purulent ophthalmia, or an effect of a general state of the system favouring the development of catarrho-purulent inflammation of several mucous membranes at the same time as the urethral or the ocular. But in the greater number of cases there is another and very remarkable diathesis in the system—namely, the tendency to rheumatic inflammation; and many blennor-

rhagic ophthalmias spring up under its influence. Abernethy admitted an irritative state of the constitution, to explain the occurrence of the ocular affection; these rheumatic ophthalmias have, in later times, been attributed to metastasis. The origin of this latter opinion may be found in the moveable and oscillating character of rheumatism. But, I might ask, is metastasis acknowledged for rheumatism itself? I am afraid we must accuse strumous, lymphatic, and gouty constitutions more than metastasis. Some authors have thought that the mischief is caused by the use of balsams and injections, but I repeat here what I said before, about epididymitis—namely, that most of those who suffer both from the testicular and ocular affections, have used no treatment at all. In fact, there are patients who, with every blennorrhagia, experience gouty and rheumatic pains, and even blennorrhagic ophthalmia, showing plainly that these different and simultaneous affections depend more on a peculiar diathesis than on metastasis. The ophthalmia under consideration may result from a mere gleet, and it has been observed that both eyes are mostly affected in these cases, either together successively, or alternately. This fact militates greatly with the attempt that has been made to establish a distinction between blennorrhagia and Egyptian ophthalmia, in saying that one eye only was attacked in the former, and both in the latter. You remember that I stated that in blennorrhagic ophthalmia, by contagion, one eye only is most frequently affected.

Duration.—This variety lasts much longer than the disease arising by contagion; it is more subject to relapses; passes easily from one eye to the other, as we have seen epididymitis pass from one testicle to the other; and is very often accompanied by articular inflammations. This arthritis may either succeed or precede it, or spring up at the same time; oscillations between the ocular and urethral blennorrhagia are

sometimes noticed; and, indeed, ocular and urethral blennorrhagia, as well as the articular affection, may very well co-exist.

Symptoms.—When the morbid agent acts upon the whole of the ocular mucous membrane, we have pretty nearly the same symptoms as with the ophthalmia from contagion, and it is very difficult, at the very onset of the disease, to distinguish one of these varieties from the other. But the difference soon becomes apparent; the vessels of the sclerotica get injected, the globe of the eye is tender and painful, and the pain reaches very deep; the colour of the cornea changes, owing to the inflammation of the membrane which lines its posterior aspect; the iris soon partakes in this discoloration; the secretion of aqueous humour increases remarkably; and a sort of hydr-ophthalmia takes place. Photophobia comes on, and if the inflammation penetrates more deeply, there may be photopsia; the secretion of tears is much augmented; and an effusion of an albuminous liquid takes place in the anterior chamber. From this you perceive that in this sympathetic blennorrhagic ophthalmia there is as little tendency to suppuration as in rheumatic arthritis; indeed the inflammation of the membrane, secreting the aqueous humour, may well be compared to synovitis in the joints. Still there may be very unpleasant results from the inflammation of the iris in this variety; puckering, permanent contractions, and irregularities of the free margin; and even real cataract from pseudo-membranes formed by the morbid secretion, may remain permanently. The disease generally begins by a catarrhal state of the conjunctiva, and then extends to the iris, but the globe itself is sometimes attacked first.

Prognosis.—If catarrho-rheumatic ophthalmia be not immediately recognised, and properly treated, it may turn out a very serious business; but when it is well understood, and adequate means are used to con-

trol it, there is much less danger than when the disease has been transmitted by contagion. Suppuration and the destruction of the eye is then much less to be apprehended. I have not time to enter upon the treatment of blennorrhagic ophthalmia; I will do so at our next meeting, when I hope to begin blennorrhagic arthritis.

LECTURE XIII.

TREATMENT OF BLENNORRHAGIC OPHTHALMIA.

WHEN you have to deal with this sad affection you must be mindful of the rapidity with which it may destroy the precious organ of sight; the slightest delay may be fatal to it. The patients ought to be kept very quiet,—any sort of excitement may have the most baneful influence; the head should be raised, the eyes completely shut out from the light, and the diet very low. The first thing to be done is to use the solid nitrate of silver; it ought to be rubbed over the affected surfaces so as to produce a white film, but not to destroy the tissues. The lids should be everted, if practicable, and the eye copiously washed with water after the cauterization is effected. Some surgeons have advised anointing the cornea, in order to protect it from the caustic, but this precaution is not necessary when care is taken to irrigate the part thoroughly after the use of the nitrate. There might, however, be danger to the cornea if the cauterization were not conducted with skill, and if the subsequent ablutions, intended to remove the excess of the salt, were neglected. You should endeavour to watch your patient after this first cauterization, and you will perceive that the secretion is momentarily suspended

by it, but when the crust formed by the caustic falls off, the pus reappears, though it is then lighter in colour, and easily turns sero-sanguineous: these effects are exactly analogous to those which follow urethral injections in abortive doses. So long as little white streaks, the result of the cauterization, remain visible, and so long as the secretion is not again purulent, you may judge that the influence of the nitrate is continuing; but when the streaks have disappeared, and the secretion re-assumes its primary character, you may infer that the effects of your cauterization are over, and you may then repeat it; indeed, it can safely be used three times a-day. With children,—with persons whose eyes are very small, or in whom there is the slightest fear of injuring the organ, the nitrate of silver should be used in solution, applied, as usual, with the brush, and the parts well washed with plenty of water, as before mentioned. The eye must be cleansed frequently during the day,—it else would remain too long in contact with the purulent matter; but this should be done with great neatness and gentleness, by carefully separating the lids, and injecting between them, with a glass syringe, the liquid intended to wash away the pus. Soothing fomentations of poppy-heads and quince-seeds should be applied to the eye, but let it be done very lightly; and eschew poultices altogether, for they favour œdema of the part. I have used, with much success, frictions of belladonna ointment, at a little distance from the organ; but I would advise you, at this stage of the affection, to avoid mercurial frictions, for they are apt to increase the secretion rather than prevent or diminish it. When the disease is on the decline, mercury is, on the contrary, very useful.

When blennorrhagic ophthalmia is complicated with chemosis, the latter should be removed whilst it is merely the result of œdema, for you will find when it becomes phlegmonous that the conjunctiva gets so

distended that the membrane can hardly be seized with the forceps. The excision is therefore to be made early by means of a toothed forceps and curved scissors; and this operation is followed by such excellent results, that some surgeons (Jameson) have felt disposed to rely on it, exclusively of all other treatment, because they consider that it contributes to disperse the serous or sero-sanguineous congestions of the part, by the local abstraction of blood which accompanies it. I think, however, that the excision should be preceded by the cauterization, for the blood resulting from the use of the scissors would interfere with the action of the caustic. When the chemosis has reached the phlegmonous state it can no longer be excised; you must then have recourse to scarifications, but their effects are very inferior to those of excision. In the interval between the cauterizations with the solid nitrate of silver, I inject into the eye, three or four times a-day, a weak solution of the same salt, and I pay great attention to those remedies which are addressed to the system at large, for they powerfully aid the topical applications. If there is much febrile reaction I bleed from the arms, and this I do several times if found necessary. Leeches may be placed on the course of the jugular vein, in the canine fossa, or behind the ears, but a sufficient number of them should be used, to avoid subsequent effusion. Do not be afraid to debilitate your patients—on the contrary, you had better administer saline purgatives, which will act in the same way as bleeding, by causing serous evacuations. Mercurials must not be used in this stage, for they have a tendency to excite vascularity in mucous membranes, and would thereby do harm. As to the revulsives on the surface, you had better avoid pediluvia with mustard, for the essential oil of this seed is apt to rise and irritate the eyes. Sinapisms are better, and blisters are very good when judiciously applied—that is, towards the decrease of

the inflammation, not too near the eye, and in such a place as not to cause the necessity of rollers around the neck, which might increase the congestion of the organ. The nape is an excellent situation for a blister.

Treatment of the urethral discharge.—Those who attribute the ocular mischief to metastasis, endeavour to re-establish the discharge, either by taking pus from the eye, in order to inoculate the urethra with it, or by obtaining purulent matter from another individual, for the same purpose, or by leaving catheters in the canal. I need not repeat here what I said before, about the danger of using the pus of another, as we can never be sure that there are no latent chancres in the urethra which yields the pus. As for the discharge itself, there is no doubt that it always diminishes a little when the eye gets affected, but it never ceases altogether from that cause, so that these practices need not detain us an instant. I use copaiba simultaneously with the means already enumerated, not as having any effect on the ophthalmia; for when the ocular affection is the result of contagion from another individual, I do not use it; but in order to control the urethritis, as in doing so I remove the chance of relapse as regards the eye. If you have to deal with that variety of the disease which is connected with rheumatism, if the membrane secreting the aqueous humour throws out plastic lymph, and the different humours of the eye get dim, it would be advisable, besides using the means I just mentioned, to combat the photophobia and photopsia, and to promote the absorption of the plastic element by appropriate means. I have obtained very satisfactory results from belladonna, both as an ointment, rubbed in by the side of the eye, and administered internally; mercury, in small doses, carried to salivation, will control the fibrinous effusions, so that its use is clearly indicated. Colchicum may here advantage-

ously be added, as well as blisters; but I will reserve what I have to say on this head until I take up blennorrhagic rheumatism. If I were to meet with a case where the inflammation produced a sort of strangulation of the lids, I do not think I would hesitate in freeing the external commissure with the knife, so as to facilitate the application of the remedial means. When this species of ophthalmia is complicated by serous effusion and hypersecretion of the aqueous humour, it has been advised to puncture the cornea, as the distension, which is the principal cause of the pain, is thereby much relieved. The same practice has been followed when the anterior chamber is the seat of hypopium, or when a little abscess forms at the surface of the iris.

BLENNORRHAGIC ARTHRITIS.

Gonocitis, or blennorrhagic white swelling of the knee.—This complication has long remained unnoticed; we must go as far back as Swediaur to get a positive account of it. It must not be overlooked, that Hunter had remarked a connexion between blennorrhagia and arthritis in a man who regularly experienced rheumatic pains whenever he caught a gonorrhœa; but he attaches no importance to the fact. Musgrave, in a work published in 1723 (“*De Arthritide Symptomata*”), speaks of a venereal arthritis; but it is difficult to make out to what kind of accident his description refers; indeed, we may consider Swediaur as the first who placed rheumatic arthritis among the complications of blennorrhagia. If I am asked whether blennorrhagic arthritis has any peculiar differential signs which may assist in distinguishing it from other articular inflammation, I can only answer that I was induced to admit such a variety as blennorrhagic arthritis from the fact, that with some individuals one or more joints are invariably attacked as soon as they take a blennorrhagia, without their hav-

ing ever before experienced any articular uneasiness, or feeling any pain in the joints between the different attacks of urethritis. Such cases have led me to look upon blennorrhagia as an occasional cause of rheumatic arthritis; the urethral discharge, according to these views, may be looked upon as an efficient cause. Let us see which are the predisposing causes. This disease is peculiar to adults, and is observed as late as forty or fifty; a lymphatic temperament, scrofula, and the male sex, predispose greatly; and all ordinary causes of rheumatism must be added to the list. Some have also included those therapeutic agents which are capable of giving a sudden check to the blennorrhagia, as also the use of injections; but the actual state of the urethral discharge likely to produce arthritis has hitherto been but little studied; for my part, I firmly believe that this variety of arthritis does not occur without the existence of *urethral* blennorrhagia; hence its rare occurrence in women. M. Baumet has fancied there is a peculiar syphilitic stamp in blennorrhagic arthritis, and grounds his belief upon the fact, that the articular affection is much benefited by mercurial frictions; but arthritis never follows a urethral chancre, unless the latter is connected with a *bonâ fide* blennorrhagia. As to the period when the joints commonly become painful, I would say, that it is to be looked for from the second to the fourth week, and sometimes later. From the close connexion between the two affections, it will be understood how a urethral discharge can follow an attack of arthritis; indeed, this is a common occurrence with some people after each attack of gout or rheumatism. M. Foucard, who has written a paper on the subject, has admitted a metastatic arthritis resulting from a discharge brought on by rheumatism; but he does not recognise the existence of a blennorrhagia of a rheumatic nature. You will be pleased to notice, that it is not indispensable for the development of the arthritis, that the urethral

discharge be very abundant; it would seem, on the contrary, that it is towards the decline of the blennorrhagia that the joints get affected; and hence has arisen the idea, that the articular inflammation depended on the suppression of the discharge; but whatever cause may be admitted, it is worthy of notice that the discharge generally continues unaltered for a little time after the onset of the articular affection, and that it gets greatly modified subsequently. I have the authority of M. Velpeau regarding this fact.

Seat of the rheumatism.—All the articulations,—all the different fibrous structures of the system,—may be attacked, not excluding the spinal dura-mater or the pericardium; but the most common seat of this variety of arthritis is either one or both knees. M. Cloquet is inclined to believe that it is the coxo-femoral articulation which gets affected in women; and as to men, I have noticed that the tibio-tarsal very often suffers. M. Gibert places the disease in the calcaneous articulation; but it might be asked whether the os calcaneum articulates with itself? The pain is, however, often referred to the tendo-Achillis; in fact, all the joints of the body may become affected one after the other, or several at the same time; all the elements of an articulation are liable to get inflamed, and this inflammation may produce those lesions which are the peculiar characteristics of white swelling. The attack is mostly sudden, but sometimes preceded by the usual premonitory symptoms of rheumatism; and there may be severe febrile excitement, although the disease is mostly subacute. The joints become painful, swollen, misshapen; the integuments retain their natural colour; but it happens at times that the veins of the skin get turgid, and that the part assumes a pinkish hue, whilst the most constant phenomenon is hydrarthrosis. This affection is very rapid in its progress; indeed, it may cause very severe lesions in four or five days. M. Velpeau has recorded a case

of arthritis, resulting from a urethral inflammation, which proved very serious in a short time, and he mentions that the urethritis was brought on by the introduction of the catheter.

The disease may terminate favourably in six weeks or two months, but there is generally a great tendency to the chronic state when the beginning has been slow and insidious. The modes of termination may be—first, resolution; secondly, the passage to a state of chronic hydrarthrosis; thirdly, either intra or extra capsular suppuration—this latter event is, however, very rare; fourthly, degeneration of the soft parts of the articulation, or of the cartilages; fifthly, and lastly, white swelling. The discharge persists for the most part, yet it may experience oscillations depending on the slightest causes; its cessation has, however, very little effect on the articular affection. Allow me a few more words on the differential diagnosis of blennorrhagic rheumatism. The only real difference between this variety of rheumatism and all the others, is to be found in the cause which gives rise to it, and in the investigation of this cause we are assisted neither by the seat, the symptoms, nor the progress of the disease, we have no guide but the coincidence of the arthritis with blennorrhagia. The fact of a single articulation being affected, the chronic tendency, the hydrarthrosis, the simultaneous occurrence of a double blennorrhagic ophthalmia, might be quoted as pointing to the blennorrhagic variety of rheumatism; but the latter often attacks several joints at the same time, is very acute, and causes but little effusion, all of which symptoms again point to common acute rheumatism, so that it is very difficult, if not impossible, to form an opinion based upon the arthritic symptoms alone. A question which has often suggested itself to me is, whether, in many cases which exhibit the peculiarities last described, we might not suppose that the usual causes of rheumatism have been in play

during the existence of urethral blennorrhagia. As for the articular pains of secondary syphilis, they are so easily distinguished from the affection we are considering, that I need not dwell upon this subject just at present. The prognosis is here pretty much the same as in common rheumatism, yet hydrarthrosis oftener follows the blennorrhagic variety; before giving an opinion, you should carefully observe the temperament of your patient.

Treatment.—I have admitted an acute and a chronic form; in the acute, febrile reaction should be subdued by rest and antiphlogistics. General and local bleedings are useful: still you must not abstract too much blood, for fear of serous effusions. Emollient and sedative applications, fomentations and embrocations, with belladonna, will constitute the topical means. Do not be sparing in saline purgatives, you will find the serous dejections which follow their use very effective in subduing inflammation. Colchicum has been much praised by some, and run down by others, still it often produces very satisfactory results: I give from half a drachm (by weight) to two drachms and a half a-day, and seek the tolerance of the drug. I have also given nitrate of potash in large doses—viz., from one to five drachms per diem; this mode of administering the salt has been used with great success by Messrs. Martin Solon, and Gendrin. When this articular affection begins in a slow, insidious manner, or when it is on the decline, we must omit antiphlogistics, and I would then strongly advise repeated blistering; it is one of the most powerful means of combating this disease.

Colchicum, nitre, low diet, rest, and bitter infusions, are likewise indicated. The vesicating plaster should be mixed with camphor, in order to prevent the peculiar action of cantharides on the urinary organs; and it may here be noticed that the meloe is most likely to act on the bladder when applied to the knee. I

gave formerly the disulphate of quinine a fair trial, and used it in large doses, but without benefit. When the inflammation is subdued, and the elements of the joint are merely thickened, we should have recourse to compression, either with linen rollers or adhesive plaster. Plasters and liniments of a detergent and resolvent nature may also be tried; equal parts of tincture of squills, camphorated spirits, and Sydenham's laudanum, make a very good liniment. Benefit has also been derived from camphorated and mercurial ointments, as well as those of the iodides of lead or potassium, and of belladonna. Simple or medicated vapour douche, issues, moxas, and lastly iodide of potassium internally, when the means I first enumerated have failed, must be given a fair trial. Mercury taken to salivation has been useful in some cases of acute and very painful rheumatic arthritis, but this cannot be attributed to any specific action, as common arthritis yields to the same remedy.

Some authors, as I have mentioned before, consider blennorrhagic arthritis as the result of metastasis, and they accordingly advise the re-establishment of the urethral discharge; whilst others, on the contrary, use copaiba and cubebs in large doses to combat both the arthritis and the blennorrhagia. M. Velpeau belongs to the latter section, and gives the two substances in the form of an electuary. As for myself, I look upon the discharge as the focus from which the articular inflammation has sprung, and I endeavour to stop it as soon as possible, in order to remove the cause which keeps up the affection of the joints, and leads to repeated relapse.

ORDER OF VIRULENT DISEASES.

I will now direct your attention to the second order of diseases arising from sexual intercourse—viz., the truly syphilitic; they have likewise been called large pox, morbus pustularum (thus named in the

epidemic of the fifteenth century), the French, the Neapolitan disease, &c. It was Frascator who first used the name of syphilis, a term of which he does not give the origin, and which was a sort of epitome of all the others. Fallopius derives it from *συνφιλία*, as the disease seemed to originate in friendly intercourse; Bousquillon, from *σιφλος*, misshapen, on account of the deformities which the disease sometimes produced. Whatever may be the etymology of the word, it is the term which in our days has been commonly adopted, although Swediaur restricted its use to designate the disease when it affects the system at large, and he was in the habit of giving especial names to every one of the primitive accidents. As for myself, I shall comprise under the term syphilis, all the casualties connected with the virulent diseases. Syphilis is a malady peculiar to man; it never springs up spontaneously in the human economy, and is always the result of contagion at its first development. The affection is, in fact, essentially and fatally contagious; it acknowledges a specific and virulent cause; the virus is of a peculiar kind, always identical with itself, and it produces, when in contact with the economy, local effects, in the external characters of which the cause which has given birth to them can be discovered. These local effects may react upon the system, and develop constitutional symptoms, which, under certain circumstances, are hereditarily transmissible, but which *then* do not reproduce the specific cause which has been their origin. This specific contagious cause may take effect several times upon the same individual, when it is placed under favourable circumstances; but the general infection occurs but once. This disease is, moreover, distinguished by requiring most frequently a special medication. You will allow me now to dwell upon each of these points in particular; and first, as to syphilis being peculiar to man, it will suffice to say

that there is no disease transmissible from animals to man which bears the slightest resemblance to syphilis. Some authors, among whom was the elder Cullerier, were inclined to admit its spontaneous occurrence in some individuals, and they were driven to this opinion by puzzling cases, in which they could find no other explanation of the phenomena before them; but I can distinctly say that there is hardly one case in a thousand where there is any difficulty of re-ascending to the cause, and even that many cases will often admit of explanation in divers ways independently of spontaneity. It may, in fact, happen,—and Wiseman was well aware of this peculiarity,—that one individual, having been exposed to contagion, may experience no effects from the same, and nevertheless transmit the virus to another without having himself experienced any attack; so that were we to confine ourselves to the examination of the two latter persons, we should be led to admit that the disease sprung up spontaneously, but in carrying our inquiry further, we should soon change our opinion. I think, therefore, that we are justified in maintaining that no one can be affected with syphilis unless he have been subjected to infection. Every one agrees now in thinking that the disease does not exist in the lower animals; Hunter has experimentally established this fact, and my own inquiries have led to the same result. M. Ausias thought he had succeeded, by inoculation, in establishing a chancre in one of them, but far from being a chancre, it was merely a foul ulcer, kept up by constant irritation; so that there is no doubt that syphilis is peculiar to man, and that it is the result of contagion. Let us now endeavour to trace the source of this contagious cause.

Syphilis affects man as the result of the application, on the living texture, of a virus ever identical—viz., the syphilitic virus. It will not be necessary to point out at present what the ancients thought of this virus;

I mentioned their opinions at the beginning of this course. It exists in the chancre whilst the latter is in the stage of development, and there must be ulceration to allow of reproduction: the necessity of ulceration for transmission was well known to Alexander Benedetti, and to Fernel.

But the next question is this:—Are there in this virus sufficiently obvious characters to allow it to be easily recognised? The most contradictory ones have been attributed to it; and these contradictions arise from the circumstance that this virus must be studied and observed in the pus—a vehicle, the qualities of which may vary *ad infinitum*. We all know that the pus which contains the poison may have an acid or alkaline reaction; that it may be loaded with organic detritus; that it may be serous, creamy, more or less thick, coagulable, acrid, corrosive, animalized; that it may contain helminths, &c. It would, then, be hardly logical to attribute all these characters to the syphilitic virus. The only constant and pathognomonic fact is, that the latter possesses the power of reproducing itself by inoculation when favourably circumstanced. The purulent matter, which is the vehicle of the virus, may be mixed with different substances, which vary according to the seat of the chancre. The purulent matter may be found in the urine, saliva, milk, perspiration, spermatic fluid, &c.; but this admixture always happens *after* the secretion of the latter products. It may now be easily conceived that the virus will be found in these vehicles in different proportions; but notice that it is merely in *suspension*, and never intimately mixed with these secretions; so that the latter will act in the same way on the tissues upon which they are applied, however largely diluted they may be, provided the quantity of fluid, be it ever so little, contain a molecule of the virus; the degree of virulence will then ever be the same. It has been

asked, whether the syphilitic virus has been gradually diminishing in intensity. There is no doubt that the disease, as we see it in our days, is far from presenting the violent character which it is reported to have had in the epidemic of the fifteenth century; but even supposing that all the sufferings which have been described are to be attributed to syphilis, it would appear that the improvement in the symptoms is owing to a great number of circumstances, independent of the virus itself—viz., the better morals and customs of the people, the better treatment, civilization, &c. It must, moreover, be noticed, that at the time of the epidemic, and long afterwards, the individual affected with syphilis was scouted, ill-treated, shunned, driven to conceal his disease, and thereby he lost the benefit of a sound treatment; indeed, people situated in this manner, in our own days, often present all the symptoms noticed in the fifteenth century. We may safely assume, I think, that the intensity has not diminished, but that the effects have been attenuated by the favourable circumstances which surround the patients.

Let us now examine the mode of action of this virus. We must seek it first in the virulent matter itself, and then in the tissues whereupon it has been deposited. Virulent pus contains two elements, the purulent and the virulent: the first is the vehicle, and I have already stated that it may be mixed with other substances. These two elements brought in contact with a surface which has not been denuded, may act as simple irritants, and give rise to an inflammation unconnected with specificity; it is in this manner that virulent pus, applied to a non-ulcerated mucous surface, may give rise to simple blennorrhagia. But the pus, besides its specific effect, requires the assistance of certain extraneous circumstances, in order to produce its effect; and this fact has led some to deny, *in toto*, the specific nature of the virus.

Let us examine these extraneous circumstances for a moment. In the first instance, it is not necessary that the ulcerated surface which secretes the pus should have any particular seat to render the purulent matter virulent. I have found chancres in various parts of the system, and the contagious nature was ever the same; a state of erethism, of excitement, of excessive vitality of tissue, is no more indispensable than a special situation; nor need the virulent matter be warm or recently secreted. This has been put beyond all doubt by my experiments. I have, namely, preserved such pus in phials for three, ten, and fifteen days, and chancre was produced just the same, by inoculation with the lancet; so that it is clear that the matter may remain so many days on the tissues without losing its inoculating properties; and immediately a circumstance favourable to its action arises, the chancre appears. Thus may be explained the development of a chancre fifteen or twenty days after sexual intercourse, which unusual fact had been attributed to incubation. Chemical or organic alterations prevent the action of the virus; gangrene also destroys the virulence of the pus; and certain chemical agents do the same. Let us now see how the tissues on which the virus is deposited must be circumstanced, in order to insure its action. The age, sex, temperament, and previous diseases, have nothing to do with the action of the virus, and no one is refractory to the local effects of the poison. This is an immutable law, admitting of no restriction; people may, as I before mentioned, get so used to the intercourse with females suffering from a blennorrhagic discharge as to escape unhurt; but this never happens with chancre. The most favourable circumstance for the action of the poison is its application on an ulcerated surface, or on a simple solution of continuity; but inoculation may happen independent of this by the introduction of the virus

into the follicles of the part ; their surface looks at first irritated, erosion then takes place, and inoculation ensues. Another favourable circumstance is the more or less stagnation of the matter upon the part ; this permanent contact is, in fact, necessary on the non-denuded surfaces. As the pus may then remain a certain time in contact with the tissues without producing any effect, we may easily understand that in this state it may be communicated to another individual, which latter will present all the phenomena of syphilis, while the former may escape unhurt. These are the cases which, as already said, led some authors to believe that syphilis could spring up *suâ sponte*. The action of the virus is very powerful when the solution of continuity is recent, and when the surface is not bathed by fluids, as pus, &c. The genital organs are certainly the most exposed to the infection, owing to their peculiar structure, the delicacy of their tissues, the great number of follicles which they contain, their functions, the protracted contact with the virulent matter, and the difficulty experienced in examining them completely.

Mode of Propagation.—There was a time when people believed that syphilis could be inhaled with the air, but we are now better informed, and we know that there is no contagion but that resulting from the direct application of the virus. The most common mode of transmission is sexual intercourse ; after this must be reckoned unnatural connexion, which gives rise to anal, buccal, nasal chancres, &c. But it must not be supposed, when we find a chancre in a region at a distance from the genital organs, that that region has actually and necessarily been subjected to intercourse with diseased generative organs, because the virulent matter is often carried by the finger to different parts of the body, where these chancres spring up. A medical man may become affected with a digital chancre by a vaginal or

anal examination; the disease may be caught by using canulæ, forks, sheets, masks, &c., which had previously been in contact with primary specific ulcerations. Indeed, the mode of propagation is a very important subject, particularly in a medico-legal point of view. I must not forget to mention, that transmission by surgical instruments, and the different parts entering into the dressing of ulcers, &c., is very possible. It has been maintained, that one or more anterior attacks of the disease were circumstances favourable to a subsequent infection; but experience has shown, that the infection of the constitution having once taken place, it could not happen a second time; or, in other words, that the system can be tainted but once. As for the local affection, it can only be favoured by the existence of weak cicatrices, which may be the consequence of previous chancres, or simple wounds; but it is evident that the predisposition in these cases has no connexion with the nature of the disease.

The action of the virulent matter may be reckoned from the moment when it came into contact with the living textures, and those who take the trouble of closely examining its progress, will easily follow the evolution of the same. But there are two theories opposed to this view,—one is the theory of general; the other, of local incubation. The supporters of the first hold that the pus brought into contact with the tissues is absorbed at once; that it immediately affects the system during a time more or less prolonged, called incubation; that the action of the poison then retraces its steps, as it were, to produce its effects on the spot where it was originally applied, and that this incubation may vary from two, eight, ten, to thirty days. But how could it be proved that there has been general infection before the local manifestation; the time which elapses generally between the application and the effects is no argument, be-

cause we sometimes see these effects arising immediately ; and besides there is not one symptom pointing to this general infection. No proof can be given to support this doctrine: the only semblance of truth in it is the analogy with the cowpock virus ; but even this latter is not satisfactorily proved to act first on the system, and I have quoted Eichhorn, not long ago, on this subject.* If so much as thirty days of incubation were a common thing, there would be very few persons who could boast of being free from fear on the subject of syphilis ; and we know, moreover, that this immediate absorption cannot be the same with all individuals, since the virulent agent always begins by modifying the tissues with which it comes in contact, which modification may retard, or altogether prevent, the absorption. Hunter, Bell, &c., supported the second theory—viz., the *local* incubation of the purulent matter ; they thought that the latter remained a certain time on the texture before it produced any local effects. As for myself, I believe that the virulent cause acts immediately it is applied, whilst I admit that this action may be more or less prolonged, according to the nature and state of the textures ; but I will develop these views when we meet again.

LECTURE XIV.

PHENOMENA RESULTING FROM THE INOCULATION OF VIRULENT MATTER ; DURATION AND PROGRESS OF THE SPECIFIC PERIOD ; PHAGEDÆNIC CHANCRE ; INDURATED CHANCRE.

I WAS mentioning, at the close of my last lecture, that the two theories of incubation could not be relied on, and that I considered the virus to act immediately after its application. If the consecutive effects of

* Vide Lecture IX.

the purulent matter placed beneath the epidermis be closely watched, the following results will become apparent:—First. There is slight irritation produced by the wound of the lancet; twenty-four hours afterwards, an inflammatory areola forms around the inoculated spot, and the latter swells into a papula; on the second day, the epidermis which covers the latter is raised by a small collection of serum, which soon turns dull and purulent; at the end of the third day, the pustule becomes larger and umbilicated, like that of small-pox, and the surrounding areola increases as the collection of pus becomes more abundant. If at this time the pustule be opened, a small ulcer will be found underneath, of such a shape as if the soft parts had been punched out; its edges are sharp, undermined, and seemingly ready to fall in, which circumstance makes the sore look smaller than it really is; and the fundus is grey and pultaceous. Towards the sixth or seventh day the pus dries, crusts form, and their accumulation gives to the ulcer the appearance of ecthyma, and may even go so far as to resemble rupia; the epidermis which surrounds the circumference of the crust is soon raised by a renewed suppuration, which dries in its turn, and thus the ulceration goes on, keeping up its primary form, unless it experience some deviation from including tissues, differing from those in which it took its origin. We see, then, that chancre may assume the shape of ecthyma or rupia, and it is clear that in such cases no decided diagnosis can be given without the assistance of inoculation. There are, further, two questions of some importance, which must be answered before we leave this subject—namely, at what period does the specific purulent matter thus artificially produced become inoculable? And, next, how long will a chancre go on yielding inoculable pus? As to the first question, I may deduce from experiments, carefully made, that two days

will suffice to give specific properties to the pus ; I have, in fact, produced a chancre with matter taken from an inoculation of two days' standing. As to the second inquiry, it must be remarked that the ulceration continues progressing until a certain period, when it becomes stationary, although still yielding inoculable pus ; the first division or progress of the ulceration may be called the stage of development ; the following division is the stage of rest or *statu quo* ; and we shall see, a little later, that there is a third stage, which I call the stage of reparation ; it is in this period that the pus loses its inoculating properties. Some authors have attempted to explain the production of virulent pus, in supposing that the purulent matter acquires its poisonous properties *after* it is secreted, and in consequence of a peculiar modification *then* effected. But this hypothesis cannot be admitted, because the virulence is ever the same, whether the sore be carefully covered to protect the matter from any extraneous influence, or left entirely to itself. This idea arose from the earlier experiments which were made concerning inoculation, for in these the pus of bubo was used, and produced no effect on a first trial, whilst, some days afterwards, matter taken from the same bubo, being again inoculated, produced a chancre. It was natural to infer from these results, that some change in the nature of the pus had in the interval taken place. But the supporters of this opinion forgot that the matter had, in the first instance, been taken from the purulent degeneration of the cellular tissue situated around the glands, and that the really specific pus lay within the latter. This I easily proved by first evacuating the purulent matter, and then making a second incision into the glands to obtain the syphilitic virus, which, being inoculated, yielded positive results. Neither is the virulent character, as some have thought, a result of changes going on merely upon the surface

of the ulcer, for I have sliced off layer after layer, but the virulence of the matter remained unaltered. The truth is, that the virus develops itself in a rather limited space, which gets gradually larger as the chancre increases; and the longer the ulceration lasts, the more extensively the poison spreads through it; but the textures around the ulcer remain perfectly healthy. The virulence is, in fact, the result of interstitial elaboration, which takes place within the thickness of the tissues.

Duration and progress of the specific period.—This stage may vary from two to eight weeks. I have seen well-defined chancres which ceased to yield specific purulent matter after the eighth day of their real existence, but I am not aware that this ever happened in a shorter time. I might almost say that the maximum is so much as seven years, for I have known a patient to suffer from a well-marked ulceration for so long a time, without interruption. There is no doubt that a primary syphilitic ulcer may heal spontaneously, without the slightest therapeutical interference: that mercurial treatment is not only useless, but it may aggravate the disease; and it is therefore a great mistake to look upon it as a touchstone of the nature of the ulceration. When the chancre has reached the stationary period, it may remain in *statu quo* for an indefinite space of time; it then passes into the suppurative stage, or that of reparation, which is the last: its further progress is then similar to that of any common ulcer. This division into three stages is very important: first, as a point of doctrine, and secondly, with reference to forensic medicine; for if it were necessary to go back to the original source of the contagion, it might happen, in the inquiry, that the very chancre which was inoculable on one day, is no longer so on the next, owing to its attaining the period of reparation: it would, however, be a great error to conclude, from

this circumstance, that this chancre has not been the source and fountain head of the mischief. As soon as the period of reparation is fairly established, there is no relapse or renewal of the inflammation to be apprehended unless a fresh contagion take place; this rule will hold still better when the cicatrix is firm and complete.

All primary ulcers do not begin in the same way. I have shown, by experiments, that the starting point might be a pustule; but it often happens that the pustular stage passes unnoticed, and nothing but an ulceration is seen. A chancre may assume the appearance of a furunculus, or simulate an abscess; this should be remembered when a diagnosis is attempted. The development of chancre is preceded by no general premonitory symptoms, but a slight sensation of heat, some itching, and an increase of sensibility, manifest themselves on the part which is to become the seat of the lesion; yet it must not be forgotten that herpes is ushered in precisely in the same way. It often happens that patients take no notice of the ulceration until it has existed some time, and has acquired a certain development; they generally reckon the onset of the disease from the time when they have become conscious of there being something wrong about their generative organs, but *we* ought to look upon this as the fictitious beginning; the real commencement of the disease is the implantation of the virus.

All parts of the body may become affected by the contact of syphilitic matter; but it will be useful to divide chancres, as to their seat, into two great classes, the visible and the latent chancre,—the first plainly discoverable by the eye, the other cognisable only by certain signs. Chancrous ulceration takes place either on the skin or the mucous membrane; the cutaneous chancre has a great tendency to get covered with crusts, and to assume the look of

ecthyma ; whilst the chancre situated on a mucous membrane is constantly bathed in its own secretion, and never forms any scab. Besides the information which we derive from the secretion of the sore, we may also gather much from those peculiarities of the ulceration which depend on the seat of the chancre, and the functions of the organ on which it may chance to be placed. The increasing and stationary periods which I have mentioned do not always proceed in the regular manner I have described ; they are subject to variations, with which it is useful to be acquainted. The first deviation from the usual course of things is that state of ulceration called phagedæna, which, as you know, invades the neighbouring tissues. This species of chancre has itself several varieties—viz., the gangrenous, pultaceous, serpiginous, &c. The phagedænic character does not arise from any peculiarity in the virus itself, but from some cause inherent to the individual affected, or from an accidental one. Phagedænic sores mostly attack subjects passed the age of puberty or those who habitually or accidentally indulge in spirituous liquors. This latter circumstance explains why they are more frequently met with in England than in France. Phagedæna may also acknowledge the following causes :—Warm weather, stimulating and irritating food, uncleanness, mercurial treatment used at the wrong time, rancid mercurial ointment, the previous or present existence of secondary symptoms, &c. When the textures which form the fundus of the phagedænic chancre get inflamed, they often run into gangrene ; specificity is then destroyed, and when the crusts fall off a simple ulcer remains.

The base of a diphtheritic, phagedænic chancre is covered by a greyish, tough, and adhesive membrane, from which the purulent matter oozes ; specificity is in such a case kept up for a long time, and this variety resembles hospital gangrene very much ; it

often assumes, likewise, a serpiginous character, healing in one place, whilst it is extending in another. Notice that the really serpiginous chancre is very apt to run along the surface, and penetrates but little in depth. When a phagedænic chancre is situated on the glans, it merely destroys the cortex of the organ, as it were; its progress is slow, and it might not inappropriately be called a decorticating chancre. When it is placed behind the corona, it not unfrequently severs the same entirely from the corpus cavernosum. To the causes favouring phagedæna, I must not omit to add, bad food, cold and damp dwelling, privations of every sort, weak state of health, scrofula, phthisis, scurvy, herpes, ringworm, scabies, a deranged state of the digestive organs, &c.

Characters of the phagedænic chancre.—The base is soft, greyish, and pultaceous; the margins are undermined, thin, irregular, and bending down upon the sore; the ulceration includes the sub-cutaneous or sub-mucous cellular tissue, and extends particularly towards the dependent parts; there is much pain, also a sense of burning and of pinching, which becomes intolerable when a nervous filament gets denuded. The suppuration is abundant, thin, serous, loaded with detritus of organic matters; if there have been granulations they disappear, just as it happens in hospital gangrene; here and there, sphacelated spots may be seen, which leave behind them an ugly-looking ulceration; the surrounding skin is pink or purple, getting perforated in different places; and the system must inevitably suffer if this state of things continue for a certain time. Feverishness comes on, first only at night, afterwards it extends also over the day; the skin becomes dry and hot, the pulse small and frequent; there is loss of sleep and appetite; the patient is attacked by diarrhœa and colliquative sweats; the former sometimes comes on suddenly along with vomiting; the ulcer dries up,

and the unfortunate sufferer dies, in spite of all the care, solicitude, and skill of his medical attendant. I have found ulcerations of the colon, and even of the rectum, every time I have had an opportunity of making a *post-mortem* examination in such cases. Phagedænic chancre may be complicated by erysipelas, strumous thickening, and a herpetic state; it sometimes destroys a whole organ, and may give rise to very dangerous hæmorrhage. The ulceration will often lose the phagedænic character altogether, but it is then kept up by the cause which had produced the phagedæna; if, for instance, the exciting cause was scrofula, we perceive scrofulous symptoms taking the place of the phagedænic. I can safely deduce from numerous observations that a chancre, which at its onset becomes phagedænic, does not taint the system; the constitutional phenomena which often follow this species of chancre are mostly owing to the feeble state of the patients; they get then affected with ecthyma, rupia, eczema, impetigo, and other eruptions, but these complications are to be looked upon as the manifestations of the general state under the influence of which phagedæna has occurred.

Indurated chancre is the next species. This is the most important, as being almost always followed by secondary symptoms; the induration is formed by a certain congested state of parts around the sore, and this engorgement favours the deposition and distribution of the virus. However, if no such induration appear after a week's full development of the chancre, there is no likelihood of its occurring at all, and in such cases we can venture upon a tolerably accurate prognosis as to the probability of constitutional infection. Chancre may spring up in anybody, but there are doubtless some people who seem to possess an immunity as to the indurated species; it is, however, not known which peculiar temperament or idiosyn-

crazy is either favourable or unfavourable to the induration ; all we know is, that the aptitude for the development of an indurated chancre is lost after the latter has once existed upon an individual. It therefore affects a man but once in his life, and herein we cannot help noticing a striking analogy between this disease and that from vaccine matter. An indurated chancre may have its seat in any part of the frame ; it is generally solitary, slow of growth, cold and indolent, it suppurates very little, and shows no disposition to spread ; notice that this apparent benignity of nature makes some patients entirely overlook this species of chancre. Its essential character is a well-defined, hard base ; the induration is elastic, cartilaginous, and circumscribed ; Bell has very justly compared the feel of it to that of a split pea placed between the textures. The surrounding parts are perfectly sound, and when the skin or mucous membrane in the vicinity of the induration is stretched by the finger, we see the indurated nucleus assume a purple colour, and take the appearance of cartilage. The fundus of the ulcer is grey and diphtheritic ; the margins are adherent and rounded off, instead of sharp and undermined, as in the common chancre ; the centre is generally more or less depressed, but it has been seen on a level with the margins, and in this latter case the chancre is quite superficial, so much so as to simulate simple balano-posthitis. Mr. Puche, being deceived by a case like this, set down the latter affection among the virulent diseases. But the indurated chancre may also rise above the surface : it then constitutes a special variety, which is pretty often met with ; and when the induration is situated between homogeneous textures, it presents a round and regular base, which is always of a wider extent than the ulcer itself. The induration never commences before the ulceration, and when Robinson announced the contrary proposition, it is probable

that he had to do with ulcerations occurring on cicatrices, or persisting indurations from former sores; or else that he was misled by follicular cutaneous chancres, surrounded by a very hard inflammatory areola. The induration may be situated on the skin, mucous membrane, or in the cellular tissue immediately under either of these organs, but it is far from being equally well defined in these different situations. The particular regions where an indurated chancre happens to be situated have also much to do with its characters: the latter are, for instance, much less marked at the anus, and behind the vulva, than in other parts. The indurated chancre, placed on the preputial mucous membrane, just behind the corona glandis, may be looked upon as the type of this species, for in that situation it has almost always a cartilaginous feel, and assumes the shape of a semicircular crest; and another peculiarity of this part of the generative organ well worth noticing is, that it abounds in ramifications of lymphatic vessels. As to the nature of the induration, I am inclined to believe that it is caused by a plastic effusion into the lymphatic capillaries. We have, on this head, the advantage of some very careful investigations of Messrs. Marchal de Calvi and Charles Robin: these physiologists have found within the induration a fibro-plastic tissue, filiform fibrous bodies, containing a nucleus, nucleoli, and small globules, but I cannot say that their labour has thrown much light on the subject. One thing, however, appears certain—namely, that induration is the reverse of phagedæna; that it is a sort of barrier to local destruction, and the first sign of general infection; indeed it might well be called a sort of inlet for the syphilitic virus. The exact time when the induration sets in is not quite determined; I can state, for my part, that I never saw it before the fourth or fifth day of the existence of the chancre; it never begins the very first day of the application

of the virus, and rarely comes on after the fifteenth. Still, you must notice, with reference to the latter circumstance, that the induration may be concealed for a long time, buried in an inflammatory congestion or in œdema, and show itself only when these have disappeared.

We shall consider, at our next meeting, the deviations which may occur in the progress of the indurated chancre.

LECTURE XV.

DEVIATIONS FROM THE USUAL PROGRESS OF INDURATED CHANCRE ; GENERAL DIAGNOSIS ; URETHRAL AND ANAL CHANCRES ; PROGNOSIS.

WE have to consider, this day, the deviations to which the usual course of an indurated chancre is liable. They are generally owing to those peculiar dispositions which were mentioned with reference to phagedæna, and likewise to an excess of inflammation, which may bring on gangrene. The latter occasions a pretty extensive loss of substance ; but the mischief is sometimes very trifling, in which case we merely perceive a few brownish spots towards the centre of the ulceration, these sphacelated points being the result of interstitial gangrene. But you must carefully notice, that this destruction occurs *after* the induration, at a time when the system is already affected, whilst the constitution does not suffer from a chancre which becomes phagedænic at the very onset. The period of reparation, or healing of the sore, will, as well as the period of development, present certain aberrations from the usual course : the granulation may attain an exaggerated size ; the

base of the ulcer may be covered with vegetations, or cauliflower excrescences; these may become fungous, and mucous tubercles may spring up; but all these changes and deviations have no relation whatever to the specific nature of the disease. Another very curious fact is, that the primary sore may undergo such alterations as to become a secondary ulcer or a mucous tubercle, without any other secondary manifestations; and this transformation has misled some writers so far as to make them believe that mucous tubercles sometimes appear as primary symptoms. Cicatrization generally proceeds from the circumference to the centre, but in phagedænic sores it may begin in the middle, or on several points of the base at the same time, which points subsequently coalesce. The cicatrix may be either depressed or elevated with regard to the surrounding parts, and it is important for you to bear in mind (particularly in a medico-legal point of view) that there is no especial sign peculiar to the cicatrix of a syphilitic ulcer, and that it is quite possible that all traces of the ulceration be completely effaced. On the other hand, it must be mentioned, that an indurated kernel may remain, which will serve as a guide; but even this is a deceptive sign, as the cicatrix might present a certain thickness, independent of the specific nature of the previous ulceration.

General diagnosis.—I have stated several times already, that it is not prudent to rely on the origin, seat, form, base, extent, or duration of a sore, to give a distinct diagnosis as to its specific nature. Allow me to take a rapid glance at each of these characters. Some persons put a certain stress on the *origin* of the ulcer, as a guide for discrimination, but they forget that there are hundreds of ways in which, by contact, the disease may be communicated; in fact, it has been caught (and this is authentic) by merely shaking hands with a friend. Doubts, on the other

hand, of the venereal nature of an ulceration sometimes arise from the unimpeachable source from which the disease has been contracted ; but this is no criterion, for certain things happen which are no doubt extremely startling. For instance, a married man comes to consult me about a well-characterized chancre, and vows that the coitus has been strictly matrimonial. What are we to think here ? We may think what we please, but it is a rule with me to tell the party that it is no chancre ; and I well remember being one day mercilessly caught in a flagrant contradiction on an occasion like this ; but morality required that I should give an opinion contrary to my conviction. Neither will the *seat* of the ulcer decide the question ; of course the parts of generation are oftener the *locus electus* than any other ; but a chancre, when the virus is duly applied, may develop anywhere ; and I remember how long it puzzled us, some time ago, to explain how a well-defined chancre contrived to fix itself on a young apothecary's nose ; indeed, I can safely say that I know hundreds of ways in which the disease may reach numerous and distant parts. As to *shape*, we have here again to contend with an enormous variety ; and it is strange, forsooth, to see some people deliberately fix a certain figure for a primary sore. You may rest secure that, according to the time elapsed, the degree of inflammation, the diathesis, the dressings, &c., the shape may alter considerably. Certain features of the sore are, however, pretty constant,—viz., a greyish, soft, and adhering fundus, covered, for the most part, with a film of suppuration. I know nothing that so much resembles a chancre as an aphthous ulceration : endeavour to compare the two when an opportunity offers, and you will acknowledge the truth of this assertion. The next thing to be considered is the *extent* of the sore ; but this as well as its *duration*, is subject to great variety, and aids the diagnosis very little in-

deed; the duration must, of course, depend on the numerous complications which may occur; and you know that these will vary according to the idiosyncrasy of the patient. The influence of remedies upon the healing of the sore may sometimes afford us some light; I do not mean to say that this mode of investigation is entirely to be relied upon, but it has some value when aided by other circumstances. I well recollect a patient, under the late M. Boyer, who had an obstinate ulcer on the leg. He always rejected, with indignation, any idea of syphilitic taint; but M. Boyer, who had his doubts on the subject, proposed to him, in order to settle the question, to give him up one-half of the sore, which he would dress with mercurial ointment, whilst the other half might be treated as heretofore. The patient consented, and his surgeon was shrewd enough to choose the upper part of the sore, so that the discharge should nicely gravitate to the lower part, and keep his ground pretty clear. Five or six days after the first application, the upper part was almost cicatrized, while the lower had made no progress. But the action of remedies is, for all that, very fallacious, as simple ulcers will often rapidly heal under mercurial dressings, and specific ones continue unchanged in spite of them. I confess, however, that by the careful study of the characters hitherto enumerated, in grouping them together, and well weighing their relative value, a diagnosis of an inductive nature might be attempted. But the only way of arriving at a satisfactory certainty in the matter, of being able, in a court of law, to swear that an ulcer, where-soever situated, is of a syphilitic nature, is to practise inoculation. Of course it is not necessary, in common cases, to have recourse to it; we are justifiable in using this test only in such cases when a decided opinion is required.

It will now be useful to consider the principal errors of diagnosis which must be guarded against.

Chancres may be confounded with common ulcerations, which, from some cause or other, have been made to deviate from their usual course. Corrosive sublimate, for instance, applied to a simple sore, will give it very much the appearance of chancre; herpes, cauterized by subacetate of lead, will be affected in the same way; and such a sore will even assume an indurated base, which has deceived many; so that every induration which is met with must not be at once set down as a specific one. The substances just mentioned keep up the ulceration by their irritating properties, and the sore, as soon as they are left off, re-assumes its former non-specific appearance. It often happens that the different sorts of dressings, applied successively, prolong a virulent ulceration; you will often remark that cicatrization is favoured by leaving them off altogether. A region where much uncertainty of diagnosis prevails is the verge of the anus; fissures about this opening are often pronounced specific when they are the result of mere irritation and straining of the part; whilst chancres there situated are often mistaken for common ulcerations or excoriations. The other day, a surgeon of this city, not accustomed to suspect a syphilitic taint, laid open what he thought a mere fissure, to hasten its cicatrization; but this operation only facilitated the inoculation of the poisonous matter still more, and it was in this hospital that, by the proper means, the man's ulceration healed up. Another source of error is the resemblance which divers dartsous ulcers bear to chancre; with a little patience, and by remembering the following facts, a pretty correct distinction may be made:—Herpes preputialis, vulvæ, scroti or ani, always begins with a little itching; then are formed a group of vesicles, the contents of which, at first clear, and soon after opaque, ooze through the parietes, and, on drying, form a yellow crust; the maximum duration of the whole is one week. In eczema

the vesicles are smaller than in herpes, there is no scab, the surface is red, the secretion slight, and there is no deep ulceration; when situated on the skin, a little desquamation takes place; but on mucous membranes there is a slight secretion. It is, however, with pustulo-crustaceous ringworm that the diagnosis is most difficult, and it is often impossible to decide without inoculation. Chancre has also been confounded with cancer; but the distinction is here much more easy than in the cases I stated just now. It must, however, be confessed, that cancerous growths will often spring up in those very regions which are the most frequently the seat of syphilitical ulceration—viz., the lips, the glans penis, the vulva, the tongue, &c.; and nothing, in fact, resembles scirrhus more than a specific induration. Still, in carefully noting the following distinctions, independently of the assistance we get from the consideration of age, sex, the seat of the sore, heredity, &c., a tolerably accurate diagnosis may be made.

CHANCRE.

1. Exposure to contagion.
2. Relative rapidity of development.
3. Early obstruction of lymphatic vessels and glands.
4. Ulceration *preceding* induration.
5. Indolent state of the sore increasing with its continuance.
6. Inoculation possible within a certain period.

CANCER.

1. No fact pointing to a contagious origin.
2. Slow evolution.
3. Lymphatic vessels & glands tardily affected.
4. Ulceration *following* induration.
5. Symptoms becoming more acute from the duration of the ulceration.
6. Inoculation never yields any results.

Besides these differences, you must notice that the obstruction of the posterior cervical glands, so common in chancre, is never met with in cancer; and we might lastly look upon the treatment as affording

means of distinction, but it will be hardly necessary to have recourse to this expedient, now that we can decide the matter by inoculation. This reminds me of a gentleman, whose penis I was called to amputate; it had been condemned by two medical men, and I was merely requested to attend as an operating surgeon. The affection was, according to them, a cancerous induration of the glans and prepuce; but I was led to differ with them by divers considerations,—first, the age (sixty-five); then the short time the tumour had existed (three months), &c. I proposed to excise a portion of the prepuce, and save the glans; this was consented to, and I was delighted to find a few weeks afterwards a fine crop of secondaries appear all over the gentleman. I may mention, by the way, that any induration which has lasted more than six months without giving rise to secondaries, is *certainly not* of a syphilitic nature.

Peculiarities relative to the seat of Chancre.—Before entering upon these, I must state, with reference to diagnosis, that when a chancre has merged, as it often does, into a simple unspecific ulcer, it is not only difficult, but sometimes impossible, to give a decided opinion with reference to the former nature of the ulceration. Let us now consider the *urethral chancre*, of which we have a few very well-marked examples in the house. It is generally situated near the meatus, and is visible without separating its lips; but since the posterior limits along the urethra cannot be seen, it is difficult to say how far the ulceration extends backwards. But how can any diagnosis be attempted when a urethral chancre is quite concealed within the canal? How shall we distinguish it from blennorrhagia? Both give rise to a secretion, and both may produce ardor urinæ. Yet the discharge resulting from chancre is sanious, rusty, and becomes sanguineous by pressure; it is, in fact, *sero-purulent*, while the blennorrhagic secretion is *muco-*

purulent. The pain in blennorrhagia is pretty extensive; in chancre it is fixed in one spot, or may be altogether absent; the thickening of the urethra is limited in chancre, but diffuse in blennorrhagia. The usual seat of the urethral chancre is the balanic region; in order to ascertain its existence, you must not apply your pressure laterally, but from above downwards in the natural situation of the organ. A sort of speculum has been contrived by M. Ségalas to allow of the urethra being viewed; but I cannot say that it fully answers the purpose. Notice that the secretion from the meatus may be sanious without being of a specific nature; and besides, the ulceration within the urethra may be either venereal or not; so that the foregoing characters cannot *always* yield a sure and undoubted diagnosis; and here, to cause all error to vanish, we must have recourse to our great criterion,—viz., a timely inoculation.

Anal chancres.—These are mostly the result of unnatural connexion: but the fact of this having happened must not be deduced from the infundibuliform shape of the anus, as some authors have done; for this peculiar appearance is often merely the result of emaciation, as we see it in phthisical patients. The development of a chancre in this region requires a previous erosion of the part; these erosions are mostly situated on the coccigeal or perinæal commissure of the verge of the anus, and these are likewise the points on which chancres are generally met with. They have also been found on the internal sphincters, and have been mistaken for fistulæ. I must state, in conclusion, that a syphilitic ulceration about the lower end of the rectum is not a proof of unnatural connexion, for the purulent matter may, particularly in women, find its way along the short perinæum to the rectal extremity; that some pus may also be carried accidentally by the hand to the anal region, and there cause specific ulcerations; so that you must be guard-

ed in your opinion in such cases. Chancres have likewise been found in the vagina, uterus, and many other parts of the body; it will be sufficient for you to know that they may spring up in these various regions, and by investigating carefully you will be able to attempt a fair diagnosis. I fully believe that if a chancre escape observation, it must be owing to imperfect investigation.

Prognosis.—The precise time when a chancre will heal cannot be foretold, but the indurated species is, *cæteris paribus*, the soonest cicatrized. After this, the normal chancre—namely, that which presents no deviation from the usual course, may be mentioned as holding out the best prospect; and the duration of phagedænic, diphtheritic, or pultaceous chancres will depend on the cause which has made them assume these peculiar characters; the more difficult this cause is of removal, the more will the healing of the chancre be retarded. When you perceive that the appearance of the sore improves under the means you are using, you may judge favourably of the issue of your treatment; at all events, you will do well to let your patient be placed in as favourable hygienic conditions as possible. Before you venture on a prognosis of the case, you should take certain circumstances and sequelæ in account—viz., the unavoidable stagnation of the matter from the peculiar disposition of some parts (for this state of things may give rise to other chancres), also the likelihood of lymphatic and glandular inflammation when the chancre is circumscribed, and shows no tendency to spread. An *indurated* chancre infallibly produces a congested state of the neighbouring lymphatic glands; phagedænic chancres, or those presenting simple inflammation, are less likely to cause adenitis, but still they may do so. I think I can venture to lay down as a rule, that adenitis is as frequently a sequel of the indurated chancre as it is rare to find it the consequence of a phagedænic one.

The specific induration of a chancre is a proof of the syphilitic taint of the system, whilst constitutional infection scarcely ever follows a non-indurated chancre; and when this *apparently* does occur, it is mostly because the induration has not been properly looked for. When the lymphatic glands have escaped, notwithstanding the existence of an indurated chancre, it may confidently be foretold that there will be no secondary symptoms; and the supposition that a previous attack of syphilis predisposes to a second is quite erroneous; on the contrary, I would rather say that the system having once been under the influence of syphilis, is less liable to contract the disease over again. It has, likewise, been maintained that, speaking generally, secondaries are pretty certain where no mercurial treatment is used; I cannot agree with this opinion, and I must say that I never answer for an immunity from secondary symptoms, where a regular mercurial treatment has been used; but when no mercury has been given I have more confidence, and I answer to those who consult me on this head, and who are about to marry—"Go and enter upon matrimony, if you have not undergone a mercurial treatment." At our next meeting I shall consider the *treatment* of chancre.

LECTURE XVI.

TREATMENT OF CHANCRE; PROPHYLAXIS; ABORTIVE
AND SUBSEQUENT TREATMENT.

I BEG now to draw your attention to the prophylactic means instituted in this country in order to protect those who indulge in promiscuous intercourse. Government have taken upon themselves the sanitary

measures which are thought necessary in this matter, and certain regulations have been framed, and are in force, for the detection of disease among those unfortunate females who get themselves duly registered and enrolled. Before I enter into the merits of this law, and before I discuss its efficacy in preventing contagion, I must say that prostitutes are taxed with doing more harm than we have a right to accuse them of. It is true, no doubt, that diseases resulting from sexual intercourse are extremely frequent, and you are, I dare say, sufficiently acquainted with this fact (and if you had any doubts about it before you were in the habit of coming here, I am sure that the crowded state of this hospital, and the throngs you see at my dispensary, have strangely modified your opinions on this head); but remember that this is not all to be attributed to the women of the town; much mischief is done by those who are beyond the pale of the law, and whom the world hardly suspects to create so much misery. Do not believe, however, that the examinations to which regular prostitutes submit are a sufficient guarantee of these women's innocuity—far from it; the intention of the enactment is good, but it is not half carried out. If it were rigorously adhered to, we ought to have less complaints arising from sexual intercourse here than in other countries, where no such regulations exist; but it is not so. In England, for instance, the amount is very large, and I have had occasion of personally convincing myself of the fact; still we are hardly below their number. This ought not to be the case; we should be much better off in this respect. The great mistake in France is, that no notice is taken of the discharges which most of these unfortunate females have upon them; the whole attention of the examining surgeon is concentrated in the search of a chancre, and failing the discovery of the same, the woman is pronounced sound, and only those who have a tangible chancre

upon them are forced to repair to the hospital. But I have no hesitation in stating that uterine catarrh, which is so often overlooked, is far more dangerous than chancres and secondary ulcerations, so far as contagion is concerned. These discharges are extremely infectious, and I think it highly improper that women thus affected should be allowed to go at large—indeed, I hold that those who take the disease from registered females might almost impeach the chief of the police for creating a false security. I must add, however, that the use of the speculum, lately introduced, has rendered the examinations much more efficacious; now, at least, we can ascertain the state of the parts a little further than the nymphæ; but formerly the external organs only were examined, and when these were sound the girl was looked upon as innocuous, however deeply the upper part of the vagina and the cervix might have been diseased. But in spite of this improvement much remains to be done; houses of ill fame are visited by the surgeon once a week, and other places of somewhat higher pretensions, once a fortnight; now, this is quite useless, with reference to contagion, for we know that eight hours are sufficient for an inoculated chancre to produce infectious pus. But allowing even two or three days for the evolution of the disease, it will nevertheless appear that a girl perfectly sound when the surgeon leaves her may have infected more than half a dozen men by the time he comes again. It is of no use going on in this way: if the system is to yield any good results, examinations ought to take place every morning, and I think that if the men who frequent such places were subjected to them also, it would probably be the means of ridding the community of the disease altogether. The very idea of such frequent examinations is extremely painful; but we must make our minds up to look upon them as the sick man does upon a seton, which, though any thing

but agreeable, is used to eradicate a disease still more unpleasant than the remedy.

Precautions necessary for avoiding the contagion.—Those who are so situated as possibly to be instrumental to the propagation of the disease ought to be scrupulously cleanly, so as to neutralize the virus, at least temporarily. Lotions with the chlorides of soda or of lime, or with any other astringent liquids, and the cauterization of any little ulcerations or abraded surfaces, will be extremely beneficial. The individuals who are apprehensive of contagion ought, on the contrary, to adopt the opposite course, since the smegma is a sort of protection, owing to its unctuous nature; and ablutions *post coitum*, with the above-mentioned lotions, will be very useful. The artificial means which are sometimes resorted to are any thing but trustworthy; their porous nature or their rupture may prove very treacherous; and besides this, inoculation will sometimes take place on such parts as are unprotected by them—viz., the scrotum, pubis, root of penis, &c. The shorter the contact the better. A great point, when there is any doubt in the matter, is to examine the parts which have been exposed to contagion as soon as possible, in order to take the disease at its very onset, and use lotions which are likely to neutralize the virus. Still this precaution cannot be entirely relied upon, and must not create an unfounded security. Calderon has published the results of experiments which he made upon himself with a certain soap, which he thought effectual in destroying the specific virus; but it was tried, and found wanting. Experiments have likewise been made by myself on this subject. I mixed up inoculable pus with acids, aromatic wines, or tannin, and found that it thereby lost all its virulent properties. This evidently points to a chemical action. I then inoculated purulent matter of the same nature, and tried afterwards to destroy its specificity by means of the same

substances I had used before ; but I never succeeded, except when I completely destroyed the textures. Now what are we to infer from this? Why, it shows plainly that prophylactic lotions are not of much avail, and that mercurial ointment, applied as a measure of precaution, before we know the exact seat of the ulcer, is just as useless. Nothing short of actual cauterization will do any good ; so that I would lay it down as a rule, that whenever there is apprehension, the parts ought to be well washed *post coitum*, in order mechanically to remove any stagnant purulent matter, and then proceed to cauterize every little fissure, erosion, or solution of continuity whatsoever which may be discovered. If fears are entertained that any virus has penetrated within the canal of the urethra, injections of cold water, and ablution by means of micturition, are the only means which I would recommend.

Abortive treatment.—When the results of contagion have become manifest, its effects should be prevented; you must, in fact, stop the ingress of the virus, and do your best to destroy it instantly. It has now been fully demonstrated, that chancre is at first a strictly local affection, and that it may remain so for four or five days ; its destruction prior to the expiration of this time prevents the general infection. Talking of the local character of chancre, I cannot help noticing that the very people who are inclined to consider cancer as, primarily, a local affection, will needs have that chancre is the result of constitutional taint. The two means which have been proposed to destroy a chancre are excision or cauterization. Excision may be had recourse to when the knife will not interfere with important parts, and when the ulceration is neither very extensive nor of long standing, or when the very parts on which the chancre is situated require removal ; for instance, phimosis with a chancre situated on the extremity of the prepuce, will evi-

dently be much benefited by the excision of the ulcerated parts. Cauterization, on the other hand, is indicated when the chancre has only existed three or four days, when it is strictly circumscribed, and is not situated too near very important organs ; if you have to do with very large ulcers, you must not think of cauterization. When the ulceration is only of one or two days' standing, nitrate of silver will be sufficient, provided it reach deep ; but it is for the most part ineffectual ; it will be much safer to have at once recourse to the potassa fusa cum calce (pâte de Vienne). Benjamin Bell finds fault with this method ; but the failures he met with were principally owing to the want of discrimination with regard to the cases which were fit for the abortive treatment. Yet I cannot see, even were the system already contaminated, that any harm can occur from changing, by cauterization, a virulent ulcer into a simple one ; I really think that we are justified in using the caustic pretty freely whenever we are consulted within the tenth day of the application of the virus. When you use the pâte de Vienne, it will be proper to apply it to an area double the size of the contaminated spot. The paste must be of such a consistence as not to run on the neighbouring parts, and a good precaution is, to protect the surrounding textures with adhesive plaster. The result is generally an eschar, which falls when the cicatrization is complete ; yet it sometimes happens that pus is secreted beneath ; but this is the exception. I will venture to say, that if a patient comes to me no more than *four* days after coitus, I can promise him that this treatment will free him from the liability to secondary symptoms. Mercury is of no use in these cases ; and if there were any doubt about this, the fact of a person under the influence of this metal readily contracting chancre would soon remove it. It is very unfortunate that we so seldom have the satisfaction of destroying the

virus by these means, as patients generally apply too late. I wish every one were well acquainted with the immense advantage of attacking the disease early; it would save many a pang and agonizing hour. Indeed, if it were in my power I would have this fact, and the importance of prophylactic means, put up as a warning in all appropriate places.

When the disease has made such progress that it is no longer safe to use the abortive method, we must have recourse to means calculated to prevent local complications, and to bring the chancre round to a simple ulcer. The treatment of the chancre ought to be strictly local, until certain appearances point out to constitutional infection; and one great point is, to gain free access to the seat of ulceration. Now phimosis may prevent this, and it is important that you should know which is the most eligible practice in such a case. I hold that it is quite sufficient, when the phimosis is quite uncomplicated with œdema, inflammation, or gangrene, to throw in between the prepuce and glans such lotions as would be applied to the sore were it quite uncovered, the more so as there is a risk of producing paraphimosis in forcibly pushing the prepuce backwards. If, on the other hand, there were any appearance of preputial sloughing, which resisted the means employed to stay it, the best plan would be to act exactly as if there were no chancre in the case, and operate for phimosis. I know that the inoculation of the wound is sure to follow such a course, but this chance must be encountered in order to avoid a dangerous and extensive sphacelus; this inoculation is moreover far from being certain, as gangrene generally destroys specificity. When a chancre is complicated with reducible *paraphimosis*, it will be advisable to attempt the reduction, for the strangulation is sure to cause some unfavourable deviation in the progress of the chancre. When the constriction is considerable,

when we have failed in our endeavours to reduce, and that the strangulating or strangulated parts look gangrenous, we should at once free the constriction with the knife. It is far wiser to take the chance of inoculation as to the wound we inflict, than to lay ourselves open to all the casualties of extensive sloughing, or phagedæna. We should not omit to use sedative, emollient, and antiseptic applications in such cases. I have said that cauterization is to be used in the abortive treatment, but we may likewise use it in the subsequent stage, for it may advantageously be employed, in the ordinary progress of the sore, as a direct sedative, and it will often relieve pain when other means have failed. Cauterization with the nitrate of silver is likewise very useful in the period of reparation for subduing exuberant granulations, and it succeeds very well, when lightly applied, in hastening cicatrization,—in promoting, as it were, the desiccation of the sore, and forming an artificial epidermis. With regard to the local applications best fitted for these sores, I would remind you that in simple and healthy ulcerations it is not advisable to change the dressings too often, because this practice often retards or impedes cicatrization. But it is the reverse with primary ulcers: here the change ought to be frequent and in keeping with the amount of the discharge; from this rule the indurated chancre is to be excepted, for here we have but little suppuration, save it be complicated by gangrene or phagedæna. You must avoid tearing away the dressings so as to make the ulcer bleed, nor must you allow the surrounding skin to get undermined, for these accidents would only promote fresh inoculations; the more specificity an ulcer presents, the more urgently are detergent means called for. The best kind of dressings are those which readily imbibe the purulent matter; lint, dipped in the fluids you wish to apply, fully answers the purpose, but you

must avoid what is called English lint, its texture is too firm for this sort of ulcers. Some people use mercurial ointments and cerates, but these applications do no good—on the contrary, they will often produce irritation and eczema around the sore, favour its extension, and produce very unpleasant complications. Any other kind of ointment ought, if possible, to be likewise avoided, for greasy applications allow the pus to escape towards the surrounding parts, and thereby cause inoculations. I generally use aromatic wine.* It has the advantage of neutralizing the secretions, of diminishing their amount, and of astringing, or, as it were, tanning the surrounding parts. Lotions with the bichloride of mercury have at one time been highly recommended; but I think that, as a general rule, they are very unadvisable. When you perceive irritation about the sore, or there is much pain, sedative applications should be had recourse to;† but it often happens that syphilitic ulcerations resist all these means, and the best plan then is, to be contented with applying dry lint, which often succeeds very well when all the methods just enumerated had failed. An excess of inflammation will often bring on phagedæna; antiseptic, emollient, and sedative applications, must then be used; but you should be very sparing of poultices, for they favour the accumulation of fluids towards the generative organs. If you find it necessary to abstract blood, you must see that the leech-bites be not exposed to contact with the purulent matter; and to put such an accident entirely out of the question, it will be found prudent to apply the leeches at some distance from the sore. I have

* Aromatic wine (Parisian codex), two pounds; tannin, two drachms. Mix.

† Aromatic wine (Parisian codex), two pounds; solid opium, one ounce. Cut the opium into the wine, and strain. (Used in painful ulcerations.)—Hôpital du Midi.

already pointed out what line of practice I would have you follow in phimosis and paraphimosis. When gangrene comes on, you may use, besides, soothing and sedative lotions, antiseptic and camphorated applications, chloride of lime or soda, quinine in powder, weak solutions of nitrate of mercury, &c., without forgetting to favour the fall of the eschar; thereby we often stay a gangrenous tendency, which threatened to destroy the surrounding tissues to a great extent.

Treatment of the purely phagedænic chancre.—First of all you must look for the constitutional peculiarity which gives the chancre this character; try to find out in the previous history, in the idiosyncrasy, in the temperament, in the hygienic conditions, in the excesses and habits of your patient, the cause of the evil tendency of the ulceration: these questions ought to sway your treatment. Topically, you had better use cauterization at once, as it powerfully effects the modification of the surfaces; thereby you will conquer the destructive bias of the disease. You have seen me cauterize in the wards whenever the inflammation did not run too high; I use either nitrate of silver, or liquid nitrate of mercury, pâte de Vienne, or actual cautery. The potassa fusa cum calce will destroy the surfaces the most readily, and will annihilate the disease completely; but it must be handled pretty boldly; for if the specific character is not quite destroyed, the result is any thing but satisfactory, as the ulcer, when the eschar falls, is as bad as before, and much larger; in fact, we must always contrive to reach the healthy tissues, and too timid a hand will often do more harm than good. I remember a man who was a full year under treatment in this house for a phagedænic ulcer; nothing would do, and tired of the hospital, he left us. Two years afterwards he came back; the ulceration had invaded a great part of the thigh. This was a favourable case

for summary treatment, and I did not hesitate to cauterize largely. I fearlessly went a full inch beyond the sore on all sides; the genius of the disease was conquered, the ulceration was transformed, and the sore soon healed. Of course so severe a proceeding can only be followed when the ulcers are situated on resisting surfaces, and where delicacy of structure does not predominate. The whole secret is, to destroy the ulcer altogether, and the hot iron will often be the most effectual means of accomplishing this when the ulceration proves very unmanageable. The most appropriate dressings after cauterization will include the aromatic wine, with opium, lotions with tannin, in a rather concentrated state, &c. Where there is a scorbutic tendency, I apply the extract of rhatany in solution; also lotions with the tartrate of iron and potash, fifteen parts of the salt to one hundred of water. Where I have to deal with a scrofulous diathesis or a lymphatic temperament, I use a lotion of four parts of tincture of iodine to one hundred parts of water, and I have even applied the tincture quite pure; but I see that the time is up; I must conclude this subject when we meet again.

LECTURE XVII.

CONTINUATION OF THE LOCAL TREATMENT OF CHANCRE; TREATMENT OF PHAGEDÆNIC ULCERATIONS; BUBO.

I CONSIDERED, the last time we met, the divers dressings which have been found to answer best in the local treatment of phagedænic chancres, and I mentioned that I use tincture of iodine with patients of a scrofulous tendency. When I have to deal with

scorbutic subjects, I generally cover the whole of the ulcer with powdered Peruvian bark ; in cases which exhibit an herpetic diathesis, the extract of rhatany, diluted with water into a lotion, will be found useful. I have also tried sulphur ointment, sulphurous and alkaline baths, lotions of bicarbonate of soda and potash, powdered starch, and dry lint. When I find any irritation about the sore, I cover it with emollient or carrot poultices. It is, however, extremely difficult to foretell which applications will be the most efficient ; the peculiar aspect of the case will determine the choice. We should, in fact, have a good many resources at our command, so as to suit the different exigencies which may arise. Certain applications will sometimes do wonders in one case, and be quite powerless in the other ; it is therefore evident that we must guard against the natural bias of attributing unfailing properties to a substance with which we have succeeded once or twice. I recollect that when I began life I had seen M. Boyer carry every thing before him in similar cases with carrot poultices and baths of the decoction of *sempervivum tectorum*, and I thought that I would enjoy the same triumphs by treading the same path ; but I was soon undeceived. We are too apt to consider as a panacea any therapeutical agent which has once proved very beneficial ; indeed, I fell into this error myself with the tincture of iodine. I advise you, however, to keep up your patient's courage as well as your own, and steadily endeavour to hit upon the proper course. A mixture of powdered Peruvian bark and charcoal has often done good in very extensive ulcerations, complicated by a scorbutic taint. With gangrenous-looking sores use chloride of soda, one part of the latter to four of water. It has been proposed to cover the ulcerated surface with melted wax ; but this proceeding is prejudicial and uncertain. Creosote and the

bark of monesia* have also been extolled. Ether has likewise been tried, as capable of destroying the helminths pervading the purulent matter of phagedænic ulcers; but it does not answer so well as it was expected. Erysipelas occurring around a phagedænic ulcer has, to my knowledge, entirely neutralized its destructive tendency, and I have known it also arrest gangrene; so that the effect of erysipelas, artificially produced by means of cantharides in powder, might, in some cases, be tried. You must, above all, be prepared with a large amount of patience and perseverance, hail the least improvement, keep up your patient's spirits, and make things bear a cheerful aspect: dejection and fear will counteract any means you may use. Hippocrates says,—“Go on with a remedy as long as you find it efficacious;” and I beg to add, go on with it as long as you find it do the least good. Compression with plates of lead has had good results in some cases. It should be applied to the surface of the ulceration, and a little beyond the same; it limits the obstruction, and favours circulation. Mercurial ointment, which for a long time was universally used in these cases, is very injurious. Not only is the local effect any thing but satisfactory, but, by being absorbed, it deprives the mass of the blood of a large quantity of fibrin—a principle so necessary for cicatrization. I would finally add, that none of the remedial means enumerated ought to be cried up, to the exclusion of the others; for it is very uncertain which of them will answer best in a given case.

Topical applications for the Indurated Chancre.—If mercurial applications are, as a general rule, unadvisable in the other varieties of chancre, they are, on the contrary, very beneficial in the indurated species, provided the latter be not complicated by gangrene

* Called by some mohica and buranhem, and said to be yielded by a Brazilian tree.

or phagedæna, in which cases the before-mentioned appropriate dressings are to be had recourse to. I generally use an ointment, with a certain proportion of calomel or white precipitate, which proportion I increase when I find the chancre getting indolent. As for the treatment of that kind of chancre which I have looked upon as a type being devoid of complications and induration, it will be sufficient to prescribe a soothing and unstimulating diet, rest, and the mildest possible applications. Should a little inflammation arise, the usual antiphlogistic means and purgatives are called for.

Phagedænic Ulcerations.—Whatever the exciting cause of these ulcerations may be, whether a scrofulous, dartsous, or scorbutic diathesis, I have always found that they are invariably connected with great deficiency in the constituents of the blood; the globules, in particular, were constantly below the normal standard. This fact naturally led me to try the administration of iron in large doses (from fifteen grains to eleven drachms per diem). I formerly was afraid to give more than a course of ten or twelve of Vallet's pills,* or go beyond eight or ten grains of carbonate of iron per diem; but I now increase the dose until I perceive some effects. The preparation to which I give the preference is the tartrate of iron, because, of all the others, it is the most soluble, and since it is the chalybeate salt which has succeeded

* *Pilules de Vallet.*—Take of crystallized sulphate of iron, recently prepared, according to the method of Bonsdorff (for this method, see "Bulletin de Thérapeutique," 1838, vol. xiv., p. 307), 500 parts; carbonate of soda (pure), 588 parts; pure white honey, 306 parts; syrup, q. s. Mix in a proper manner (see the same work, p. 309), evaporate to the consistence of extract, and keep in very carefully stopped bottles. With one drachm of this mass, and q. s. of some inert powder, make twelve pills, each of which will contain about eleven grains of carbonate of iron, and seven grains of the protoxide of the same metal.

best in my hands. I know that so much as eleven drachms a day, as before mentioned, is, therapeutically speaking, too much; but I must say that I put more reliance on my experience than on chemical calculations; we must be content, in certain circumstances, to follow an empirical course, and I may say that by this medication I have obtained extraordinary results. When the constitution of a patient, suffering from a phagedænic ulceration, is already tainted by syphilis, we may try to subdue the phagedæna by mercury—indeed, this metal has been used in these cases with advantage independently of any syphilitic diathesis; it then acts, as it were, by causing a great disturbance of the whole system, but it must be administered cautiously. When I make up my mind to try mercury, I use Sédillot's pills* in increasing doses (from six or eight to forty or fifty in one day). This medication has often caused the rapid deturgence of the ulceration, and subsequent cicatrization. If the mercury were to disagree, it must be given up immediately. You should also pay great attention to the diet; where you see that bad, unwholesome, or insufficient food is keeping the energies of the system below par, you must give your remedies a fair chance by ordering good nourishment and wine; but where, on the contrary, excesses are indulged in, where luxuries and excitement surround your patient, you must advise forbearance. As for the indurated chancre, the mercurial treatment, either topically or internally, is the rule; with other kinds of chancre it should be used only exceptionally. I give tartrate of iron, at the same time, in drachm doses, as promoting a healthful tonicity of the system. This

* *Pilules de Sédillot*.—Take of the stronger mercurial ointment, two drachms and a half; medicinal soap (prepared with oil of sweet almonds and liquid caustic soda), two drachms; powdered liquorice, one drachm. Mix, and make five-grain pills. Dose, five or six in die.

would be the place for considering the mode of administration of mercury with reference to the treatment of indurated chancre ; but to avoid repetition I will postpone this subject until we take up secondary symptoms, and I come now to a very interesting portion of the course—namely, bubo.

Adenitis, or Inflammation of the Lymphatic Vessels and Glands.—Adenitis, or bubo, belongs to the class of successive accidents, and has its anatomical seat in the lymphatic vessels or glands. Buboes have been divided into superficial and deep, according to the stratum of glands affected ; also into inflammatory, sympathetic, and virulent, as referring to the cause which gave rise to them. The peculiar mode of production was likewise made the basis of a third division—viz., 1. The spontaneous bubo, the development of which is not preceded by any primary manifestation. 2. The consecutive bubo, which follows some venereal accident. 3. The constitutional bubo, resulting from the infection of the system. This division is of some importance, but the elements upon which it is based should be properly defined ; I shall soon have an opportunity of entering into all the merits of the question.

Before I commence the consideration of buboes as we see them in the wards, I will just take a glance, first, at the general causes which give rise to them, and see, in the second place, what influence these causes may have on adenitis, which is the immediate result of a syphilitic accident. Children are doubtless more subject to adenitis than adults : the former suffer principally in the *supra*-diaphragmatical ganglionic system ; the latter in the *sub*-diaphragmatical ; and this will at once appear perfectly natural, when we consider that the systems here spoken of seem to take their development in the same ratio as the functions become more active. Irritation is, with children, chiefly seated about the head : dentition,

and the so frequent affections of ears, eyes, mouth, &c., are a striking proof of the fact. We therefore find, with them, the chain of cervical glands becoming affected in preference to any other. When puberty comes on, a great activity of nutrition, increase, and development, may be noticed to be set up within the pelvis; the generative organs are becoming fit for their ultimate functions; and lymphatic irritation is then very apt to manifest itself in the inguinal glands. When there has been no glandular congestion or obstruction in childhood, the same may take place after puberty; the seat of the irritation will, however, be in the groin for the young man, while it would have been in the neck for the child. The king's evil may then affect either region, according to the time of life; this must be carefully borne in mind. Women seem, at first sight, to be more likely to suffer from adenitis than men, from the greater delicacy of their lymphatic system; but not being exposed to the same fatigues, vicissitudes of temperature, as men are, nor indulging in the excesses which the latter sometimes commit, we find them very rarely troubled with buboes. There are many causes which predispose to affections of the glandular system; among these may be mentioned, a lymphatic temperament, scrofula, hereditary syphilis, unwholesome food, cold and damp habitations, local irritation, &c. A primary syphilitic ulcer is another cause; it may give rise to adenitis, independently of any virulence, and act simply as an irritant; it will then produce a non-specific bubo, just in the same way as blennorrhagia and simple ulcerations may do. Finally, I must add the most obvious cause of all—viz., the special action of the syphilitic virus, carried into the gland by the circulating fluids. Now, keeping the predisposing causes in mind, let us see by what process an adenitis follows the existence of chancres. The different ulcerations which may attack the generative or-

gans do not at all produce buboes with the same readiness. First, as to the seat of these ulcerations, it must be noticed, that a bubo will be more likely to arise when they are placed on parts abundantly supplied by lymphatics; chancres on the frenum or meatus, for instance, are the most likely to produce adenitis. I have already mentioned that buboes are more frequent with men than women; one of the causes of this difference might be, that chancres in women are always situated at a great distance from the urethra.

The different kinds of chancre which I have described are not equally apt to produce bubo; regular and circumscribed chancres, for instance, are more likely to give rise to adenitis than phagedænic ones. Of all, however, the indurated chancre is the one which will be the most likely to cause the affection of the inguinal glands; and of the two sets of the latter, the superficial will generally be attacked when the corresponding chancre presents no complication. Bubo will generally be found to spring up on the sides where the chancre is situated, but it is not very rare to see the contrary take place; this is, then, the result of the anatomical interlacement of lymphatic vessels. Adenitis rarely occurs at the end of the first week which follows the contagion; the usual period of its appearance is from the third to the fifth week. It may assume the acute or chronic form. The acute is mostly the result of the *non*-indurated chancre, and it almost always suppurates, after having passed through the different inflammatory gradations by which suppuration is generally preceded. The purulent matter secreted is generally inoculable, but at other times it yields no results on inoculation; it is, in the latter case, phlegmonous, non-specific pus, and we are then entitled to suppose that the chancre had acted merely as an irritant, and that its secretion had not been absorbed. When, on the other hand, the purulent matter secreted by the bubo

is inoculable, we perceive in the ulcer resulting from the same all the characters of chancre ; it is, in fact, a glandular chancre. In case of non-inoculable pus we find the ulcer assume the appearance and the usual progress of a simple sore. Adenitis, which is the result of absorption from a *non-indurated* chancre, attacks only *one gland* in the superficial set ; the pus secreted, as already mentioned, is inoculable, and when it happens that other glands, in the vicinity of the single one first affected, become involved on account of the irritation caused by the one originally inflamed, we obtain no positive results by inoculating the purulent matter they may secrete ; except the ulcers resulting from the glands secondarily attacked have been inoculated by the pus of the original solitary ulceration. You will find all these remarks in John Hunter's works : this great pathologist had long ago observed all these peculiarities. It is by no means rare to see several glands attacked when there exists a plurality of chancres. Now, as to the adenitis, which is the sequel of an *indurated* chancre, you will be pleased to notice that with this kind of bubo matters proceed very differently ; the only similarity between the species and the one I have just been describing is, that they are both seated in the superficial glands ; but the bubo resulting from an indurated chancre (contrary to that which follows a non-indurated one) attacks several glands at the same time, springs up in both inguinal regions, is generally of an indolent character, hardly ever passes into an inflammatory state, except there be scrofulous complications ; the pus obtained from it, if any, is never inoculable ; it mostly gives no pain, and has a peculiar elastic feel. The other kinds of bubo are generally the result of a scrofulous diathesis ; they may be either acute or chronic, but they acknowledge no particular starting point, or exciting cause, as the two preceding kinds do ; the inflammation usually attacks

the deep glands first ; the obstruction and congestion can even sometimes be felt to exist originally in the glands of the iliac fossa, and the disease proceeds, in fact, from within, outwards, all the glandular organs of this region, superficial and deep, agglomerate into masses, which gradually inflame and suppurate. Buboës, the purulent matter of which is not inoculable, are often the result of blennorrhagia, or a simple ulceration, or merely of coitus ; yet these causes may, of course, be combined with and rendered more effective by a scrofulous diathesis, or a lymphatic temperament. Nothing shows, finally, how totally independent of any syphilitic taint these affections are, than to watch the patients who have had them, and to perceive that no secondary symptoms ever make their appearance. But if this be true, what shall we think of what has been called a spontaneous bubo—namely, that which is believed to spring up as a primary symptom ? The fact is, that there is no such thing as a syphilitic bubo without a previous chancre. Authors were driven to admit this primary adenitis from coming into contact with cases where the existence of the bubo which they had before them could not be explained in any other way they could think of, and they came to accuse a coitus, which might have taken place some weeks before, of all the mischief ; but if the different circumstances which I have mentioned to-day be taken into consideration, it will readily be seen how a bubo may occur without any previous and appreciable local manifestation ; as, for instance, a lymphatic temperament, scrofula, excessive coitus, &c. And, besides all this, I may well ask those who have contended that they saw buboës as primary syphilitic manifestations, whether they were *quite sure* that there had not been some previous inlet for the poison ? Did they fully ascertain the non-existence of urethral chancres, of those situated in the anal region, on the thigh, the finger, &c., which either

escape the medical man's attention, or who are wilfully concealed by the patients. You must, moreover, not forget that most of those buboes which have been called primary were nearly all simple glandular inflammations; and of all the cases which have been brought forward, there are only three which will bear serious discussion, and these three are weakened by many doubtful circumstances; the very frequency of these primary buboes is an argument against their real existence. Do not think for a moment that this is an idle question; it is particularly important to have clear and fixed opinions about it, were it merely for restoring *peace of mind to your patients*. As for myself, I declare that I do not believe that there is such a thing as a primary syphilitic bubo; for the occurrence of it there must necessarily pre-exist some morbid ingress, independent of the glandular inflammation. There are, likewise, buboes which arise under the influence of a constitutional syphilitic taint: from this fact we may see that there are two kinds of buboes which take their development through the medium of the system at large—first, the bubo which is the sequel of an indurated chancre; its seat is in the groin, and it never yields inoculable pus; secondly, the bubo arising from the infection of the constitution, and whose seat is in the posterior cervical glands. Of the latter, a greater or lesser number may be attacked; they present a resisting and an elastic feel; they are indolent; without adherence to the parts beneath; remain circumscribed; and do not suppurate. It will be needless for me to dwell at length on the differential diagnosis of bubo; I will merely say, that the greatest care and prudence is required, to come to a satisfactory decision; and I may add, by way of warning, that the most skilful surgeons have plunged their bistoury into herniæ, aneurisms, and other tumours situated in the groin, thinking they were opening buboes. You will probably

not find much difficulty in ascertaining the true nature of any inguinal swelling about which you may be consulted, if you will take the trouble of attentively grouping together the different data which I have enumerated. At our next meeting we shall consider the prognosis and treatment of buboes.

LECTURE XVIII.

PROGNOSIS OF BUBO; TREATMENT; CONSTITUTIONAL SYPHILIS; HEREDITY.

I REVIEWED, last time we met, the different kinds of buboes which have been observed; and I will now merely recall to your mind, that the truly syphilitic bubo cannot exist without some previous specific ulceration; there must, in fact, be a gate for the poison to enter, before the groin can specifically suffer. Adenitis may, no doubt, occur immediately after, or even before, impure connexion; but there is then nothing specific in it, and a lymphatic temperament, scrofula, or mere debility, may be the only causes of the swelling. As to the prognosis of these affections, I can deduce, from carefully made observations, that a bubo seated in the superficial stratum of glands, affecting one of them only, and acute in its character, will generally suppurate, and that the pus secreted will possess all the properties of the purulent matter of the corresponding chancre, which latter, in such a case, is of the *non-indurated* kind. Secondly, that multiple buboes, of an indolent character, will hardly ever suppurate, and that in the event of any pus being secreted, the same is not inoculable; this second kind of bubo is connected with the *indurated* chancre. I need not say a word about what is called

a primary bubo, for this kind of inguinal swelling has nothing to do with syphilitic adenitis. As to the probable time which these tumours will take to run through their stages, it must be carefully noted that the bubo, which is the result of absorption, and which, after suppuration, yields inoculable pus, is but a glandular chancre, which, as to its duration, is of course subject to the same laws as the ordinary chancre, the inguinal ulceration being liable to the same deviations as the primary sore—namely, phagedæna, gangrene, &c. A bubo, on the other hand, which is the result of an indurated chancre, is very indefinite as to its duration; it, however, proves very often extremely tedious, and the patients are apt to forget every thing about it, until it finally disappears. Now a very interesting point is the discussion of the sequelæ of these two kinds of buboes. From all I have said hitherto, you will easily guess that the suppurative adenitis, which is the result of the absorption of the virus by the lymphatics, and which is connected with a non-indurated chancre, is never followed by secondary symptoms. It is therefore not only useless, but positively injurious, to subject a patient, with an adenitis of this kind, to a mercurial treatment. The fact of suppurating buboes never being followed by constitutional taint, had even led some practitioners to advise the artificial establishment of several such emunctories, but experience and good sense have demonstrated the uselessness of such means. A bubo, which is the result of an indurated chancre, is unavoidably followed by the infection of the system; provoking the suppuration of it by setons, blisters, &c., will be of no avail; the constitutional taint cannot be prevented. Suppuration is hardly at the command of our art, and is by no means favourable, even when artificially excited, and used as a part of the treatment. The bubo has little

to do with the subsequent infection ; the indurated chancre is the only cause of the mischief.

Treatment of Bubo ; Prophylaxis.—Bubo is a sequel of chancre ; therefore the simplest course to be pursued for avoiding or preventing the former, is to destroy the latter. Thus we see that the abortive method which I mentioned some time since, in speaking of the treatment of chancre, “kills two birds with one stone.” As a preventive, you will find steady compression, applied to the glands of the groin, very useful, as it in some degree atrophies the lymphatic system, and prevents the development of bubo.

It has likewise been proposed by M. Didé to divide the lymphatic vessels which lie between the primary sore and the groin : the idea is not bad, but as nobody is inclined to try it, we are without facts on this head. Even when a certain degree of inflammation has sprung up in the groin, it is, in some cases, yet time to prevent suppuration, and this end may be attained by rest, cold applications, and compression ; but these means will not succeed when the bubo is the result of the direct conveyance of the purulent matter along the lymphatics. Mercurial plasters or frictions, and mercury internally, have been recommended as abortive means, but I am ready to condemn this practice with regard to buboes, as I did when discussing the treatment of chancre ; yet I have often succeeded in forestalling a bubo, by cauterizing gently over the glandular region. MM. Raynaud and Malapert have used, with a view of nipping the disease in the bud, blisters, followed by caustic applications ; but the diagnosis of the different kinds of buboes was very unsettled when this method was introduced, and the statistics which were then framed have now very little value. These gentlemen used to apply, on the surface, denuded by the blister, a pledget of lint dipped in a strong solution of corro-

sive sublimate (twenty parts of the salt to thirty of water); this was allowed to remain from ten to twelve minutes, and formed an eschar, which, by means of poultices, fell off some time afterwards. The results obtained were confined to non-specific buboes, and attributed to the neutralizing and the caustic effect of the mercurial salt. As for myself, I am in the habit of using a peculiar treatment for each of the species of buboes which I have described to you. When the glandular obstruction is of an inflammatory and a non-specific character, I generally succeed with very simple treatment—viz., rest, soothing applications, and antiphlogistics. When the adenitis is the result of the absorption or regular conveyance of the virus along the lymphatics into the inflamed gland, suppuration is inevitable; I have then recourse to a complete and deep cauterization with the potassa fusa cum calce, for I think it important forthwith to destroy the glandular chancre, just as I am in the habit of doing to primary sores. I have repeatedly had opportunities of convincing myself of the excellent effects of this method. It must be remembered, that the proceeding advised by MM. Raynaud and Malapert does not neutralize the syphilitic virus, nor does it prevent suppuration; it may, perhaps, centralize the inflammation, but the operation is extremely painful; patients will seldom submit to it, and it leaves indelible marks. I have therefore no hesitation to give my cauterization the preference. The caustic ought to be applied to the very surface of the bubo, and allowed to remain about ten minutes; the eschar will then fall after a period which varies very much, according to the amount of the suppuration. I have said that emollient applications and antiphlogistics were to be used when the adenitis is of the simple inflammatory kind, but it may be asked, whether these means are equally advisable in bubo from absorption? They decidedly

are very beneficial in this latter form also, for such a bubo generally involves the surrounding cellular tissue, and forms there a small phlegmon, which may be controlled by antiphlogistics. But it must not be forgotten that leech-bites will get inoculated if the purulent matter is of a virulent nature; leeches are then to be used with great caution, and to be entirely eschewed when suppuration and the breaking of the abscess are near at hand. If you use them at all, put them on the bubo itself, for its texture will, in any way, be ultimately destroyed and sacrificed by suppuration. I may just mention that care should be taken to employ linseed poultices quite fresh, and to avoid the rancid applications sometimes used. As an ointment, I would recommend equal parts of extract of belladonna and mercurial ointment, and finally, great attention to the state of the bowels. But none of the preceding means will be called for when indolent buboes (mostly followed by secondary symptoms) are treated. The general treatment will suffice to get rid of them, still it does no harm to hasten resolution by discutient applications. When the suppurative stage has arrived, it will in general be advisable to let out the matter at once, for we are not always certain as to the nature of the pus which has been secreted; it may either be virulent or not, and, in the first case, the sooner it is freed the better; and, besides, we ought always to be apprehensive of the burrowing of the purulent fluid, whatever its nature may be. If you have to deal with a bubo which has sprung up under the influence of a lymphatic temperament, or which is the result of simple inflammation, you may use the bistoury; but with an adenitis which is caused by the direct absorption of the virulent matter, the potassa fusa cum calce should be preferred, and applied to that portion of the skin which possesses the most vitality. Recourse may also be had to a number of punctures or to a single

one ; the former will do well when the accumulation of the purulent matter is considerable, the latter, when it is rather circumscribed. MM. Raynaud and Malapert have here also imagined a peculiar method, and tried, by irritating applications, to excite a sort of purulent perspiration ; it may perhaps answer now and then, but if the skin be much inflamed, we can hardly expect much good, either from this practice or from the plurality of punctures : it is then much wiser to make a free and large opening, including the whole of the thinned integument. In inguinal buboes, the incision should run along the greater diameter of the abscess—viz., in an oblique direction ; but cervical ones should be opened vertically. I must not omit to add, that very inflamed, loose, or brownish-looking edges should invariably be clipped off, or removed by caustic. When the inguinal swelling is of a lymphatic or scrofulous nature, it will be well to treat it in the same way as strumous enlargement of the anterior cervical glands—viz., with blisters, caustic, and irritating applications, mercurial ointment, repeated vesications, and regular compression, by means of leaden discs or little boards. When suppuration is fully established, I endeavour to destroy, with the *pâte de Vienne*, the glandular mass lying at the bottom of the ulcer. I need not point out to you the different internal anti-strumous remedies in common use, you will readily perceive in a given case what constitutional treatment is most advisable. But it is sometimes very difficult to ascertain the existence of a purulent sac ; the matter lies often very deep, and the fluctuation is in vain sought for ; but the pus, although at a great depth, will almost always find its way to the surface, and by carefully examining the integuments about the sac, a small softened spot may frequently be discovered where fluctuation is found, and this being gently opened will sometimes give exit to an enormous quantity of pent

up matter, just on the same principle as the water spouts from an artesian well. I shall refrain from speaking of purulent diffusion, burrowing, or fistulæ, all of which may follow a bubo, as these properly belong to general surgery. I will at once take up the consideration of secondary syphilis.

Constitutional Syphilis.—A great many names have been given to this affection; among them may be noticed the following:—Lues venerea (Fernel); confirmed syphilis (Jean de Vigo); constitutional syphilis (Hunter); syphilis (Swediaur); general pox, successive accidents, secondary symptoms, renewed venereal disease. The name of constitutional syphilis, given by Hunter, seems to me the most appropriate, and I have therefore adopted it. In an early part of this course I endeavoured to treat of the causes of contagion, and the requisites necessary for the same to take effect, I will now proceed to investigate those which may be looked upon as giving rise to constitutional syphilis. I must distinctly state, before I enter upon the subject, that every one is not likely to contract this secondary affection; some people are refractory to it, whilst it may be said that no one is inaccessible to chancre. There are people who have had chancres repeatedly, and who never suffered from secondary symptoms; whilst there are others with whom a single chancre will suffice to give rise to them. From this fact it may, I think, be inferred, that for the manifestation of constitutional syphilis, certain peculiarities lying within the individual, which have as yet escaped detection, are indispensable, and that syphilis is, in this respect, on a par with other contagious diseases. It would be idle to ascribe any influence to age, sex, temperament, climate, &c.; the predisposition to constitutional infection lies in a principle which this very infection neutralizes, and the former, being once destroyed, there is no possibility for a further poisoning

of the system. We find in these facts a repetition of the phenomena of the vaccine matter. An opinion might be ventured, that this principle easily passes into a state of fermentation by the excitement of the syphilitic virus, and that this fermentation (the source of the secondary manifestations) destroys the properties of the principle. This idea finds some support in the fact, that the virus is no longer inoculable when it has fairly penetrated into the economy. Another fact to be noticed is, that chancres occurring after the system has once been tainted are very apt to take on induration. We may then safely believe that there are two circumstances which, as it were, insure against the renewed development of the syphilitic accidents which result from chancre—viz., the previous existence of an indurated one, and what I call a syphilitic diathesis—that is, a peculiar state of the system existing between the accession of the virus and the secondary symptoms. It will now be incumbent upon me to review the other modes of constitutional infection which have been adopted by authors. Bernardin Tomatino was the first who admitted the possibility of constitutional symptoms, irrespective of any primary sore. Hunter, Bell, Taba, and several other pathologists, have allowed themselves to be guided by the ideas of their predecessors, without taking the trouble to examine their doctrines very minutely. All the examples of primary general infection are weakened by divers sources of error and deception. I do not mean to discuss every one of the opinions which have been put forward in this matter; but I will just quote a few, in order to show upon what unsatisfactory bases they rest.

1st. It has been maintained that pus from a chancre, deposited on a denuded surface, may be absorbed without acting on the ulceration at all, and without

producing any chancre. My experiments on inoculation set this question entirely at rest.

2dly. It used likewise to be thought, and it is believed even now by some people, that secondary ulcerations might be contagious, because certain secondary accidents and mucous tubercles were found to have propagated the disease. But this was jumping at a conclusion, without thinking that a primary sore (as before mentioned) may get transformed *in situ* into a mucous tubercle or innocuous secondary ulcer, and that, besides this fact, it may very easily happen for a new chancre to be contracted, and be exactly seated on the mucous tubercle already existing. The same observation applies to vegetations.

3dly. Constitutional symptoms in children, at the breast of a nurse, have likewise been adduced to prove the possibility of their development independent of primary manifestations; but who can vouch that those were not the result of heredity? who could venture to say that he knew every thing about the parents' antecedent state of health, &c.? and who could assert that the nurse was not herself suffering from a primary ulcer, which had been the means of creating a small one of the same nature in some part or other of the body of the child, where it had remained unnoticed? Every time that such nursing cases have come before me, I have generally been able to trace the real source of the mischief, and I have always succeeded in explaining very puzzling phenomena without laying any blame on the milk. I am ready to admit that certain medicines may be transmitted to the sucklings by the mammary secretion; but the same law does not exist for the syphilitic virus. And besides all this, I may ask whether it is strictly logical to infer, that because two individuals, who are habitually in contact with each other, suffer from the same disease, the latter must needs have been communicated from one of these

parties to the other? May not the source of their respective affections be widely different?

4thly. Blennorrhagia has also been looked upon as capable of generating secondary syphilitic symptoms; but this opinion will not detain us a moment, for we know now that blennorrhagia *cannot* produce any syphilitic accident, except when it is symptomatic of chancre. We may then pretty confidently state that chancre is the *sine qua non* of the production of secondary symptoms, and that the indurated species is almost certain to cause them. To this rule there is but one exception, and that is hereditary taint; this is the only case in which the infection of the system may exist independently of any primary sore. Heredity, in this respect, is *certain* from the mother to the child; but the influence of the father is not quite so decisive. This transmission from parents to children is now admitted by all pathologists; still Hunter and Broussais have denied it. According to the numerous observations which have been made, it may be inferred that the infection of the system, if it occur at all, takes place pretty early after contagion, and that the appearance of secondaries has nothing to do with the length of time a chancre may remain unhealed. Chancres have been known to last four, five, and six months, without being followed by any constitutional manifestation; whilst chancres, on the other hand, which were destroyed five or six days after exposure to contagion, were, notwithstanding this precaution, followed by secondary symptoms. This latter circumstance evidently proves that the poisoning of the system had already taken place. The virulent absorption may be said to take place after the fourth or fifth day which follows exposure to contagion.

Hereditary Syphilis.—We all know that the transmission of the disease from parents to children is an undeniable fact; but it is nevertheless often-

times very difficult to reascend to the actual source of the mischief, when both the *de jure* father and the mother are quite free from any syphilitic accident: there is no choice left in cases of this description, and we are involuntarily driven to suspect that a third party has been concerned. I am prepared to look very suspiciously on the birth of children, who all, in succession, bear syphilitic eruptions, as well as on the occurrence of several miscarriages when the father is quite sound. It has often struck me that there is much similarity between the transmission of phthisis and syphilis, and I leave you, when I shall have discussed the laws and peculiarities of heredity in the latter, to establish a useful comparison for yourselves. Now to return to syphilis. Supposing a female to be fecundated by an infected agency, how will *she* be affected by carrying a poisoned fœtus? According to certain well-observed facts, we may infer that the mother can receive the germs of the disease from her child, so that in such a case she suffers from the syphilitic infection by the instrumentality of the fœtus in utero. It had hitherto been believed that the mother received the infection directly from the father, and that she transmitted to her offspring the diathesis with which she became imbued; but this never happens except the mother has been subjected to the contagion of *primary sores*, and she herself has had an indurated chancre as well as secondary syphilitic symptoms consequent upon such chancre. I am ready to acknowledge that a woman may give birth to an infected child without experiencing any inconvenience herself; the father, in such a case, transmits the poison by reason of the secondary symptoms which are upon him at the time. If he had had *primary* symptoms he would have diseased the mother direct, and the effect (as before mentioned) may still have reached the child. A man who has constitutional syphilis upon him, of

howsoever long standing it may be, should not marry, for his progeny runs great risks; his wife, however, is by no means so much in danger, for the embryo may or may not contaminate her. I well remember a case of this description, where a gentleman with certain secondary manifestations was advised by his medical attendant to postpone engaging in wedlock; he disregarded the advice, married, and, nine months after, he had the mortification of seeing a well-defined eruption upon his child; his wife, however, escaped unhurt. This is so interesting a subject, that we must not hurry over it; I will therefore stop here, and continue it when we meet again.

LECTURE XIX.

CONTINUATION OF HEREDITARY SYPHILIS; MECHANISM OF THE INFECTION; PREMONITORY SYMPTOMS OF SECONDARY SYPHILIS; ERUPTIONS, ETC.; MUCOUS PAPULES OR CONDYLOMATA.

I WAS mentioning, at our last meeting, how dangerous for the offspring it is when a man marries, with lingering secondary symptoms upon him; you may rest assured that the possibility of transmission has no end so long as the secondary period exists, and that as long as an infected father is under the influence of constitutional syphilis, the germ which is by him conveyed into the uterus carries along with it the syphilitic diathesis; and it must be noticed, that evident manifestations upon the father are not absolutely necessary—the diathesis is quite sufficient to produce upon the offspring the effect I have mentioned. When the secondary period is passed, and the tertiary manifestations begin to appear, the disease is no longer

transmissible ; the children are then born with another disposition—viz., the scrofulous ; and the tertiary symptoms of the mother have the same influence on the child as those of the father. Remember, before we proceed any farther, that there is no such thing as an infection of the child by the mother, she having been contaminated by the father ; but that, as I said before, the husband procreates an infected child, which may then propagate the secondary poison to the mother ; for where there are no children the mother does not suffer. But suppose the mother to conceive whilst herself and the father are quite free from the syphilitic diathesis, and that this diathesis subsequently happens to arise with the father, can it be transmitted to the child ? I do not hesitate in answering this question in the negative, and I must look upon that opinion as very absurd, which supposes that the father can contaminate the fœtus through the membranes. In order that a child, the offspring of healthy parents, should be at all infected, after it has existed more or less time in utero, the mother must, by direct inoculation, become affected with an indurated chancre, and all its consequences ; then the fœtus may inherit the diathesis of the mother. The latter might perhaps transmit the diathesis to a first fœtus by means of a second germ (the first being quite healthy), in a case of super-fœtation ; but even under these circumstances it would be still by the instrumentality of the mother that this first fœtus would become contaminated. It is therefore evident that the mother, in order to infect her child, must have upon herself a secondary syphilitic affection, either acquired whilst the fœtus is in utero, or before that event. But we unfortunately do not know what is the latest period of pregnancy in which a woman, who happens to take the disease, can contaminate her offspring ; in other words, we do not know whether a diathesis contracted during the eighth or ninth month of conception may still be trans-

mitted to the fœtus. The child may, moreover, be infected by direct contagion on its passage through the vagina, if the mother has, in that region, or in any part of the track along which the fœtus has to be expelled, primary inoculable sores; or if it were received at its birth by a person, in the same state as the mother; but this kind of infection is not inevitable.

Mechanism of the Infection.—The virulent absorption has been first attributed exclusively to the lymphatic system, then to the veins; but now-a-days all pathologists agree that both systems are concerned in it. The lymphatics are the first to be affected, but through the medium of the blood; it is a sort of fermentation, and the result is a morbid *chair coulante*. This state of the system is that to which I have given the name of *syphilitic diathesis*. It would seem, judging from the manifestations of the disease, that it proceeds from the surface to the parts situated within, traversing the body layer by layer, as it were. The contamination is first seated in the blood; it is a regular toxæmia, and from this poisoning all the different manifestations spring. Every organ becomes modified under its influence: this modification happens but once, and it cannot be renewed. Then the economy is under the influence of the diathesis just mentioned, which latter is capable of producing the most varied manifestations. But these, as soon as the infection has taken place, must appear within a certain period, if the regular progress of the disease has not been hindered by a mercurial treatment. I have never seen, in Paris, more than *six months* elapse between the contagion and the manifestation of secondary symptoms; they may confidently be looked for within this period; but of course there *must be*, as I so often have said, an indurated chancre as the primary accident, and it is then *certain* that before six months are expired constitutional symptoms will ap-

pear; but this rule does not hold good when a specific treatment has been used. As soon as the latter has been interposed in the regular progress of the disease, it can no longer be foretold at what time, and how, the secondary manifestations will appear, one of the links of the usual chain of accidents may be destroyed by the treatment, and thus we sometimes see tertiary symptoms occur without any previous secondary ones. It may easily be conceived that a mercurial treatment being used when the manifestations are just about appearing, they may be arrested and retarded for an indefinite space of time—viz., one, ten, twenty, or thirty years, or even, perhaps, for ever. You will perceive, as we proceed, that in the chain of symptoms two links, which ever retain the same relation with each other, are constantly apparent. The first of these concerns mucous membranes and the skin (secondary symptoms); the other, fibrous tissues and splanchnic organs (tertiary symptoms); and, as I have mentioned before, an intervening mercurial treatment may more or less destroy one of the links in the succession of symptoms. The latter cannot be classified with any degree of regularity, except by following this division and I can fearlessly say, that the close observation of the phenomena presented by patients proves more and more the correctness of this classification. This clear and distinct order of things is so much the more satisfactory to behold, as the greatest confusion on this head reigns in the writings of a great many authors on the subject, not excepting very recent ones.

Symptoms premonitory of secondary manifestations.—When the diathesis is once established, the manifestations generally appear within the period which I have been at some pains to establish. (I may mention here, as a parenthesis, that there is not much to fear, with reference to secondaries, when a whole year has elapsed since the contagion without any sign of them, and that no mercurial treatment has

been used.) It may be said that the infection is of itself sufficient for the production of the secondary symptoms; but it cannot be denied that there are certain adjuvant causes, the study of which has hitherto been too much neglected. These causes are far from being all known; but among them we may reckon, the hygienic condition of the patient, errors of diet, alcoholic excesses, climate, sudden changes of temperature, particular seasons, dissipation, unwholesome food, anxiety of mind, &c. In the absence of these, the manifestations will be slower in appearing. Certain local peculiarities likewise exercise some influence—as, for instance, the irritating action of the pipe on a lip which already bears some mucous tubercles, suction on a nipple in the same condition, in nurses labouring under the diathesis (this is very important to notice; for a nurse may look quite healthy when engaged at first, and suction may bring forward secondary manifestations, the diathesis lying latent within her), neglect of cleanliness, and the use of those little warming boxes which our market-women are in the habit of keeping under their gowns whilst sitting in the open air, alcoholic beverages with people whose pharyngeal mucous membrane is thickened by mucous tubercles, &c. But I must confess that, with regard to local exciting causes, we have yet a great deal to learn, and that investigations on the subject are, indeed, very much needed. Let us now consider the mode of evolution of the symptoms which announce secondary syphilis. Hitherto we had no other proof of the general infection than the indurated chancre and the adenitis which succeeded it; but our attention is soon called to other manifestations,—these are the secondary accidents. They may arise in any part of the frame, and even on the primary sore itself, which is then transformed *in situ* into a secondary ulcer. This fact overthrows the axiom which has been often repeated—viz., that a primary accident

occurs where the contact takes place, and a secondary one at a distance from it. The manifestations of constitutional syphilis may appear in the second or third week after contagion; but the general rule is about the sixth week, and it frequently happens that they do occur in the third month. The complexion then begins to alter; the skin loses its natural brilliancy, and assumes a dull earthy hue; the eye gets dim; the patient loses all bodily and mental vigour, becomes inactive and sad; the hair gets dry, and loses its smoothness; giddiness and headache set in; there is great uneasiness about the neck, and a peculiar supra-orbital pain. The head symptoms generally begin in the evening, and leave off towards morning; reclining and the warmth of the bed increase them greatly. It is not quite correct to give these symptoms the name of *nocturnal* pains; for they are entirely dependent on the bed and the horizontal posture, since bakers and gay people, who go to rest by day, have them immediately they lie down. The supra-orbital region seems to be the point the most liable to these pains; and when the latter are very acute, the patient feels as if his eyes were being driven out of their sockets. The affected parts do not, however, present any redness or swelling, nor are they painful to the touch. The headache is sometimes strictly symmetrical, and by occupying one side of the head only, it entirely simulates hemicrania or intermittent facial neuralgia; but with all this there is no apparent lesion observable yet. If the disease be allowed to proceed, the neuralgia, which had begun in the fifth pair, attacks the seventh, and produces paralysis of the face; and if we were not guided by the chain of preceding symptoms, we might easily ascribe the whole mischief to rheumatism. I have often treated cases of this sort, and I almost always succeeded in curing them by iodide of mercury. I have even met with instances where the seventh pair was primarily attacked, with-

out any previous neuralgia. After all these symptoms, sub-sternal pains come on, which latter Baglivi looked upon as symptoms of latent syphilis; then circa-articular uneasiness, accompanied with great lassitude in the limbs, just the same as happens before eruptive fevers. These articular pains are not situated in the centre of the joint, but all around it; they are fugacious and intermittent; they do not produce any swelling or redness in the part, and are not augmented by pressure; they are vague, erratic, and nocturnal, presenting the same characters as the cephalalgia which I mentioned a little while ago. Just about this time the posterior cervical glands begin to get involved. This symptom is sure to be present, at least, ninety times upon one hundred cases. These glands are situated at the back of a vertical line falling from the posterior margin of the ear, and their being attacked is a fact the more characteristic of syphilis, as they are found nearer the vertebral groove and the root of the hair; those situated on a level with the mastoid process have the most value in a diagnostic point of view. The hand must be well practised to recognize them easily, and they might readily be confounded with periostitis. This peculiar adenitis presents, however, a very small volume, the glands feel elastic, roll under the skin, are not painful, and never suppurate. After a little time, alopecia comes on (*Ἀλωπεκία*, the falling of the hair; *Ἀλωπηξ*, fox). This symptom has been looked upon by some authors as a sign of inveterated syphilis, and by patients as an effect of mercury, at the time when this metal was invariably administered at the very outset of the primary symptoms; but you see that the latter were not quite correct, for mercury does not cause alopecia, but syphilis will. This symptom, as I before mentioned, is announced by a stiffness and dryness of the hair; it falls at the least touch, and adheres in great quantity to the patient's nightcap; but this falling off is general

all over the head, whilst common baldness is always partial at first, and attacks only the vertex. Whilst all these symptoms succeed one another, certain changes take place in the circulation. The pulse loses its energy, and a *bruit de souffle* is heard both in the cardiac region and about the carotids; in the latter, it may go so far as to simulate the *bruit de diable*. These are evident signs of pretty advanced chloroanæmia. The globules are diminished in quantity, the skin and mucous membranes are shining and discoloured; there is great debility, dilatation of the pupil, &c. Attention should be paid to this anæmic state, so as not to be tempted to commence the treatment by bleeding, as some practitioners do. This state of the blood explains many of the symptoms before enumerated. For the generality of observers there is not yet any sign of constitutional syphilis, yet if the disease go on unchecked, certain manifestations come on, succeeding each other regularly on the different tissues of the economy, and leave no longer any doubt as to the nature of the affection. These are the strictly so-called secondary symptoms, and may occupy either the skin or mucous membrane, or even sometimes both of them at the same time. These cutaneous phenomena have in this country been grouped together under the name of *syphilides*, and they may be looked upon as a kind of elimination, as if the system were making an effort to drive the toxic principle to the surface. The earliest eruptions on the skin are exanthematous, and assume either the aspect of erythema and its varieties, or that of more or less confluent roseola rubeolica, with a tendency to spread, and to simulate measles, by affecting, in isolated patches, a certain crescentic form. There is even a very early period when nothing but maculæ are noticed. The pressure of the finger causes them to disappear altogether; but as soon as it is removed, they re-assume their former shape and colour. This cry-

thematous eruption is generally apyretic, without local heat or itching; but there might, however, be fever, independently of syphilis, and it must then be looked upon as a concomitant phenomenon; the patient might even have bronchitis or coryza upon him at the time, and these would be sufficient to give rise to some feverishness. I insist upon these circumstances, for such secondary eruptions might, by an inexperienced hand, be mistaken for measles or scarlatina. Feverish symptoms are very rare in constitutional syphilis, but I must say that I have observed them now and then. The cutaneous phenomena appear sometimes suddenly; at other times they come on gradually, and take two or three weeks in coming out. This duration is quite uncertain—a circumstance in which they differ widely from the regular exanthemata, which last, as you know, a definite and fixed period of time. If syphilitic exanthemata are not checked by treatment, they will turn into a severer form of eruption, which I shall describe a little later. It is now necessary that I should qualify certain assertions I made with regard to secondary manifestations, as some present peculiarities which you should know. And, first, as to the obstruction of the posterior cervical glands, which certainly are of great value in diagnosis, it must be noticed that patients beyond forty are seldom affected with it; and that, in case it does not appear within twelve months after contagion, it never occurs at all. The same remarks apply to alopecia; for it is observed within the same period as the glandular enlargement in the neck, but that period once passed, it is no longer to be expected. So that you see it cannot be looked upon as one of the later manifestations, as some have thought; of course you understand that I mean the falling of the hair, as before described, for calvities or common baldness may occur at any time. When the exanthematous eruption has appeared, it will go on for more or less time, but it then presents certain

undulations,—it is, namely, observed to fade away for a little while, then it reappears, and it may thus go on with interruptions for two, six, or twelve months; but after a year or two it entirely dies away. In half the cases the eruption remains quite unnoticed, and it very often fades away without the patient being aware that it ever had any existence; but some time after—say a year—another and deeper eruption makes its appearance, and here you must be careful not to take this for the first manifestation, for you would then fall into the error of believing that you had to do with a tertiary symptom, the second having been absent altogether. If the disease go on undisturbed, the exanthematous stage makes room for another—viz., the papulous; the affected spots get circumscribed, and rise above the level of the skin; they project more or less over it, and vary in size from the head of a pin to a largish patch. A papulous eruption has peculiar characters, which vary according to the seat of the papulæ; it springs up very easily indeed in those regions where the skin is in the vicinity of mucous membranes, and is not bound down by the epidermis, and likewise where it is bathed with an abundant follicular secretion—as, for instance, the verge of the anus, the genito-crural fold, the internal surface of the prepuce, the umbilicus, the lips, the meatus auditorius, the velum pendulum palati, the tonsils, &c. Such a mucous tubercle begins by slight redness; the epithelium then becomes softened, loses its connexions with the parts beneath, disappears, and leaves an erosion; the eroded surface soon turns very red, projecting and granular, and gets covered with a pultaceous secretion, which is, for the most part, extremely fœtid, particularly in the anal and the genital regions. These mucous tubercles are first composed of isolated papules, which, by uniting into groups, form large patches; they are flattened, irregular, separated by fissures, and their edges are very sharp. Mucous pa-

pulæ may become very prominent, and from the state of simple hypertrophy, they often pass into that of vegetations. Their surface in such a case contracts a good deal; little transparent and globular granulations form, they rise by degrees, and in uniting they give origin to a sort of raspberry vegetation. Mucous tubercles have received a good many different names; they have been called, at their first appearance, moist, flat pustules: then, when they acquired a little development, mucous tubercles; then they were, a little later, confounded with vegetations, strictly so called, and got the name of condylomata. I beg to find fault with the word tubercle, because, in syphilitic diseases, it always designates accidents involving the whole thickness of the skin, without any other peculiar appearances; it is, in fact, a mere transitory state. Mucous tubercles, then, or patches, or still better, mucous papules, never yield any inoculable pus; they do not give rise to any neighbouring adenitis; they consist merely of a hypertrophied engorgement of the most superficial parts of the skin, and are susceptible of cure by a specific treatment; whereas such treatment is found powerless in destroying vegetations, even when the latter are situated on a recent mucous papule. Mercury will, in such a case, contribute to the disappearance of the base; but the vegetation remains unaltered. Amongst the exciting causes of mucous papules, independently of the specific ones, we must reckon, want of cleanliness, and the contact and frequent friction of two cutaneous surfaces. This latter effect has misled M. Velpeau so far as to make him suppose that the mucous papule of one side can produce another by contact on the opposite side. But more of this when we meet again.

LECTURE XX.

SECONDARY ERUPTIONS; GENERAL CHARACTERS AND DIFFERENTIAL DIAGNOSIS.

I WAS mentioning, in the last lecture, that want of cleanliness, independent of specificity, is a common exciting cause of mucous papules or patches; that their secretion, on being inoculated, is not capable of reproducing the same papular evolution; and that M. Velpeau was not quite correct in supposing that mere contact from one surface thus affected with an opposite healthy one, is sufficient to give rise to such papules. It will be needless for me to dwell on the numerous local irritants which may favour the appearance of these sores; your own observation will be sufficient in the cases you may have to treat; and I will now proceed to take a glance at the papular eruptions, not situated in the regions bordering on mucous membranes, but disseminated all over the body. Here we meet with the same papular form, but as the surfaces affected are neither moistened nor irritated by any secretion, the epidermis has a tendency to dry up, and to fall off in little scales; the denuded papule then presents a reddish summit, surrounded by a white rim, to which latter Bell attached great importance as a peculiar diagnostic sign. The papular eruption may assume the shape of lichen or psoriasis guttata; the papulæ are then larger than usual, and more separated from one another. When the infection of the system is of some standing, or there has been an intervening mercurial treatment, the eruption affects a circular form, and looks like psoriasis gyrata. Most frequently, several different

shapes are observable in the same eruption ; the latter may then be appropriately called polymorphous, and it is not rare to see, in the later stage, black crusts appear, which look very much like the *lepra nigricans*. When a syphilitic eruption occurs on the palm of the hands or soles of the feet, it likewise assumes the papular form, but the papule gets, in such a case, covered by a very hard epidermis, and may be called a *horny* secondary eruption (*syphilide cornée*).* In the hairy scalp, the papule exudes a thick secretion, forming a yellowish granular crust, which is, in fact, an impetiginous scab ; but notice that the latter is not the result of a pustule, and does not consist of dried purulent matter. In the study of constitutional syphilis we cannot help remarking that the eruption is generally of a dry nature with good constitutions, and suppurative with bad ones, and that either circumstance has much influence on the form of the eruption. The papular form may be followed by the suppurative—namely, the vesicular and pustular, all of which, with their usual varieties, may succeed one another. Among the vesicles, you may sometimes meet with eczema, herpes, &c. ; still, eczema is rather rare. In the pustules may be noticed the psudraceous, achoroid, varicelliform, &c. Notice, by the way, that secondary accidents never reappear in the same shape ; their form is different as they succeed one another, and they commonly proceed from the surface of the body to deeper parts.

All these cutaneous phenomena occupy, at first, but the superficial part of the skin, but the sores reach gradually deeper and deeper, and as this occurs, they become less confluent than they were at first ; they get separated from one another, form distinct groups, and the original roseola or mucous papule is no longer to be seen. We have, then, more

* *Syphilide*, a very useful term introduced by Alibert, to designate syphilitic eruptions.

or less deep pustules, either of a circular or crescentic form, ecthyma, furunculus, tuberculo-crustaceous sores, &c. In general, we find the earlier eruptions settle on the flexion of limbs, and the later ones on the extension of the same; this is particularly the case with the inferior extremities. It is towards this late period that rupia commonly makes its appearance, but it does not, in these cases, commence with a bulla, as is usual with rupia. I have generally found it to begin by a slight redness, on which a vesicle sprung up; this soon became a vesico-pustule, which burst after a little time. The disc formed by the crust then goes on increasing, owing to continual addition of new crusts formed underneath by suppuration. You must here take note of the fact, that when the disease is once fairly established in the system, its manifestations may vary according to a great number of influences, either external or internal, according to peculiarities of constitution, to idiosyncrasy, mode of life, &c. The description of the sores, which I mentioned in the last place, must be looked upon as very late manifestations, and it is, indeed, not rare at all to see them four, ten, fifteen—ay, even thirty years after the primary accidents. They, however, generally occur in broken-down constitutions, particularly where the treatment has been carelessly or injudiciously conducted; they contain a second morbid element over and above syphilis—viz., scrofula, a scorbutic diathesis, &c., and the secret of the treatment lies principally in keeping an eye upon the latter affections. The last link in the chain of secondary accidents, the one which makes its appearance towards the decline of the very latest eruptions, is the true syphilitic tubercle, seated in the thickness of the skin; it looks very much as if it were attached to the inner surface of the integuments, and projected from within; it has much tendency to involve the sub-cutaneous cellular tissue. This tubercle may re-

main perfectly dry, and cause merely desquamation of the epidermis, or it may turn into a pustule, and take the form of ecthyma or rupia. Suppuration being once thoroughly established within it, the tubercle breaks, the matter is freed, and a deep ulceration remains. The sore has generally very sharp margins, its fundus is pultaceous and yellowish grey, it is perfectly circumscribed, and it has all the characters of a primary chancre; so much so, that nothing but its inaptness to yield inoculable matter can distinguish it from the latter. These ulcerations may become serpiginous, and thus extend pretty far, but the phagedænic tendency is no longer the same; it is much less violent than with primary sores.

General characters of syphilitic eruptions and sores.
—Before entering upon these characters, I must just say a word about a certain form of sore which I have but seldom observed—I mean, pemphigus. It very often fixes on the sole of the foot, and rarely appears without some other accidents characteristic of syphilis. When thus accompanied, it is very easy to distinguish the peculiar nature of this pemphigus. It sometimes attacks newly-born children, and the affection has been carefully studied by a German author, who, however, very justly warns us about too lightly deciding upon hereditary syphilis, in seeing pemphigus upon a child. Now let us take a general view of syphilitic eruptions. In the first place, they present, on the whole, the same characters as common eruptions; they are either composed of vesicles, papules, pustules, &c. In this respect the diagnosis is entirely guided by ordinary rules; but there are means of ascertaining the specific nature of the eruption. To do this we must study the precedents of the case, in order to fix upon the accident which has been the fountain-head of the mischief—namely, the indurated chancre. We inquire whether the patient has or has not had suppurating buboes; whether he

has suffered from obstructed glands, without suppuration: we try to find out whether there are still traces of adenitis, either on the posterior part of the neck, or in other regions. In this manner we often reascend from one accident to the other, until we reach the very outset of the disease, unless a mercurial treatment has intervened; for in such a case the chain and succession of symptoms is interrupted. Syphilitic eruptions, which you will bear in mind can never spring up spontaneously—viz., without the existence of a primary accident, are not preceded by any febrile phenomena; the eruption may be said to be apyretic, indolent, involving in a very short time the whole body, and appearing, in some degree, by successive instalments. They do not, as has been asserted, affect the face in preference to any other part, but they spread indistinctly all over the frame. The smell which they have been supposed to emit is far from being a specific one; in fact, there is none at all, except when the suppuration is very abundant, or when the eruption includes parts where it causes a muco-purulent secretion, as, for instance, mucous papules or patches do; but I repeat it, there is nothing specific in the smell, nor to the copper colour mentioned by Swediaur, or the ham-like hue spoken of by Fallopius (which latter has been with reason looked upon as an important sign), as an absolute and constant character. In the secondary exanthematous eruptions, which generally come on in the earlier period, there is as much redness as with the common exanthemata, and no alteration in the cutaneous pigment is yet observable; so that no reliance can be put on the colour, and it often happens that men, accustomed to treat skin diseases, mistake simple or resinous eruptions for syphilitic exanthemata. At first the redness is a mere congestion, which readily disappears under the finger; a little later, it becomes an actual stain, on which pressure has no

effect. These purplish-brown stains are also met with in psoriasis, in lepra, and in other diseases; but they generally are surrounded by a much darker areola in secondary syphilis than in any other affection. The *seat* of the cutaneous manifestations is not of much value as to the diagnosis; for they may spring up anywhere, as well on the genital organs as in other places; and you recollect, no doubt, that I mentioned before, that they sometimes simulate a primary sore. Nothing, in fact, resembles more an indurated chancre than an ulcerated mucous tubercle, seated on the thickness of the skin or mucous membrane, particularly when it happens to be solitary, and to be placed on the generative organs. As to shape, you will find that secondary eruptions generally present rounded and well-defined patches, the colour of which may in the centre be more or less deep. When the disease is of some standing, they will form distinct groups, which assume the annular or the crescentic form; also that of the figure eight. When they take the shape of segments of circle, they are more defined than in common eruptions. Secondary cutaneous manifestations have very little tendency to suppuration, unless the subject be constitutionally predisposed to pyogeny, and when matter *does* form, it is generally small in quantity, and far from laudable in its nature. The eruptions which do not suppurate will in time disappear altogether, and thus terminate by resolution or desquamation. The scales in these cases are less brilliant, and thinner: they dry more quickly, fall off more frequently in a furfureous form, than in unspecific affections, and the scales sometimes come off in large shell-like pieces. Syphilitic patches sometimes get covered with crusts of various dimensions, and of a dark-greenish or blackish hue; their surface is cracked and broken, and generally thicker than in common eruptions. These crusts are sometimes so adhering, that they re-

main fixed on the spot, notwithstanding cicatrization; they are, in some degree, grooved in the scar, and in some cases the crust is loosened, by gradually turning up at the margins, as the cicatrix is progressing from the circumference to the centre, and it finally falls off when cicatrization is complete. In cachectic subjects there is much tendency to frequent hæmorrhage.

The crusts sometimes accumulate, layer after layer, and form distinct prominences, which constitute the affection known under the name of rupia. When, by the falling of the crust, the ulceration becomes apparent, it assumes generally a rounded form; its fundus is greyish and pultaceous; it is surrounded by a darkish areola; and there is a certain induration in the margin. The tendency to phagedæna is rare, but still it does sometimes happen that these ulcerations make great havoc, by extending very rapidly. Bear in mind that secondary syphilitic ulcers cannot spring up spontaneously, as it were; they are always preceded either by some eruption, as ecthyma, rupia, papules, or tubercles; such ulcers rarely follow vesicles or psudaceous pustules. One of the most important characters of secondary eruptions (which, indeed, I ought to have mentioned sooner) is a total absence of pruritus, whereas itching is a very frequent symptom of the other kinds of eruptions. When, however, the syphilitic rash includes naturally pruriginous regions, as the anus, the genito-crural fold, the axilla, &c., there may be a good deal of itching, but the latter is then produced more by the irritative properties of the secretion, than by the eruption itself.

The cicatrices left after secondary eruptions are very peculiar in one respect—viz., they may exist without any previous abrasion of surface; this is more especially the case in the papular and tuberculous forms. It seems that, in such cases, a plastic effusion takes place, and causes a certain hardness of

the part ; when this fibrinous secretion becomes absorbed, a regular cicatrix ensues, and may be looked upon as the result of a kind of atrophy or falling in of the textures, brought about by an obliteration of the vessels. In some cases, the tubercle assumes a fibrinous nature, and forms a prominent thickening, which consists principally of nodules. The secondary syphilitic cicatrices are in general round, of a purplish colour, and arborescent ; after a little time they turn whitish, and soon get depressed, they have, however, been seen on a level with the skin, and very rarely prominent. I must distinctly state that these cicatrices do not possess an unmistakable character, there is always a doubt in the matter ; and it would be very presumptuous to risk a decided opinion as to their nature, particularly in a court of justice. The cicatrices which follow the pustules produced by frictions with tartar-emetic—those of ordinary rupia and ecthyma, as well as those resulting from burns—have a great resemblance with the cicatrices caused by secondary syphilitic ulcerations ; so that you see how wary we should be when a decided opinion is required. Now, to sum up, it is evident that we cannot rely on any absolute, well-defined character which might assist us in distinguishing venereal eruptions from ordinary ones. We must, then, take advantage of all the circumstances of the case, the precedents, &c. ; and if I were to give the preference to some characters above others, I would say that the absence of pruritus is of much weight, for it hardly ever occurs in syphilis, and it may be looked upon as the essence of common eruptions ; next to pruritus, I would place the copper colour ; but this peculiar hue of the cutaneous phenomena is liable to lead us into error, for ephelis and pityriasis present almost the same tint. This is all I have to offer you regarding secondary eruptions. Next time we meet, I shall consider *syphilitic iritis*.

LECTURE XXI.

SYPHILITIC IRITIS; ONYCHIA; AFFECTIONS OF MUCOUS MEMBRANES; PROGNOSIS OF SECONDARY SYMPTOMS.

I COME now to the consideration of syphilitic iritis. The parts of the eye which are most often attacked under the influence of secondary symptoms, are the conjunctiva and iris. The mucous papules which sometimes form on the conjunctiva do not present any thing very peculiar, and I may therefore pass them over without any comment. In order to be convinced that there is such a thing as iritis of a purely syphilitic nature, it will be sufficient to watch the evolution of secondary accidents, and to notice the close relation they bear to the different forms of iritis. The lesions which the iris presents are but the repetitions of the cutaneous lesions; for iritis may be either exanthematous, papular, vesico-pustular, tuberculo-ulcerations, &c. The syphilitic affection of the iris often occurs at a very early period of the secondary manifestations, and its outset is marked by inflammatory phenomena. The vessels of the part get congested; there is hæmostasis and the coloration changes; a blue iris becomes green, and a black one turns of a fawn colour; a vascular areola forms under the conjunctiva—its nature may be distinguished by its deep situation and its radiated form; this is, in fact, a roseola attacking the iris. Lesions of sensibility may, in this early stage, already be noticed; there is, namely, headache and photophobia, but these lesions are much milder than in unspecific iritis. They may even be entirely absent, and the affection then assumes a chronic form; it

has even happened that the inflammation which characterizes the outset of the disease, depended on a complication, acknowledging a cause entirely independent of syphilis. The symptoms, with most patients, become aggravated during the night, through an increase of the inflammation. Photopsia comes on, and if the iritis is allowed to progress unchecked, certain modifications arise both in the sensibility and in the different lesions which have already taken place. The dimension of the pupil and its shape are altered, the first is contracted by an increase of sensibility; the second is changed owing to an alteration of texture. The figure of the pupil is still regular, however: it is merely contracted by reason of an alteration in its vitality, and this is principally caused by an affection of the ciliary nerves. Mydriasis, or anæsthesia of the iris, occurs very rarely in this disease; but the change of shape may persist, and the iris retain its faculty of dilatation and contraction only on certain points of its surface; its margins get angular and irregular, on account of an effusion of plastic lymph, which then takes place. Notice here the analogy between these phenomena and the formation of a papule on a cutaneous surface. Some German oculists, among whom I must mention Beer, maintain that an ovoid form of the pupil is a pathognomonic sign of the syphilitic nature of the affection: this oval pupil has, according to them, its larger extremity externally and inferiorly, and the smaller internally and superiorly. They suppose, also, that in rheumatic iritis the longer diameter of the oval is horizontal; and that just as the syphilitic or rheumatic elements are combined in a varying proportion, so does the greater diameter of the oval alter in its direction. But you know that the alteration in the shape of pupil is caused by lesions which may fix in any part of the iris; and this fact is sufficient to show that there cannot be any thing decidedly

characteristic in any particular shape. The surface of the iris sometimes secretes a plastic fluid analogous to the epidermoid secretion of the skin, which fluid is effused into the aqueous humour of the eye, and renders it dim; the iris, at the same time, mostly forms adhesion with the lens. If the individual affected with iritis has pyogenic tendencies—if he has been a long time labouring under the syphilitic diathesis, the disease becomes more serious; the iris swells, projects either forwards or backwards, and its surface gets studded with those tumefied points which have by some been called condylomata. With pyogenic individuals these prominences increase in volume, and at last suppurate. Here we have, then, a true pustule, which is perfectly analogous to the pustulous syphilitic eruption on the skin. These pustules may be as many as three in number; they may terminate either by resolution, ulceration, or purulent effusion; if by the latter, hypopium is the result, and if ulceration take place, it may destroy the iris. When the latter has passed into this tumefied state, the margins of the pupil become very irregular and fretted, adhesions with the capsule of the lens take place, the cornea and chambers of the eye lose their relative situation, and the axis of vision is destroyed. You see, then, that the lesions which we observe in syphilitic iritis are very similar to those which we find in common iritis; there is indeed much analogy in the symptoms, but the precedents of your patient must partly guide you, and it is useful to observe, moreover, that syphilitic iritis is an apyretic affection, and is rarely followed by sympathetic symptoms in the economy. Yet with respect to the latter, I must say that I have seen patients evidently labouring under a secondary affection of the eye, suffer from fever and vomiting.

Onychia.—We find here the same phenomena which we observed in iritis, and in the cutaneous

eruptions ; for onychia is, in fact, only an affection of the skin which surrounds the nail ; and in this cutaneous attachment may be developed either ecthyma, papules, vesicles, &c. The matrix suffers, and the secretion of the nail gets greatly vitiated ; it grows thick and nodulated ; and this alteration is somewhat analogous to what takes place in inveterate psoriasis. There is also a great similarity between onychia and alopecia ; they both depend on morbid changes interfering with the secretion of those cuticular appendages.

Secondary Affection of Mucous Membranes.—The manifestations of the mucous membranes are the same as those of the skin (this fact has been recognised but very lately) ; they have long been classed under the generic name of ulcerations, just in the same way as all skin diseases used to be looked upon as pustular ; but on examining carefully, we find upon mucous membranes erythema, papules, pustules, tubercles, mere circles, full patches, &c. The cheeks, the tongue, the velum, the tonsils, the anus, &c., are liable to these manifestations, and the forms which affect mucous membranes are generally the same as those we find on the skin ; but ulceration *seems* to occur at once when a mucous membrane suffers, both on account of the redness, which is its natural colour, and because the epithelium gives way so soon, that the crustaceous period hardly exists at all. Secondary ulcerations seldom settle on the pharynx, and do not often reach beyond the isthmus-faucium. They are generally ushered in by uneasiness, heat, and tingling in the part, along with a difficulty of swallowing ; there is also a perforating sort of pain in the ears, and a partial deafness. This is the erythematous period. This erythema often passes unnoticed ; for it is very difficult to distinguish it from the natural redness of the mucous membrane ; but the affected parts soon become prominent ; their

surface turns a whitish-grey, and looks very much like a mucous texture which has been cauterized with the nitrate of silver. These eruptions are generally painless; but there is sometimes a feeling of tightness all around them—disphonia, dysphagia, or even aphonia, may occur in succession. If the mucous tubercles are seated in the nasal fossæ, there will be obstruction in the nares, and when headache is combined with these symptoms, we might easily be led to believe that we have to do with a mere coryza. Aphonia is almost a certain sign that the arytenoid cartilages are involved. In these secondary eruptions, the affected spot is distinctly limited, and the surrounding parts are perfectly healthy. There is no inflammatory areola, except in cases of ulcerating tubercles, in which the tissues around are a little congested and inflamed; but there is no febrile reaction even when the ulceration reaches very deep. Tubercular ulcerations, which generally extend to a great depth, are apt to spread very rapidly, and they often invade the parts situated behind the posterior pillar of the velum. As this kind of ulceration involves the whole thickness of the parts, it takes rather a long time to appear; there is mostly a fixed and constant pain accompanying it, and the functions of the organ on which the ulceration is seated are much disturbed. Audition is imperfect, and there is occasionally dysphagia, as well as disphonia; but the affection is at this period not yet thoroughly manifest to the eye. But if therapeutical means do not stay the progress of the disease, the destruction of parts comes on, and proceeds with a rapidity which hardly any effort of ours can check. The velum is perforated or torn, the palatine arch crumbles, the spongy bones get detached, and are expelled through the nares along with the vomer; the chordæ vocales and the bony structures of the larynx are destroyed, the internal ear suffers; in a

short time the organs themselves disappear, and the functions which they had to perform are entirely abolished ; phonation, audition, deglutition, and free respiration are gone, and the individual stands before us a wretched victim of this fearful destruction. The mucous membrane of other regions may also become the seat of analogous accidents—the anus, vagina, cervix uteri, are all liable to them ; but such lesions have been but little studied in these parts, and it is probable that they would, if well understood, lead to clearer notions as to the ulcerations situated on the neck of the uterus. When you are consulted about a loss of the olfactory powers, obstruction of nasal fossæ, and difficulty of deglutition, you must carefully investigate the case, and neglect no circumstance which may aid the diagnosis.

Prognosis of Secondary Symptoms.—These symptoms are, on the whole, far from being very serious, for they are easily and rapidly curable ; but if not very dangerous in themselves, they are very unpleasant, and when we consider that the cause which produces them is indestructible, the prognosis assumes a certain degree of gravity in so far as the future is concerned. We can, of course, control the eruption and the ensuing ulcerations, but we are powerless as regards the diathesis, and the primary infection which has produced them. The opinion which I hold with regard to the persistence of the diathesis, when once fairly established, is no doubt very far from advantageous to myself, as bearing upon worldly interests ; but I have hitherto found no reason to change it ; and to support opposite views is to give the public very erroneous notions of our science. No doubt it would be more gratifying both for the medical man and his patient, if the former could promise a radical cure by means of the therapeutic agents he employs ; but when this kind of deception is indulged in, it comes to pass that patients neglect

the manifestations which *must* come on sooner or later, they being lulled into a dangerous ignorance and security by the assurance that they are all right as to the future ; and many an organ has been destroyed in this way, as medical aid is not sought in time. When I dismiss my patients, I always tell them that they stand under the influence of a syphilitic diathesis, and I recommend them to apply to a medical man *immediately* they perceive any thing wrong about their health. I harbour the firm belief, that neither the duration of treatment nor its early application will protect from the diathesis ; for I have seen patients who, after an anti-syphilitic course, have remained perfectly well for ten, twenty, thirty—ay, even forty years, when, after such a long time, they experienced attacks of an unmistakable nature. Notice carefully that these were not eruptions, sore-throat, &c., which are all early symptoms, but tubercles, osseous affections, splanchnic diseases, &c. Many of these patients had been treated by such men as Cullier, Alibert, Biet, Dupuytren, &c. Divers preparations of mercury and of gold have been used to eradicate the disease, but they have failed in destroying the diathesis ; and when this latter has been supposed to be overcome, it was because no distinction had yet been made between the indurated and the ordinary chancre. Of course, I need not repeat that the latter is comparatively harmless as to secondary symptoms. The prognosis as regards these symptoms, is also much influenced by the age of the patient ; it is, in general, very serious with young children hereditarily affected, and likewise with pregnant women.

Scrofula, phthisis, scurvy, the herpetic venom, a chlorotic state, are, one and all, very untoward complications ; they are, in fact, additional enemies which the medication must combat. As to hygienic circumstances, you will, of course, understand at once

that cold weather, dampness, sudden variations of temperature, excesses, debauchery, &c., render the prognosis very unfavourable. The appearance of a renewed crop of symptoms where a mercurial treatment had been gone through for similar eruptions is of a very bad omen—first, on account of the relapse, and secondly, because mercury has so impoverishing an influence on the blood. Excuse me if I stop so abruptly; but I will continue this subject at our next lecture.

LECTURE XXII.

TREATMENT OF SECONDARY SYPHILIS; ACTION OF MERCURY; ANTI-MERCURIAL MEDICATION; DOSES, ETC.

I PROCEED with the consideration of secondary symptoms; and I would first direct your attention to the fact that the earlier manifestations are always less serious than the subsequent ones; and that the further we proceed along the links of secondary accidents, the more serious the prognosis becomes. But still when the transitory and tertiary symptoms come on, they need not be looked upon with very great anxiety, except where no means have been used to arrest them. Iodide of potassium is all-powerful in controlling these affections, and in a very short time too. The particular seat of any syphilitic manifestation may add somewhat to the gravity of the case, particularly as refers to the tertiary forms, and it often happens that they leave after them indelible marks, and great deformity. Important functions may either be altered or entirely abolished by the destruction of certain organs; thus patients may get afflicted with deafness, dysphonia, aphonia, difficulty of deglutition, of pronounciation, &c. I need not insist any

longer upon the prognosis of secondary symptoms; you see that they are powerfully influenced by a great variety of circumstances.

Treatment of Secondary Syphilis.—We have here, as well as in all other diseases, two indications to fulfil—first, to master the diathesis, and, secondly, to destroy the manifestations. As for the diathesis, I have repeatedly stated that it can be prevented but by the destruction of the chancre within the first five days of its existence; when this period is passed, we are never sure of preventing the general infection, and Hunter was mistaken when he thought he could arrest the chain of secondary accidents by his anti-syphilitic treatment. But I need not enter into this question again, I have sufficiently dilated upon it in speaking of primary sores.

Treatment.—There is hardly any remedy which has not been tried in this disease. Before I give you the list of them, it is but fair that you should know that secondary manifestations may disappear *suâ sponte*, without the intervention of any specific treatment. Among the means which have been employed, I may mention low diet, with the avoidance of much liquid; the same, with an abundance of fluids; either of which may be carried on for a longer or shorter period. Attention to diet is, in fact, extremely useful, and it ought to be particularly nutritious with individuals who suffer from debility. Antiphlogistic means are of great assistance, as long as they are not directed against the constitutional syphilis itself, but against local inflammations; they are then very useful. But whenever we have the mere secondary accidents to contend with, antiphlogistics should be avoided, for I am convinced by experiments that the blood in constitutional syphilis becomes very poor, so that it would be senseless to abstract any, and thereby increase the evil. Sudorifics had a great run at one time: guaiacum, sarsa-

parilla, sassafras, squills, &c., have by turns been extensively used ; they may all be said to possess the same amount of efficacy—viz., very little. I generally give them to my patients when I wish to keep them under my observation, but they never arrest any of the accidents. They may, however, be used as vehicles for other more useful substances. Purgatives are sometimes necessary to keep the *primæ viæ* free, but they possess no curative property. Among the number of remedies that have been employed, there are some which are well calculated to fulfil certain indications, they may be used as adjuvants, corrigents, &c. Opium is one of them. But the most powerful medication, the only one capable of keeping secondary syphilis in abeyance, is mercury. In order to watch the effects of this metal, we should first thoroughly understand its peculiar action, both in a pathogenic and therapeutic point of view. You all know that the action of mercury on the economy has been differently interpreted by divers observers ; it has successively been looked upon as an excitant, stimulant, depressent, antiphlogistic, antiplastic, alterative, modifiant, &c. Some have maintained that it acts from one molecule to another—viz., that it gradually passes through the vessels containing the syphilitic virus, and carries it along with itself out of the system ; above all it is *anti-syphilitic*. Its pathogenic action is any thing but constant. Some people are very easily brought under the influence of mercury, whilst others are quite refractory to it by whatever channel it may be introduced into the system. This metal, placed on an absorbing surface, may act directly on the same, and be absorbed a little while afterwards ; or it may be absorbed without any local action whatsoever, and the local phenomena then occur *after* absorption. When applied to the skin, it may produce either eczema or erythema, but these eruptions have then no particular character, and the

local irritation is an obstacle to absorption. These effects are observed as well on mucous membranes as on the skin. When the mercury is absorbed, it may produce stimulating effects, which bring forth a regular mercurial pyrexia: this is always to be looked upon as a very untoward circumstance, for the specific action is thereby very much impaired. When the mercury is absorbed, it sometimes reacts on the channels through which it has passed; this effect is a sort of *contre-coup*. The first symptoms of the action of mercury on the system, are those of inflammation and increase of secretion, coinciding with a diminution of fibrine in the blood; but if the inflammation continue, a plastic reaction ensues, the fibrine, on the contrary, is relatively augmented, and the plasticity of the blood is heightened. Mercurial fever is generally followed by diarrhœa, resulting from a species of gastro-enteritis set up by the mercury; but the most common effect is mercurial stomatitis, or ptyalism.

Symptoms.—Patients, before they notice any thing abnormal, complain of a metallic taste in the mouth; the breath is disagreeable, and even fœtid; the teeth feel uncomfortable, and are acutely sensitive; they give the patient the idea that they are longer; they lose their firmness; the gums seem to grasp them but feebly; the salivary secretion increases; the gums turn of a bright red, swell, and become very soft; the last molar or wisdom tooth, if it have come out, is the first to suffer. I must not forget to mention that these mercurial effects are intimately connected with the presence of the teeth, for stomatitis does not occur when the teeth are quite gone, or before they are cut. Wherever the least pressure is exercised there will be a certain tendency to the development of these symptoms, so that they will generally appear first on the side whereon the patient is in the habit of lying. As the affection advances, a greyish-blue, pseudo-

membranous secretion takes place along the margin of the gums; the tumefaction of the latter goes on increasing; the swelled parts ulcerate; and this generally takes place first around the neck of the last molar. The internal surface of the cheeks retains the impress of the teeth on a level with the meeting of the upper and lower; the ulceration soon involves the cheeks themselves; the tongue swells, its sides are marked by indentations produced by the pressure of the teeth, and it may even share in the ulceration involving the neighbouring parts; indeed, it is not rare to see the cheeks, tongue, and gums, attacked by gangrene, and whilst all this is going on, the surrounding textures sympathize, and there is œdema of the cellular tissue and hypersecretion of the salivary glands. These are, however, not yet affected with inflammation; the abundant secretion is principally owing to irritation of the orifices of their ducts, and you should bear in mind that the inflammation does not primarily originate in the glands. Patients will sometimes eject a great quantity of a glairy, adhesive saliva, which at last comes to resemble diluted mud. If the inflammation is very violent it will react sympathetically upon the system, and general inflammatory phenomena become apparent. An experienced eye will never confound the mercurial effects with those of syphilis, but there are cases where both are combined in such a manner as to be distinguished with much difficulty. Mercurial ulcerations may, for instance, simulate mucous tubercles or patches. The only way to settle the question is, to suspend the administration of the mercury; the mercurial symptoms will then disappear, and the syphilitic ones remain and be easily recognised. The effects of mercury in regular doses are generally felt towards the beginning of the second week. Mercurial stomatitis cannot appear three or four months after the administration of the metal has been stopped, and those who still

hold this as possible have probably not sufficiently distinguished mercurial from scorbutic stomatitis. When you wish to increase the dose, you must watch the effect of moderate ones for eight or ten days; and you may fully believe me when I say, that the untoward or pathogenic effects of mercury are not the result of its prolonged administration, but that they arise principally from too large doses, continued for a week or two. The metal, the effects of which we are studying, may act on the nervous centres and produce what is called mercurial tremor, but this affection is very rare, when the mercury is given as an anti-syphilitic; you know that it is, on the contrary, very common with gilders and looking-glass makers, who are subjected to the influence of the metal in its vaporized form. Mercury may bring on apoplexy; I remember a very clear case illustrating this fact. The patient sank under the symptoms, and by the chemical analysis of the substance of the brain metallic mercury was discovered. Some people will tell you that mercury will bring on mental derangement: there is nothing very positive known on this head; but still, as its influence is well ascertained to extend sometimes to the brain, it might act upon the intellect by its effects on the encephalon. I am inclined to believe that this mercurial madness is perhaps only a sort of hydrargyrophobia, just as syphilitic alienation may merely be syphilophobia. Both hydrargyro-mania and syphilomania are, however, extremely rare. We have seen that certain mercurial manifestations, among which are eruptions, salivation, diarrhœa, &c., have generally appeared about eight or ten days after commencing use of mercury; but a long-continued mercurial course may impress upon the economy much deeper pathological alterations. These are of a slower growth, and present a series of quite different symptoms. Mercurial tremor, mercurial paralysis, and mercurial madness, belong to the

latter category. When the system is fully under the influence of the metal, the syphilitic eruption may of course be modified by this circumstance; and we often see it in such cases assume more of the vesicular form, and cause a little pruritus, preserving, however, the general characters of a syphilitic eruption. If you should be so situated as to feel rather at a loss how to distinguish in a given case a mercurial from a syphilitic eruption, you will be greatly assisted by noticing the following contrasted characters:—When the two eruptions exist at the same time upon one individual, if you give up the mercury there is no tendency in the secondary eruption to fade away; on the contrary, it will increase in intensity; but the mercurial manifestations will diminish rapidly, and disappear from the tenth to the fifteenth day. If, on the other hand, you were to keep on the mercury, you would see the mercurial eruption make rapid progress, whilst that resulting from syphilis would gradually disappear. I have several times tried this method, and found it answer remarkably well.

Anti-mercurial medication.—If you find mercury doing mischief, I need hardly say that the first thing to be done is to leave it off, and thereby do away with the *origo mali*. Then the *primæ viæ* are to be attended to, and recourse be had to sulphur, either internally, or in the form of baths. This substance is very useful, provided there be no mercurial diarrhœa present. I generally give one drachm of sublimed sulphur, mixed with water, and one ounce of honey. I prescribe likewise acid drinks, of which a very good one is, the nitric acid lemonade, which seems to promote the plasticity of the blood. As to local applications, I know no better than hydrochloric acid, brushed, in a concentrated state, over the mercurial ulcerations. The cauterization is to be persisted in until it produces a sanguineous oozing. The pain is very intense, but of short duration, and

the patients experience great relief immediately afterwards. The hydrochloric acid may also be given in the form of gargle ; five ounces of lactuca sativa decoction, eighty minims of dilute hydrochloric acid, with about five ounces of honey, make a very excellent gargarism. When you cauterize with the concentrated acid, you must be careful to avoid the teeth, for it softens them very rapidly ; and common cleanliness as regards the latter and the gum should be particularly enforced. When there is much diarrhœa opium is indicated. I have always found it an excellent adjuvant and the best corrigent, and I cannot agree with those who have maintained that opium interfères with the specific action of mercury—the experience of every practitioner will at once settle the matter.

Doses.—The pathogenic accidents I have enumerated should always be prevented in the administration of mercury ; indeed, there are few surgeons now-a-days who, in conformity with ancient customs, push it to profuse salivation, in the treatment of syphilitic diseases—most of them, like myself, only aim at its therapeutic action. The doses are strictly relative—the susceptibility of individuals should be studied, and the amount of mercury regulated thereby. We should always begin with a dose which is not likely to produce any unpleasant effect : this may be either one grain of the proto-iodide of mercury, or one grain of the bichloride of the same metal, or the friction of one drachm of mercury ointment per day. The effect of these doses ought then to be watched : if they produce salivation, fever, or diarrhœa, the mercury must be stopped and these complications removed. If no disturbance is produced by the doses I just named, they may be persisted in as long as we see the disease gradually receding and improving ; but if the affection has not received any check after the first five or six days, the doses should be gradu-

ally increased, the results watched, and the remedy proceeded with as if the latter dose had been the one given at the outset. But I perceive that I must put off the conclusion of this subject to our next lecture.

LECTURE XXIII.

MERCURIAL TREATMENT OF SYPHILIS.

I LEFT off, the last time I had the pleasure of addressing you, at the consideration of the doses of mercury, and begged you would increase the doses I then mentioned if they produced no curative or pathogenic effect. But if you should notice your patient to be suffering from mercurial disturbances before any therapeutic action is visible, although you may have begun with very small doses, you must not at once pronounce him refractory to the metal. You should first inquire whether these pathological effects are not, in some degree, due to the form in which you are giving the remedy, or to the channel through which you are introducing it into the economy. If I am asked how long the mercury is to be continued to cure syphilis, I am driven to answer, that secondary manifestations are easily enough controlled, but that concerning the diathesis, which I have so often mentioned, it is hardly known how far we are to push the mercury; in fact, there is no such thing as an absolute rule in this respect. M. Lagneau, in slight cases of syphilis, used to be satisfied with a sort of half treatment. Hunter was in the habit of regulating his doses of mercury according to the size and number of the ulcerated surfaces. Dupuytren continued the treatment until all manifestations had disappeared, and for as much time after this as

they had taken to recede. Many administer just one hundred and ten pills, and promise their patients perfect safety when they have swallowed that number. But you have already heard me say that it is not in our power to destroy the diathesis; there are too many examples which prove this position to allow one moment's doubt about it. The length of the time for which the treatment is to be continued, is about six months: perseverance in the remedy for this period has seemed to me to retard the manifestations the most effectually. So then I would advise you to persist for about half a year, but I am sorry I cannot promise you that this will certainly and truly prevent the tertiary or other forms of secondary symptoms from appearing. I am every day more convinced of this melancholy fact. The channels through which you introduce the mercury into the system may be chosen among all the absorbent surfaces of the body; you may take either the skin or mucous membranes. The skin, however, cannot be so much relied on as the mucous membranes, and the former should be taken advantage of only when the latter are out of order. When the skin is to be the inlet, we generally choose the axilla the groin, or the internal surface of the thighs. Cyrilla used to order the frictions to be made on the plantar aspect of the feet. But, as I said before, mucous membranes ought to be preferred, and the gastrointestinal answers best. If the stomach cannot bear the administration of the remedy, Clark's method may be employed—viz., the application of the mercury to the mucous membrane of the mouth; and should the state of the mouth not allow of this, that of the rectum might be tried, and mercurial preparations be thrown up in solution. As a last resource, inhalations might be used, but as a general rule, and wherever it is practicable, the stomach will be the most advisable channel; we are then much surer of what we are doing, and the effect is much more certain than when other methods are employed.

I come now to consider under which chemical forms the mercury is the most advantageously administered. First, you will be pleased to notice that the different preparations act entirely in virtue of the mercury they contain, and whether the latter acts in the metallic state or not, is an unsettled question. But I must say that I am inclined to believe that its power resides principally in its metallic action, especially when I remark the regularity of the latter, and the ever-repeated identity of its effects. M. Mialhe contends that all preparations of mercury pass into the state of bichloride within the stomach previous to their absorption into the system. I am, however, not favourable to this opinion (although I cannot pretend to having made many chemical experiments on the subject), because we know that every mercurial preparation, be it absorbed by the stomach, the skin, or mucous membrane, acts ever in the same way, and produces effects exactly identical. I firmly believe that mercury once fairly admitted in the system, under whatever form it may be, is freed from the previous combinations, and acts solely through its metallic properties. The chemical forms which are generally adopted in the administration of mercury may be divided into two categories: the first contains the soluble, the second the insoluble preparations. The soluble compounds are easily diffused, and may be given in almost every form; this is a great advantage. But it must be observed that there is always a certain local irritation to be dreaded from the administration of bichloride, cyanide, biniodide, or bitartrate of mercury. This irritation is not only very unpleasant in itself, but it may prevent the general action of the mineral. This special effect of mercury is much more easily produced by other preparations, which have not the unpleasant consequences of the above. I generally give the preference to the insoluble compounds: for they act more readily

as direct salivating agents, and when rapidly absorbed, they produce ptyalism in a very short time, particularly when given in repeated small doses. I have been at some pains in finding out those mercurial preparations which, besides acting locally in a slight manner, had undoubted general effects. In the course of these investigations, I noticed that the biniodide is less active, and less likely to produce salivation, than calomel; that the bichloride and the cyanide are more soluble than the biniodide; that the proto-iodide, considered as a specific agent, has as much action as the bichloride, and is less irritating than the latter. But here I might be met by M. Mialhe's theory, and I shall be told that the proto-iodide will undergo a transformation, and become bichloride in the stomach. But in admitting, for a moment, the truth of the theory, it is evident that the bichloride would be absorbed in its nascent state, molecule after molecule, gradually as it is being formed; by this means it would remain less time in contact with the stomach, and would thereby produce less irritation. But I beg you will observe, that I am far from rejecting all preparations of mercury except the proto-iodide; for it is not to be denied that, in the treatment of secondary syphilis, we may find individuals who will bear one preparation very well, and be very refractory to all others; so that we ought to be prepared to use any preparation of mercury, and in ordinary cases we should give the preference to that chemical combination which, on trial, proves the most advantageous. As to the pharmaceutical forms, I need hardly say that mercury is employed in the form of ointment, bath, vapour, plaster, pill, &c. When the ointment is used, it is generally the stronger ointment, recently prepared; and from one to two drachms may be rubbed-in daily. The frictions should be made every other day, and on those parts of the body most

favourable to absorption. It is very advisable to begin by rubbing-in on the internal aspect of one limb, and the day after the next to do the same on another limb, and thus go on changing, in order to avoid irritation. Calomel may likewise be used for frictions, and the ointment may consist of equal parts of the chloride of mercury and axunge. Vigo's plaster may also be applied over a large surface, and will be found very advantageous. Mercurial baths may be prepared by adding to the usual amount of water to such a purpose from three drachms to two ounces of bichloride of mercury; but I must add, that these baths are far from offering a form of administration which may fully be depended upon. Fumigations of cinnabar are much better, as they possess a very favourable local action. From two drachms to one ounce may be used for fumigation. The temperature should be gradually raised, but should not be higher than 100° or thereabouts, and the inhalation may be continued during fifteen or twenty minutes. As a remedy addressed to the whole system, pediluvia of from four to eight grains of corrosive sublimate to the pint of water are given; but, as stated before, there is not much reliance to be placed on this kind of medication. When you give the mercury *viâ* the digestive organs, you may use Van Swieten's mixture, which contains about eight grains of bichloride to fourteen ounces of water. From two to six spoonfuls may be taken daily, in either milk or treacle. M. Mialhe has proposed the following formula:—Distilled water, sixteen ounces; chloride of sodium and hydrochlorate of ammonia, of each fifteen grains; one white of egg; bichloride of mercury, six grains. Three tablespoonfuls may be taken in the day, each of which contains about one-fifth of a grain of corrosive sublimate. The action of mercurial solutions is much surer and more energetic than that of other hydrargyric preparations; but it is

also more trying, and their metallic taste is extremely disagreeable. They may likewise give rise to colic and cramps of the stomach, which place us under the necessity either of altering the form of the remedy, or changing the medication altogether. Mercury is also advantageously given in syrup, especially with children. When the patients are subject to constipation, the *siróp de cuisinier** should be used as a vehicle. The following is Larrey's formula; it is still used with some benefit:—*Siróp de Cuisinier*, sixteen ounces; hydrochlorate of ammonia, bichloride of mercury, extract of opium, of each from five to six grains. From three to six tablespoonfuls may be taken in the day. This same *siróp de cuisinier* may be used as a menstruum for the biniodide of mercury, in the same doses as the bichloride. The cyanide may also be given in the same way; but the proportion must be a third less than that of the foregoing substances. The best, the most extensively used, and the most easily tolerated form, is, without doubt, the pilular; and when we prescribe the insoluble preparations of mercury, we have no choice, and pills must be used; but for the soluble ones it is a matter of preference. I generally give the proto-iodide of mercury, first advised by Bielt. I may notice, in passing, that the substances used for your pill mass should be readily soluble; for if they were not so, they would interfere with the action of your principal ingredient. I generally use the following formula:—Proto-iodide of mercury, extract of lactuca sativa, of each forty-five grains; extract of opium, fifteen grains; extract of conium, one drachm and a half; make five-grain pills, of which six or eight may be taken in the day, increasing the number gradually. Some apothecaries leave out the

* An antisyphilitic syrup, prepared with sarsaparilla, the leaves of borage and white roses, senna, aniseed, honey, and sugar.

lactuca; but I think that therein they are wrong; for it is a hygrometric and soothing substance, which facilitates the solution and absorption of the proto-iodide. The latter is apt to determine diarrhœa and colic, and the opium is of use in preventing this effect. The conium is an excipient, which is not supposed to have much action, but it is by some considered as a good solvent. Dupuytren's pills are composed as follows: extract of guaiacum, extract of opium, q.s.; bichloride of mercury, the fifth of a grain. Make one pill. Take from one to four in the day. The pills of Belloste contain mercury, aloes, rhubarb, scammony, black pepper, honey, &c. This is a bad preparation, because the purgative action interferes with the mercurial effect. As I mentioned before, Sédillot's pills are composed of three parts of strong mercurial ointment, two of medicinal soap, and one of powdered liquorice. Two or four may be given every day. I have administered as many as sixty per diem without any pathogenic manifestation; and I may add, that thirty or forty of Sédillot's pills had no effect on certain secondary accidents, which were greatly moderated by five or six pills of proto-iodide. In England the blue-pill is much used: it consists of metallic mercury, triturated in equal proportion with conserve of roses: from two to four are taken in the day. Most practitioners will give them fasting, but it is far better to take them two or three hours after a meal, when the stomach is still a little excited. Mercury has also been given in a great many other forms—as, for instance, Keyser's pills,* Lagneau's lozenges,† Olivier's biscuits,‡ mercurial cigars, &c.

* Acetate of the protoxide of mercury, twelve grains; manna, three drachms. Mix, and make seventy-two pills.

† Powdered sugar, nine ounces; mercury, obtained from cinnabar, two ounces; gum Arabic, in powder, one ounce. Mix, and triturate until the extinction of the mercury is ef-

As adjuvants the bitters may be mentioned—as sarsaparilla, hop, quassia, saponaria, dulcamara, &c. The syrups most in use are, the syrup of gentian, of quinine, Peruvian bark, *de cuisinier*, and the anti-scorbutic syrup, &c. However, one of the most efficacious adjuvants is iron, whether you employ Vallet's pills, or any other chalybeate preparation. I am very fond of giving the tartrate of iron and potash in solution, in doses of fifty to sixty grains. Some have tried a combination of gold and mercury—five parts of the latter to one of the former, in two-grain pills. The chryso-hydrargyric pills are less likely to produce salivation than the purely mercurial preparations, and they are of course less active. I have given as many as twenty a-day. Patients of mine who had sore mouths from the proto-iodide of mercury were ordered this auro-mercurial medication, and I was glad to observe the stomatitis disappearing along with the syphilitic accidents. Pure gold has been tried at Montpellier, and according to the accounts I have seen, it has yielded good results; but Messrs. Cullerier and Bielt, as well as myself, have obtained no effect whatever from its use. Silver has been given by M. Sera, of Montpellier; and this gentleman tells us that he obtained cures with it. I have given large doses without any sort of result. I will, next time we meet, conclude this subject by reviewing the empirical preparations of mercury.

fect; and then add vanilla, in powder, half an ounce; water, q. s. Make lozenges of twelve grains.

‡ Biscuits prepared with flour, milk, butter, and sugar, weighing about two drachms, each of which contains one-fifth of a grain of bichloride of mercury.

LECTURE XXIV.

CONTINUATION OF THE TREATMENT OF SECONDARY SYPHILIS ; TERTIARY SYMPTOMS, SYPHILITIC SARCOCELE.

THE different infusions or ptisans which by turns have had a run for the cure of syphilis, contain, almost all of them, sarsaparilla. In Pollini's we find sulphuret of antimony and sarsaparilla ; in Vigarou's, crude antimony, sarsaparilla, guaiacum, bitters, purgatives, &c., &c. The opera dancer's ptisan is principally made with sarsaparilla ; Arnoud's with the latter and *mezereon* ; Feltz's is composed of sarsaparilla, ichthyocolla, and sulphuret of antimony, which latter must be tied up in a bag, and all the substances boiled together. (I need not tell you that this sulphuret contains arsenic.) As to the far-famed Rob de Laffecteur, which is reputed to be a strictly vegetable preparation, you are, I dare say, aware that it includes bichloride of mercury, and, according to circumstances, more or less box-wood, saponaria, treacle, &c., &c. Of course this preparation will effect cures wherever a mercurial course is indicated. The corrosive sublimate has, by careful analysis, been distinctly found in this quack medicine, and the impudence with which it is set forth as a vegetable preparation is barefaced enough. It has been publicly stated that I recommend the Rob of Laffecteur, but I need hardly say that this assertion is a pure invention of the vendor. The article on this nostrum in the "Dictionnaire de Médecine," has evidently, I am sorry to say, been written by a venal hand. The cures which have been boasted of principally related

o patients who were affected with ulcerations, the nature of which was unknown; and as some years ago every ailment which was not understood was reputed syphilitic, the Rob got credit for more than it deserved. In fact, many cures have been attributed to it when a change of diet was the principal agent of recovery. Zettman's ptisan is likewise composed of sarsaparilla and divers other substances, among which are cinnabar and proto-chloride of mercury; this latter preparation, as you see, contains mercury enough, but I do not think that the form under which the metal is administered is a very advantageous one. There are certain secondary manifestations which may be greatly benefited by topical applications which you should be acquainted with. Thus, besides the general treatment, which must always be mercurial, you may apply to mucous papules alkaline chlorides and powdered calomel. I would, for instance, recommend Labarraque's liquid one part, water three parts, and the lotion to be used three times a-day; the affected surfaces to be then wiped dry and powdered with calomel. The sore places should also be isolated by means of lint. Eight or ten days are sufficient for the cure of the local affection. For dry papules it is advisable to use fumigations of cinnabar; when patients cannot bear them, the papules should be covered with Vigo's plaster. In this manner we can in eight or ten days remove sores which the patient is very anxious to conceal from the public eye. The crusts which form on the scalp and the squamous papules are much improved by vapour baths to the part. Pustulo-crustaceous and suppurating eruptions are greatly benefited by mucilaginous and gelatinous and bran baths, or cataplasms of fecula. When the irritation has disappeared, the emollient applications may advantageously be replaced by an ointment containing either calomel or opium; and compression with strips of

Vigo's plaster, with mercury, has also succeeded very well in my hands. When you have to deal with sores situated on mucous membranes, either in the mouth, nose, throat, vagina, or uterus, &c., you will find the following preparation very useful, either as a lotion or an injection: decoction of cicuta, seven ounces, bichloride of mercury, from three to four grains. It often happens, likewise, that cauterization with the nitrate of silver, or the liquid nitrate of mercury, proves highly beneficial. The topical means, which I have just enumerated, very often destroy the local manifestations in a short time, and this rapidity of cure very often deceives patients, and induces them to give up the internal medication. You should be prepared for this, and it will sometimes be necessary, when you have refractory people to deal with, to withhold your topical applications, and allow the local accidents to get well of themselves, so that the patient may be induced to go on with the internal use of mercury.

Having now, gentlemen, laid before you the leading facts connected with secondary syphilis, I will, with your permission, close our course with the study of tertiary symptoms. This classification is by no means arbitrary, and I would not trouble you with it, if it had not an immediate practical bearing, and if it were not in some degree a necessary division, as much with reference to the treatment as to the prognosis.

Tertiary manifestations are mentioned in Thierry's work, and hinted at by Hunter. They have, like the primary and the secondary accidents, a peculiar stamp, which distinguishes them from all others, and never directly follow the chancre which is the primary origin of them. They are, in fact, always preceded by some secondary manifestation, except in those cases where the patient has undergone a treatment capable of destroying a link in the chain of ac-

cidents, making him in some degree leap over it. These tertiary symptoms are never seen in children, immediately after birth, as an hereditary manifestation, unless the father or the mother, who have transmitted the taint, underwent a treatment for secondary symptoms during the gestation. Tertiary symptoms almost never come on before the sixth month after the primary sore. Still it may happen once in a thousand cases that they appear towards the fourth or fifth month; when the half-year is over, there is no limit within which the tertiary symptoms might be included—they may come on after many years. These tertiary manifestations are as rare as the secondary are common; but still you can never promise a patient that he will be free from the former. Syphilis, in this tertiary period, is no longer hereditarily transmissible, but it then modifies the system in a different manner—namely, it engenders scrofula. M. Lugol's and my own observations fully verify this assertion. The seat of these tertiary symptoms is generally the sub-cutaneous or sub-mucous cellular tissue, the bones, the fibrous textures, lymphatics, the testes, the liver, lungs, brain, heart, muscles, &c.; but I have generally found that serous membranes remain free from tertiary lesions. Pains in the bones sometimes come on very early, but the earliest tertiary manifestation is doubtless *sypilitic sarcocele*; and it is rare for the testicles to be tardily attacked. This affection has also been called albuginitis, sypilitic testicle, &c. This lesion of the testes was well known to Hunter and Dupuytren, but Astruc, long before them, had a notion of its nature, for he made a distinction between orchitis resulting from chancre and orchitis following blennorrhagia; and Bell in his turn took advantage of Astruc's observation, in order to attempt the differential diagnosis between the two affections. Sypilitic sarcocele generally begins in one testis, and succes-

sively invades both of them ; it may also attack both testes at once, and it is very rare to see one testis escape entirely. There are hardly any premonitory symptoms ; slight and nocturnal pains in the loins are sometimes experienced, but they are extremely rare, and the affection comes on, and reaches a great development quite unperceived by the patient. When his attention begins to be attracted to the part, he finds the testicle already of a considerable size, heavy, and pretty hard ; but the size is not invariably increased in every case. With some patients, I have known the disease to run through all its stages without creating any uneasiness ; the erections, however, get less frequent, the venereal appetite less imperative, and the seminal fluid gradually diminishes in quantity. If the disease is allowed to proceed undisturbed, the testis ceases to increase, it then diminishes in size, by the resorption of the plastic effusion, and the patients are delighted to see their affection thus apparently declining ; but the decrease soon outruns the normal bounds ; the testis gets atrophied, and disappears more or less completely ; this atrophy is always preceded by a fibro-plastic degeneration. The latter takes place in the following manner :—It begins with the body of the testicle (provided the patient be not labouring under any other diathesis than the syphilitic) ; two or three points are generally attacked at once ; but up to this time the organ retains its normal shape and aspect : nothing out of the way can yet be felt by the hand, except the testis be well isolated from the scrotum, when thin, hard, and fibrous zones will be noticed to surround the body of the testis. Kernels of a greater or lesser consistence soon form, and from them proceed radiations exactly as the osseous radii are given off by an ossified point in the cranium. The whole body of the testis gets thus involved, and the tumour becomes homogeneous, hard, resisting, heavy, and pyri-

form. The epididymis, which at the outset was in a pretty normal state, and could readily be distinguished, is now flattened against the posterior part of the testicle, and it can no longer be felt. Notice that the reverse takes place in tubercular sarcocele, for in this affection the epididymis has a very thick and distinct outline. Whatever development the tumour may take, no other element of the testicle undergoes any morbid change, and the vas deferens as well as the prostate gland remain free from alteration. I need not say that these two organs are attacked very early in tubercular sarcocele; in the latter affection we likewise see the other parts entering in the formation of the cord suffer greatly, whereas nothing of the kind is seen in syphilitic orchitis. I must here state, that the pyriform shape, which has always been looked upon as a diagnostic sign of syphilitic sarcocele, is not always present; for instance, it does not appear when one or two points only of the body of the testis are engaged. Notice also, that in the syphilitic affection we have none of those inequalities which the fibrous nuclei produce in the tubercular sarcocele. I have seen patients with whom the nucleus was situated in the centre of the corpus testis, and surrounded by healthy textures, so that a certain degree of pressure was required to ascertain its presence. If there is a little effusion in the tunica vaginalis, it is of a passive character, and gives way gradually as the principal affection is receding. The progress of syphilitic orchitis is mostly slow, insidious, and ill-defined; so much so that patients, as before mentioned, perceive the lesion only after it has existed five or six months. It may last six or ten years, and I cannot tell at what period the disease, left to itself, would stop. Syphilitic sarcocele never brings on suppuration; whereas cancer, or the tubercular degeneration, are sure to produce it. Resolution is possible, and then the organ returns to its

normal state ; sometimes, however, there is a powerful resorption of the plastic matter after the testis has attained a certain volume, and atrophy is the ultimate result. I have known cases where the disease remained quite stationary when it had reached a certain point, and all the means in the world could not make it recede one inch. In such a case, the spermatic vessels are replaced by a nodulated tissue, which has entirely annihilated them. The fibroplastic degeneration may turn into cartilagification ; and I have seen cases where an osseous shell was formed around the organ. It is quite indispensable to be aware of all these different modifications, in order to be able to adopt a rational line of treatment, and not to attribute to the inefficacy of the remedies we employ that want of success which depends mainly on the peculiar kind of lesion which we have to treat. You will be pleased to observe, that in all those cases of degeneration, the spermatic secretion is less abundant, that the number of animalculæ diminishes as the lesion becomes more extensive, and that the fluid which is looked upon as semen is no more than prostatic mucus.

Differential diagnosis.—The affections which might be confounded with syphilitic sarcocele are tubercles, cancer, and some idiopathic diseases of the testicles. As for blennorrhagic epididymitis, I can hardly understand how it can have been mistaken. I will not say a word about hernia, varicocele, and simple hydrocele, for their characters are too opposed to the plastic sarcocele to allow of any error being committed. You will, perhaps, allow me quickly to run over the characters of epididymitis, without, however, comparing the same with those of sarcocele ; the mere enumeration of them will suffice for the diagnosis. The blennorrhagic testicle is always preceded by blennorrhagia, and has its seat in the epididymis ; as a general rule, we may say that the vas

deferens suffers likewise; the body of the testis is seldom attacked, and always subsequently to the affection of the epididymis; the progress of the disease is acute and well-defined; its duration is limited; and the simplest medication—viz., antiplogistics, emollient applications, and resolvents—make it disappear; it may affect both testicles, but rather successively than simultaneously. But if it is an easy matter to distinguish epididymitis from syphilitic sarcocele, it is rather more difficult to establish clear distinctions between the latter and tubercular or cancerous sarcocele; yet if you will take the trouble of grouping together the characters peculiar to the three affections which I have been at some pains to describe to you, you will, for the most part, be able to diagnose pretty accurately. As for heredity, it may exist in the precedents of each of the three diseases to which I am now alluding—viz., tubercle, cancer, and syphilis. Syphilitic sarcocele may come on very early in life, but I have never noticed it before puberty. Tubercular sarcocele is also a disease of youth; it mostly comes on towards twenty or twenty-five. Of course there is hardly any limit for the syphilitic affection of the testicle; it may attack patients of thirty or forty years of age and more. Cancer seldom appears in this region before thirty. Now, if we wish to inquire into the usual history of these three diseases, we shall find that the tubercular or cancerous testicle have constantly tangible precedents which can be laid hold of. It is true that accidental blows and repeated blennorrhagic attacks may provoke the development of tubercles in this organ, but these are mostly exciting causes, which attract the attention of patients to an affection which had long been latent with them. As for the syphilitic sarcocele, it is often easy, independently of heredity, to reascend by a chain of evidence to the primary accident, which has been the starting point of all the phenomena. Plas-

tic sarcocele occupies distinctly the body of the testicle, whilst the tubercular disease generally begins with the epididymis; the corpus testis is indeed sometimes involved in the latter affection, but the epididymis invariably suffers first, and, besides, an additional sign of the tubercular character is, that the vas deferens and the prostate gland always participate in the mischief; whereas the vas deferens is never affected in syphilitic sarcocele. Cancerous sarcocele generally begins by the body of the testis, and the cord may suffer also; it is not, however, the whole vas deferens which is attacked in this affection of the cord, but its vascular elements only—viz., lymphatics, veins, &c. The vas deferens never gets involved, except when the cancer is complicated by tubercles. Now let us glance at the progress of these three diseases. They all three begin in a very indolent manner. Two of them, the tubercular and the cancerous sarcocele, become painful as they proceed, whereas the syphilitic, which may have given a little pain at the beginning, becomes more and more indolent as it advances, and the affected testis even loses at last all sensibility. If we inquire about the diverse forms which these diseases will assume, we shall find that both the syphilitic and tubercular sarcocele may, at the outset, present similar inequalities, but cancer is regular and uniform at the very beginning. The syphilitic sarcocele, which might have been very nodulated at the outset, tends gradually, as it goes on, to uniformity of shape; it becomes, in fact, homogeneous, as the plastic effusion begins to surround the whole body of the testis; it then assumes the pyriform shape; and this symptom is so well known, that pathologists have given it as a pathognomonic sign of syphilitic sarcocele; the tubercular sarcocele becomes more nodulated as it grows, and the cancerous just the same. I am sorry to break off here, but I will conclude this interesting subject in my next lecture.

LECTURE XXV.

TREATMENT OF SYPHILITIC SARCOCELE; TERTIARY MUSCULAR AFFECTIONS; ELASTIC TUMOURS; LESIONS OF THE FIBROUS AND OSSEOUS TEXTURES.

HAVING settled the question of shape, as regards tubercular, cancerous, and syphilitic sarcocele, I will now proceed with noticing the amount of pain experienced in these affections. Syphilitic sarcocele is sometimes painful at the outset; the testis feels heavy and dragging, but is less annoying as the disease goes on; the tubercular sarcocele begins indolently, but becomes very painful when it gets soft; the cancerous causes lancinating pains, and gradually softens down. The tubercular affection will inevitably suppurate; the cancerous will ulcerate, then secrete pus, turn fungous, and invade the neighbouring parts. The syphilitic sarcocele never suppurates, and when it has lasted a certain time, its size diminishes; or the tumour may remain stationary, and undergo a fibrous, fibro-cartilaginous, or osseous transformation. You must here notice a very interesting difference between the tubercular and syphilitic sarcocele, with regard to their respective tendency to involve neighbouring parts. The morbid influence of tubercular sarcocele may run along the inguinal region, ascend through the vessels, and proceed in the direction of the vertebræ, from one lumbar lymphatic gland to another, whereas the syphilitic sarcocele never leaves the testicle. Further, as to contemporaneous affections in the viscera, I need hardly say that the tubercular sarcocele is likely to co-exist with tubercles in the lungs; that the cancerous is often perfectly independent of any carcinoma-

tous affection in other parts of the economy, and that the syphilitic will mostly be accompanied by sundry symptoms of a tertiary nature, which will be of great assistance for the diagnosis.

I would also direct your attention to the information we derive from the fact of both testicles being affected simultaneously, or one testis only being attacked. I think I can deduce from my experience, that tubercular sarcocele occupies almost constantly both organs; that the syphilitic sarcocele resembles the tubercular in this respect; but that I have always seen the cancerous confined to one testis only. The *duration* of tubercular and cancerous sarcocele is indefinite, but when the syphilitic has reached a certain period, it stops short, and then decreases, disappears altogether by absorption, or degenerates into ivory exostosis or eburnation.

Treatment.—Formerly very little trouble used to be taken as to the diagnosis of these various affections of the testes, and when a practitioner was puzzled about the nature of a tumour in the scrotum, the mercurial treatment was resorted to in order to ascertain whether it was of a syphilitic nature or not. But you are aware that it is rather dangerous to give attenuating medicines to patients who might be phthisical, and it is, besides, very likely that this mode of investigation has often proved a total failure. But in our times we have an excellent touchstone in the iodide of potassium, the effect of which upon tertiary symptoms is far more conclusive than the former modes of distinction. I must not omit to mention that there are cases of idiopathic orchitis which resemble syphilitic orchitis very much, both in shape and progress, but as there is no sort of inconvenience in giving the iodide of potassium, there can be no harm to resort to it in order to set the question at rest.

Prognosis of Plastic Sarcocele, and General Considerations on Elastic Syphilitic Tumours.—Plastic de-

generation of the testicle is not a very dangerous affection, in so far that it does not endanger the patient's life ; if we look upon it as producing certain peculiar and very disagreeable modifications of the organ, it becomes rather a serious matter ; but the prognosis will greatly vary according to the time when the treatment is begun. It may, in general, be said, that the more the plastic degeneration is recent and circumscribed (and thereby the more unlikely to become organised), the less serious it is. If, however, whilst the patient is being treated, and resolution is going on, the hard nuclei are noticed to retain their induration, the ultimate result should then be looked upon with distrust ; for in many of these cases there is a total annihilation of the substance of the testicle, and an actual atrophy has taken place. But if, on the contrary, the normal consistence and elasticity return in the same ratio as resolution is going on, the prognosis will be favourable. The surgeon should be fully aware, that when syphilitic sarcocele has reached a certain period, the plastic effusion may get organised and that therapeutical means have then no longer any power over it ; and it would, in such circumstances, be perfectly useless to persevere in the treatment for a long time. The rule laid down for the diseases of bone holds good in this stage of the testicular affection ; for you all know that no applications in the world could promote the resolution of an ivory exostosis. In the disease which occupies us, the organization of the effused lymph, the cartilagification, and the degeneration, correspond, in some manner, to the stages which, in the diseases of bone, lead to ivory exostosis. The plastic degeneration which we have studied in the testicle may take place in other organs and in other textures ; for instance, in the *muscles*, where I have had several times occasion to observe it. As soon as this syphilitic degeneration begins, the muscular tissue, which seems to undergo a sort of

coagulation, contracts; but this contraction is hardly noticeable as long as the muscle gets passively shorter. The phenomena which I have pointed out as marking this affection in the testicle reappear in such a case. There is first a simple plastic degeneration, which may, by proper treatment, entirely disappear, without any sort of deformity being left behind; but if the disease is allowed to reach the organised period, the result may be either a complete atrophy, through resorption, or a fibrous, fibro-cartilaginous, or osseous transformation. In the latter of these two cases there is shortening of the affected muscle. This degeneration generally invades the flexor muscles, as, for instance, the biceps, &c. We have now an example in the house, where this plastic alteration is situated in the anterior part of the leg, causing a flexion of the foot; I have also observed the same affection in the gastrocnemii. I remember a celebrated singer, who consulted me for such a syphilitic contraction of the biceps, which interfered with the proper action of the arms on the stage. He was put on the iodide of potassium and progressed very nicely, so much so that resolution gradually ensued; and whilst the public were applauding his splendid vocal feats, I used to join them enthusiastically, enraptured as I was with the vigorous action of the arms and the triumph of the iodide.

This complaint is not painful at all, and the patients become aware of it merely by the difficulty they experience in performing the different motions of the limbs. I have seen, in the course of my practice, cases of complete atrophy of the flexor muscles of both legs. Since I have called the attention of the profession to this pathological alteration, a work has been published by M. Bouisson, of Montpellier, upon these plastic degenerations of muscles, consequent upon tertiary syphilis, for which no small praise is due to him. I have even met with a case of plastic alteration of the fibres of the heart, which has been published in the

Clinique Iconographique. The patient had both tertiary tubercles upon him, and some of those which, as you may recollect, I called tubercles of transition; he was suddenly seized with general powerlessness and died almost instantly. The skin, after death, became quickly covered with large ecchymoses, as is the case with people who have died of suffocation. At the post-mortem, we found the fibres of the heart degenerated and shortened over a pretty large extent; the muscular tissue had partly disappeared, the lesion being in the second stage. Tertiary syphilis often produces another alteration, which bears to plastic degeneration the same relation as suppurative syphilitic eruptions bear to dry ones, I mean—namely, the elastic tumour, or the tubercle of the cellular tissue. These tumours may spring up wherever there is cellular tissue, be the latter sub-cutaneous or sub-mucous; and they have been found wherever areolar textures exist. They may develop around the cord, between the epididymis and the testicle; in short, within all the cellular elements of the liver, lungs, brain, testicle, &c.

Evolution and Progress.—The elastic tumour, yielding to the hand a sensation as if it were filled with gum, is an essentially tertiary accident; it never appears before the fifth month after the contagion, which is the primary cause of the tertiary affection; but it may also come on thirty or forty years afterwards. It mostly begins with a hard kernel, of a small size, situated in the deeper layers of the skin; it grows very slowly, so much so, that I am not quite sure of the size which it may reach; but this development takes place without any local or general reaction, and in the cases I have observed, the tumour seldom went beyond the size of a walnut, and mostly remained much below it. These tubercles or elastic tumours are not confluent, and this fact is sufficient to establish a distinction between them and molluscum, which, ge-

nerally, is remarkably confluent. When it settles on the testicle, it is mostly solitary, all the surrounding parts remaining perfectly sound. I have found such tumours in the brain, and M. Cullerier has reported a case where this organ was similarly affected. The disease, when situated in the lungs, has, perhaps, more tendency to the deposition of numerous tubercles of this kind. When an elastic tumour is left to itself, or treated by mercury, it will inevitably suppurate; and before the use of the iodide of potassium was introduced, it was looked upon as incurable. Thus M. Cullerier always advised the cauterization of such tumours, and I was in the habit of advocating their removal with the knife. As the syphilitic tubercle grows, it becomes rather painful; this is almost always owing to inflammatory action set up within it; before this complication occurs it lies quite free in the cellular tissue, and adheres to the skin only in one point; but when inflammation sets in it gets confounded with the surrounding tissues, its mobility is lost, the skin covering it becomes red, swells, softens, and ulcerates, on one or several spots, and a deep ulcer follows the plenteous discharge of purulent matter. The edges of the sore get undermined, and the neighbouring parts are involved in a destruction which varies according to the organs whereon the tumour has settled. It would be impossible for me to give you an account of all these lesions, as they affect every one of the viscera. I will just attempt a sketch of the state of the *larynx* when thus attacked. The first symptoms are, in such a case, a gradual difficulty of phonation, which may go so far as to produce a total extinction of voice; but when suppuration comes on we have all the inflammatory symptoms of chronic laryngitis, and even of phthisis laryngea—viz., purulent or muco-purulent expectoration, dysphonia, or total aphonia, the detachment and expectoration of the bones or cartilages of the *larynx*, and the occurrence of aerial

fistulæ. But those symptoms, which apparently are extremely serious at the very outset, are far less important than they become towards the last; for at the beginning the dysphonia and aphonia are merely symptoms of compression or obstruction; and since a judicious treatment can modify this state of things without any loss of substance taking place, the organ may regain its normal vigour. But when the disease has made further progress, the phenomena then perceptible are the result of the destruction of several parts of the larynx, the treatment then can promote the healing up of the ulcers, but cannot restore the parts of the organ which have been loosened and expectorated. I must not omit to point out that the heart also may, at the beginning, be affected with signs of compression or congestion; and it may happen that, these being neglected, suppuration of the organ ensue. And here I must solemnly warn you not to confound the suppuration of a few syphilitic tubercles in the lungs with phthisis. In the latter disease I need not tell you what fate awaits the unfortunate sufferers; whereas the cure in the syphilitic affection is extremely probable, and the prognosis is any thing but gloomy. You will be able to distinguish these affections by the history of the disease, the actual cutaneous manifestations, or even by the treatment. I have dwelt principally on the larynx, heart, and lungs, but all other organs may be affected in the same way.

Lesions of the Fibrous and Osseous system.—The first phenomena which raise a suspicion that such lesions have taken place, are the characteristic tertiary pains in the bones, which are widely different from the rheumatic pains of the second syphilitic period. These pains are very tardy, and generally have their seat on those points which are subsequently to become involved in organic lesions: they mostly occur on the following bones;—internal and anterior part of the tibia, cranium, clavicle, the ulna, almost through its

whole length, the lower part of the radius, either the superior or inferior part of the fibula, inferior maxilla, metacarpus and metatarsus, malar bones (rarely), vertebræ, nasal fossæ (often). The humerus, femur, and pelvis, are mostly exempted, but it is not rare to see the ribs affected. Although such osteocopes may be looked upon as constituting *per se* manifestations of tertiary syphilis, and their origin is sufficiently clear, still they are so intimately linked with other lesions, that the study of their ætiology in an especial manner will, I think, be useful. These symptoms were hardly described before the fifteenth century, either as denoting latent lesions, or as being of a syphilitic origin. This shows evidently that they passed unnoticed; but we may of course admit that they existed before the fifteenth century, and we can only account for their not being mentioned, by supposing that attention was not directed towards them. It has long been held that osseous pains were the effect of mercury; but to prove this assertion to be untrue, you need but recollect that they were described during the epidemic of the fifteenth century—a period when mercury was not used for diseases affecting the system at large. And to make this still more evident, it may be added, that at the time when mercury was laid aside for a milder treatment (which did not happen many years ago), I have watched patients through the whole series of secondary accidents, and seen them get at last affected with the tertiary osteocopes. Moreover, it is well known that in England, calomel is used as a purgative in ordinary cases, and it has been observed that those persons who make much use of this salt are never afflicted with osseous pains. Some people have also attributed the pains in the bones to mercury and syphilis combined; but here again we must notice that a well-regulated external application of mercury is very likely to prevent those pains altogether.

Peculiar characters.—The part affected neither

changes in size, nor colour, nor temperature. The pain arises without any exciting cause; it lies very deep, and is much excited and increased by pressure; whereas this same pressure has no effect on secondary rheumatic pains, except that it sometimes eases them. The tertiary osseous pains are fixed and circumscribed, whereas the rheumatoid are more diffused and metastatic; they have, however, this in common,—that they increase by the decubitus and by the heat of the bed; in fact, they are nocturnal; and I need not repeat how I understand this expression. If these osteocopes are allowed to proceed undisturbed, they will certainly end in an organic lesion of the part, whilst the secondary rheumatismal pains will, after a certain time, disappear, without leaving any trace whatever. The tertiary pains are incipiently intermittent and nocturnal, but they soon make their appearance during the day, at first but slightly, but they gradually torment the patient day and night, and produce other accidents. But I must stop here, and proceed with this subject at my next lecture.

LECTURE XXVI.

NODES; SYPHILITIC EXOSTOSIS, OSTEITIS, CARIES, AND NECROSIS.

I CONCLUDED, the last time we met, with the consideration of the principal characters of osteocopes; it will now be useful to inquire how long they may last without bringing on organic lesions. I can deduce from my experience and the practice of others, that these pains may extend over so much as two years without any lesion of the osseous textures; this, however, may be looked upon as the exception,

the rule is, that osteocopes which last, unchecked, for six months, are very near producing troublesome alterations in the osseous tissues. The lesion is first situated in the periosteum, and it may be said that periostosis is much more frequent than exostosis. This affection of the periosteum, which is called *nodes*, may be divided into three varieties: the elastic, the phlegmonous, and the plastic. The first of these presents a tumour with an immovable base; it is more or less circumscribed, of a circular shape, and the integuments, which easily glide over it, are not changed in colour or temperature. You, doubtless, remember that elastic tumours unconnected with bone adhere, on the contrary, to the inner surface of the skin, are very moveable, and may be easily isolated by making pressure behind them, in all of which particulars they differ from the first variety of nodes. The latter, moreover, are preceded by osteocopes, but there is no pain before the appearance of the cutaneous tumour; none, in fact, is experienced until suppuration comes on. These doughy or elastic nodes (they give the hand the sensation of confined gum) are the result of the effusion of a thickish fluid under the periosteum; they are generally painless, fluctuating, and tend to resolution; this variety is the most easy of cure, and the least painful. The phlegmonous nodes (second variety) are preceded by inflammatory action; they give exquisite pain, and mostly suppurate; the purulent matter accumulates between the bone and periosteum; both the premonitory pain, and that which follows the complete development of the affection, are extremely severe; the integuments turn red, become hot, and adherent; and an abscess speedily forms. The plastic nodes (third variety) begin like the doughy or elastic, but are a little more painful; the skin remains unaffected; the tumour is at first fluctuating, afterwards, however, it acquires a little consistence, gets gradually

hard, passes through the different stages of plastic sarcocele, and at last emerges into ossification and eburnation. This is a species of exostosis resembling an epiphysis, and this leads us naturally to the study of exostoses.

You are aware that in general pathology two kinds are admitted, one being an exostosis growing as a sort of epiphysis; the other, the parenchymatous exostosis. In the first kind, a plastic effusion occurs between the periosteum and the bone, or within the cells of the periosteum. The latter gets a little thickened, and shows a tendency to lose its connexion with the bone, by the infiltration of the lymph in its intimate texture. This effused matter becomes thick, undergoes a fibrous transformation, and turns into cartilage, which is the nidus wherein new bone is generated. It is within this cartilage that the calcareous matter which is to constitute the exostosis is deposited. The latter, thus adventitiously formed, may be generated within the substance of the periosteum, and be separated from the bone by a layer of the osseous investment just named; or else it may rest directly on the bone itself. The latter, if the disease be confined to the periosteum, may remain perfectly healthy, although covered by this new formation; but adhesions at length take place, and the bone gets involved in the morbid process. It is probable that in such a case, the parenchymatous exostosis—viz., that generated by the bone itself—combines with the exostosis which has been shown to grow in the manner of an epiphysis. The latter variety is generally circumscribed, symmetrical, rarely multiple, and the skin which covers it, as well as the bone below it, remains in a perfectly normal state. The surface is rarely uniform, mostly irregular, raised, knotty, and stalactiform. When these bony growths have once reached the state of eburnation, they give no more pain, and remain stationary. The paren-

chymatous exostosis (or second species) is much more rare than the periosteal variety; it is seated in the thickness of the bone, and is the result of regular osteitis. The inflammation is, however, circumscribed, and has no tendency to what is called hyperostosis, as is noticed in scrofula; it is, on the contrary, simple and well defined. The compact portion of the bone is affected in this kind of exostosis, whereas the spongy texture suffers in struma. The osteocopes are here extremely severe, because the inflammation occupies a very compact fibrous texture, which circumstance gives rise to a sort of strangulating sensation. Swelling of the bone occurs, and a plentiful deposition of calcareous matter takes place within the tumour. Scarpa used to explain the mechanism of exostosis in such cases, by supposing that there was softening of the bone, resorption of the calcareous portion already present, and a deposit of new earthy matter after the absorption of the original calcareous constituent. I must say that there are no facts which prove the accuracy of this theory. The most generally received opinion is, that a certain divarication takes place in the fibrous meshes of the part, that a plastic effusion occurs in the intervals of the fibres, and that a deposition of calcareous matter afterwards fills up these very intervals. This deposit of phosphate of lime becoming at length very large, and too bulky, gets finally atrophied, or else destroys the subjacent healthy structure, and remains stationary. This is the period of eburnation, or ivory exostosis.

Syphilis and Struma.—You will do well to notice that syphilis may be combined with scrofula, the latter being either congenital, or acquired in consequence of the syphilitic taint; it is clear that in such cases the manifestations will bear a double character, and it is of some importance to distinguish accurately the respective symptoms peculiar to each of these

affections. Now just notice that scrofulous disease of the bones is almost painless at the beginning; that unpleasant sensations come on but very gradually, and that it is only in the very latest periods that the pain becomes acute; whilst the very reverse happens with syphilitic osteitis, for at the closing period—namely, that of eburnation—the pain entirely disappears. Scrofula attacks very commonly the ends of bones, where the cancellated tissue is very abundant, whereas tertiary syphilis occupies the whole thickness of the compact texture. If the two diatheses are combined, the lesions do not affect the body of the long bones exclusively where there is much compact tissue, nor altogether the extremities or spongy texture of the same bones, but they are generally situated on intermediate points, which are then more or less near the middle or extremities of the bone, as syphilis or scrofula predominates. Thus may white swelling be of a syphilitic nature. Therefore you see that the form, seat, or intensity of the manifestations you have to treat are not sufficient to establish the diagnosis; the present state and the accurate history of the case must be taken into account.

Progress of Syphilitic Exostosis.—Chronicity is the rule here, and an acute stage the exception; nor does the disease pursue a regular and steady course; its onset is, on the contrary, marked by intermittence; so that the regularity of progress, which has been looked upon as a pathognomonic sign of the affection, cannot be depended on. This affection, if watched from the very beginning, will be perceived to have a constant tendency to ossification and eburnation; but this termination is not actually unavoidable; for resolution may occur either spontaneously, or by the assistance of art; and it is, in fact, not very difficult to bring it about, provided we be consulted early. Exostosis of a venereal nature may likewise terminate in suppuration, wheresoever its

seat may happen to be ; but this process occasions much less pain when the disease has attacked the cancellated structure of the bone, than when it affects the compact portion. In such cases there is complete destruction of the organic portion of the bone, and nothing but the calcareous constituents are left.

Caries and Necrosis.—Syphilitic osteitis sometimes ends in decided necrosis ; the disease then lasts until the sequestrum is thrown off. But you must here remark that certain portions of the osseous system are more predisposed than others to caries and necrosis of a syphilitic nature. First and foremost are all the bones of the face ; and among those of the head, it is the ethmoid which is the most frequently attacked. The vomer is the bone the most frequently necrosed in tertiary syphilis ; and this necrosis is brought about in two ways—first, by the destruction of the periosteum, caused by the presence of tertiary, sub-mucous tubercles ; secondly, by the direct affection of the bone. In both cases, however, a sequestrum is formed, which is not long in being eliminated. When the vomer is necrosed, the nose falls in, the nares are turned directly forwards, instead of looking downwards, and the tip of the nose mounts upwards. In secondary syphilis, a quite different part of the nose suffers—namely, the alæ, and they are frequently entirely destroyed after cicatrization ; the tip of the nose then turns downwards, and the organ becomes crooked. When the tertiary symptoms settle upon the vomer, the patient is seized with frequent nocturnal headaches and sharp pains at the root of the nose ; these pains are generally much increased by pressure, but when the mischief is going on far back within the nose, pressure has no effect. Patients are then troubled with coryza, which resists all ordinary means ; the secretion of the part becomes mucopurulent, and even altogether purulent. The pus is

thrown off from ulcerated surfaces, and often contains an osseous detritus ; it exhales a very shocking smell, owing to the peculiar nature of the ulcerations, and likewise because it often remains stagnant for a long time. When the two nasal bones get attacked, we perceive the skin covering them turning red, and the tumefaction which ensues causes an ugly deformation of the part, which latter is extremely painful and very sensitive to the touch. Notice that the pain may, as is the case in secondary symptoms, be sharpest at night. The inflamed points yield a false and crepitating fluctuation, which indicates the presence of air in the cellular tissue ; and this air may be looked upon as a sign of the perforation of the nasal bones. The frontal sinuses may be affected in the same manner, and occasion symptoms of a similar nature.

Palatine Osteitis.—This inflammation is very frequent, and passes through the same stages which I have just described with reference to the nasal bones ; it generally settles in the median line, and has its seat at the junction of the two halves of the palatine process of the superior maxilla. This medio-palatine osteitis, which is by no means rare, mostly terminates by suppuration ; the mucous membrane is raised by a collection of pus beneath it ; and the prominence, which is the result of the suppuration, has a fluctuating and crepitating feel ; and when perforation of those bones takes place, it mostly proceeds from the nose into the mouth. This syphilitic osteitis often attacks the incisive alveoli in subjects with whom no scrofulous complication exists ; these sockets swell, the gums get of a vivid red, and puffed up ; the two central incisors get loosened and longish ; all the four incisors are soon involved in the mischief ; and if no means be taken to stay the progress of the disease, the alveoli will lose their connexion with the rest of the bone ; they get as loose as the teeth them-

selves, and act at last as foreign bodies. The ordinary therapeutical means are powerless to arrest this destruction ; the best practice is, to remove the detached portion of bone, so as to prevent the irritation which its presence is causing.

Bones of the Cranium.—Although these bones are almost completely formed of compact tissue, they are by no means exempt from tertiary syphilis, and any part of them may suffer. These cranial affections have mostly been observed to end in caries and necrosis, and very rarely in eburnation. The symptoms are the same as those I have enumerated when describing the disease as affecting the nasal and palatal bones ; with this difference, however, that an organ of the most vital importance lies in the immediate vicinity of the cranial bones. Allow me now to give you a comparative table illustrating the differences existing between the syphilitic affections of the bones and the osseous lesions occurring in scrofula.

Syphilitic Affections of Bone.

Scrofulous Affections of Bone.

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| 1. Very rare with young people. | 1. Very frequent in youth. |
| 2. Syphilitic precedents. | 2. Scrofulous precedents. |
| 3. Compact texture of bones attacked. | 3. Spongy or cancellated texture of bones attacked. |
| 4. Superficial part of the bone. | 4. Deep parts of the bone. |
| 5. Little tendency to hyperostosis. | 5. Much tendency to hyperostosis. |
| 6. The pains which precede the development of the affection increase and become very intense, until they decrease again, and entirely disappear in the later periods of the disease. | 6. The tumefaction precedes the pain, but the latter soon increases and becomes more and more intense as the disease advances. |
| 7. A tendency to circumscription. | 7. A tendency to diffusion. |
| 8. Exostosis. | 8. Hyperostosis. |

- | | |
|--|--|
| <p>9. Tendency to ossification and eburnation, but very little to suppuration.</p> <p>10. A chain of syphilitic symptoms, either concomitant or antecedent.</p> <p>11. Rapid cure under appropriate treatment.</p> | <p>9. Tendency to softening, to suppuration, caries, and necrosis, and not to ossification.</p> <p>10. A chain of scrofulous symptoms widely differing from those of syphilis, either concomitant or antecedent.</p> <p>11. Very difficult cure, often incomplete, and sometimes impossible.</p> |
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Syphilis may, however, be superadded to scrofula; we must then, in combating any lesion, endeavour to find out to which of the two diatheses it is mostly owing, and select our therapeutic means accordingly.

Action of the Osseous affection on the neighbouring parts.—Osteitis, and the subsequent exostosis, may, by their development, act upon parts, and organs in their immediate vicinity, and thereby occasion symptoms of a very serious nature. I have mentioned already how the elastic tumours can act on the nervous centres, and I must here add, that the affections of the bones act much more mischievously upon the same nervous centres than the tumours do. The pressure or irritation may be situated either on the origin of the nerves, or on some point of the cerebro-spinal system. The symptoms are of course extremely various. I have pretty frequently met with cases of syphilitic disease of the bones, composing the orbit, and mydriasis or dilatation of the pupil was generally the consequence of the same. When the disease is situated at the base of the cranium, there is paralysis of the fifth pair: but the motor oculi may also experience compression; and when this happens, all the recti muscles, except the external, are paralyzed. The patients see very well when their eyes are directed straightforward; but when they attempt to give a lateral glance, one of the eyes

remains unmoved, whilst the other obeys the will; the parallelism of the eyeballs is lost, and diplopia is the result. If the patients attempt to look upwards, the inferior oblique muscle on each side fails to act, and there is again a want of parallelism, and consequent diplopia; but the latter is then of a superposed nature. I even recollect having seen cases of polyopia resulting from tertiary lesions. The facial nerve is sometimes paralyzed in a similar manner under the influence of tertiary symptoms; but this paralysis is always accompanied by deafness, whilst the affection of the same nerve, resulting from *secondary* symptoms, has (as you probably recollect) no such complication. With secondary symptoms, the lesion of the facial nerve produces only a ringing in the ears, which depends either on inflammation of the mucous membrane lining the Eustachian tube, or on slight congestion, or on extensive irritation in the throat. The eighth pair may likewise suffer compression from the same causes; obstinate vomiting then sets in, and is controlled with much difficulty. Another consequence of this species of compression is epilepsy; but this otherwise formidable disease is, in such cases, easily got rid of. The fits commonly seize the patient when the osseous growth producing the compression gets more considerable and irritating. I must not omit to mention paraplegia as a casual effect of tertiary syphilis in the bones; the nervous disturbance is then the result of an osseous lesion, which latter begins by circumscribed nocturnal pains, and develops very slowly. Paraplegia may also be produced by a cutaneous elastic tumour; but I need hardly say that the latter is never preceded by the gnawing pains which generally usher in osteitis. It is very important to establish a correct differential diagnosis between these osseous lesions and the results of an elastic tumour of the skin, for suppuration and the train of symptoms following compression are

almost inevitable in the latter case, whilst in osteitis these results may be avoided.

I must break off here for this day. When we meet again I will go on with the treatment of tertiary syphilis.

LECTURE XXVII.

TERTIARY AFFECTIONS OF THE LACHRYMAL APPARATUS ; TREATMENT OF TERTIARY SYMPTOMS.

BEFORE I enter upon the treatment of tertiary symptoms, I will say a few words on the affections of the lachrymal apparatus, and syphilitic cachexia.

Tertiary Affections of the Lachrymal Apparatus.—When the lachrymal apparatus becomes affected in consequence of facial osteitis, the existence of which is concomitant with other tertiary accidents, there can be no doubt about the nature of the affection ; but it sometimes happens that the osteitis occupies only that portion of the superior maxilla which gives support to the nasal duct, and then the pain may be very slight, and pass entirely unnoticed. The first symptom which attracts attention is an obstruction of the lachrymal sac, and a tumour about the inner canthus of the eye ; and if the disease be not promptly arrested, it may end in caries of the bones. It is of vital importance accurately to ascertain the nature of the disease, for in tertiary syphilitic affections of the sac there is no need of operation, and setons or canulas would increase the mischief, and hasten caries and necrosis. Intra-orbital exostosis, or more frequently periostosis, is also pretty often met with. The development of this affection is marked at the outset by symptoms which are more or less apparent, and they mostly

end in exophthalmia. Some patients suffer from ampliopia, partial amaurosis, or complete blindness, before the eye protrudes. The periostosis is commonly situated on the roof of the orbit, projects from under the orbital arch, and has a tendency to depress the eye ; if suppuration takes place, the destruction of the greater part of the upper lid is sure to follow, and the cicatrix which is left is sunk and sometimes very deep. Now, it may fairly be asked, as we have pretty well exhausted the list of tertiary affections, whether there is such a thing as a fourth degree in the succession of syphilitic sequelæ. To this I am bound to answer in the affirmative. That quaternary state may be called syphilitic cachexia ; but this period does not present very distinct characters ; it is, in fact, tertiary syphilis having reached a very high degree of intensity. It is, however, a very mistaken notion to imagine that this state is the result of several syphilitic affections ; one is quite sufficient ; and, as I have often before stated, the real infection of the system DOES NOT HAPPEN TWICE. But I am glad to say that in our times this melancholy syphilitic cachexia is very rare. That wretched state may result—

1st. From an originally bad or weak constitution.

2d. From complications and morbid tendencies independent of syphilis, as scrofula, scurvy, the herpetic diathesis.

3d. From an ill-timed and badly managed treatment.

4th. From the persistence of certain syphilitic accidents.

5th. From any cause which tends to weaken the constitution.

6th, and lastly. From a peculiar temperament, which renders the patient quite refractory to treatment.

If I were to attempt a description of syphilitic ca-

chexia, I should fail to convey to you a clear notion of it, because its characters are not sufficiently well defined; it might indeed be called an exaggeration and an accumulation of all the forms which we have hitherto studied, combined with loss of flesh, paleness, flabbiness of all textures, sallow hue of the skin, weakness of the intellectual faculties, scorbutic manifestations, and, finally, hectic or continued fever, with exacerbations towards the evening. This fever very often persists when the external cachectic symptoms have entirely disappeared; and it is useful to know that it is sometimes symptomatic of an internal suppuration which escapes our notice. To all these symptoms aphonia is soon added; diarrhœa, profuse sweats, and defective nutrition come on, and death at last releases the wretched being from his sufferings. But, I repeat it, this species of cachexia is now very rare, and, I may add, that it will become still more so, thanks to the progress made in the therapeutics of venereal diseases.

Treatment of Tertiary symptoms; Prophylaxis.—Let it, in the first place, not be believed, that an individual who is placed under the influence of the syphilitic diathesis will inevitably be attacked by tertiary symptoms. Should, however, the disease be abandoned to itself, there is much likelihood that he will not escape them. In order to ward off these tertiary symptoms, you should see that the treatment of primary and secondary accidents be conducted with the greatest care, and in accordance with a well-devised method. Those practitioners who have laid all the blame of tertiary symptoms on mercury were greatly mistaken; but still, as soon as the tertiary period has evidently set in, mercury should be left off, and recourse be had to iodide of potassium. We know that mercury, taken in time, may prevent or retard secondary manifestations: thus it may be looked upon as a sort of prophylactic as regards

them ; so may likewise iodide of potassium be looked upon as a prophylactic as regards tertiary symptoms ; but mind that you expect no more from the iodide than you do from mercury—namely, the modification and mitigation of the symptoms, *without complete eradication of the diathesis*.

Now-a-days, to render the treatment of secondary syphilis complete and rational, it should always be followed by the exhibition of iodide of potassium. This substance is, however, not only useless, when employed against secondary symptoms and those of transition, but very often hurtful ; yet, when secondaries have been of long standing, it may produce beneficial effects ; it is also useful, as an adjuvant of mercury, in those affections which in some degree lie between the secondary and strictly tertiary manifestations ; and finally, it is indispensable for combating the symptoms of a decided tertiary nature. Walsh was the first practitioner who used iodide of potassium as an anti-syphilitic agent ; before him, this peculiar power was perfectly unknown. But his experiments were more perfectly calculated to cause the entire rejection of the remedy, than to favour its general adoption, for he gave it for all affections which were then looked upon as syphilitic—blennorrhagia, epididymitis, chancres, &c. I have been at much pains to ascertain its action, and after many trials, I have arrived at the conviction, that its effects are limited to accidents of transition between the secondary and tertiary periods, and to the tertiary symptoms themselves. It is likewise a mistake to suppose that the iodide of potassium cannot act unless the patient have previously been subjected to a mercurial course. Any syphilitic accidents should be treated according to the medication essentially fit for them, without paying much regard to the means used anteriorly. In order to become well acquainted with the proper manner of administering the iodide of potas-

sium, we should take the trouble of studying its effects independently of its curative action. First let us see how it acts on the skin. It may produce on the cutaneous surface divers psudracious and acnoid eruptions. The pustules are generally surrounded by a vividly red areola, and the usual seat of these eruptions is *below* the umbilical region, as the nates, thighs, &c., whereas the common acne (not to mention its other characters) is mostly situated in the upper half of the body. To these peculiarities it may be added, that the pustules will fall in immediately the administration of the iodide is interrupted. Exanthemata, impetigo, and lichen, are very apt to be produced by the use of this salt; and what you ought to keep especially in mind is, that ecchymosis, and purpura in the inferior extremities, are sometimes caused by the action of the iodide of potassium. The effects of the latter on mucous membranes should also be carefully observed. It may cause inflammation of the conjunctiva, the sub-mucous cellular tissue lying under which gets then infiltrated and puffed up; the eyelids turn red and œdematous, and when the inflammation and effusion are not arrested, the internal parts of the eye become involved in the affection, and photophobia is the result of this state of things. The normal mucous secretion is always a little increased, but it does not take the muco-purulent character, as is the case in catarrhal ophthalmia. Coryza of a more or less severe nature often exists at the same time: it is preceded and accompanied by headache, and a pretty abundant mucous secretion; but this coryza never reaches the suppurative state; it never produces more than a catarrho-serous flux. These affections never give rise to any fever, and they disappear as soon as the iodide is given up. This coryza is an accident which we should not overlook, for it is of importance to avoid it when we have to treat a tertiary affection of the nasal fossæ. As for the effect

of the iodide on the intestinal canal, I have to state that persons enjoying good health can bear very large doses of it; I have given as much as fifteen drachms a-day. M. Puche has often given ten drachms per diem, after commencing with six; and it has been noticed that it improves the appetite of the persons who use it. With some patients a certain pleurodynic sensation, corresponding to the cardiac extremity of the stomach, is felt after its ingestion, but it never causes vomiting. The sub-mucous cellular tissue of the stomach may, by the use of this iodide, undergo the same modifications which we have noticed the conjunctiva to be subject to—a sort of hyper-secretion and intestinal ptyalism takes place, and much of the fluid which ought to have been secreted by the skin is rejected by the mouth. This liquid has a slight taste of iodine; it is not fetid in the least; the gums are not swollen, and there is no fœtor in the breath, as happens in mercurial ptyalism. The same effect may be produced on the other portions of the intestinal canal; the patients are then seized with abundant serous diarrhœa. The iodine is eliminated from the system by the kidneys; half an hour after the ingestion of it, its presence may be ascertained in the urine, and it should be remembered, that the presence of iodine in the blood increases the renal secretion. I have even observed a case of polydipsia which went on as long as the iodide was used, but disappeared when the latter was discontinued, and gradually sprang up again as the use of the salt was resumed.

The effects of the iodide of potassium on the circulation are of a sedative kind; it diminishes the number of arterial pulsations and lowers their force, but they may regain their normal standard if the remedy act beneficially on the system: the same arterial energy may also reappear when the iodide causes a slight phlegmasia. This salt is somewhat antiplastic,

for it has rather a tendency to liquefy the blood, and may even produce the peculiar hemorrhages of purpura. When the effect of the iodide on the nervous system is carefully watched, it is found to cause a certain excitement of the nervous centres, followed by a little uncertainty in the movements and in the intelligence.

Doses and Forms.—If the efficacy of the iodide of potassium has ever been doubted, it is because no one would venture to give it in doses sufficiently large to test it fairly. Most practitioners confined themselves to three or four grains a-day—no wonder that no effects were produced. The daily dose ought to be fifteen grains to begin with ; two or three days afterwards, forty-five grains may be given every day in three distinct doses. If the remedy has no pathogenic effect we must be guided by the therapeutic action, so that if the curative effect be not apparent at all in three or four days, the dose should be augmented. The influence produced on the osteocopes may very well serve as a criterion of the action of the remedy, provided these osseous pains do not arise from suppuration, and they be strictly a result of the diathesis. I have had patients in whom the removal of these pains required as much as one drachm and a half, two drachms, and even three drachms per diem. When a certain dose has once been fixed upon, it ought to be persevered in as long as the therapeutic effect is evident, and so long as the pathogenic action is not alarming. But the medical attendant must in this matter, as in many others, use his judgment, and regulate the modifications which the treatment is to undergo, according to the peculiar circumstances of the case.

Forms.—The iodide of potassium has been given in capsules, in solution, in syrup, &c. ; rarely in the form of pill, for this salt is very deliquescent ; I generally give it in syrup, and I have found bitters

to be the best adjuvants—viz., syrup of gentian, of saponaria, of quassia, *de cuisinier*, of sarsaparilla, &c. One pint of syrup is to be used for one ounce of the iodide, which will give about twelve grains to the spoonful; the same quantity may also be given in the sweetened *mistura acaciæ*, or in the syrup of poppies, or of *lactucarium*. As to the diet, it ought to be of a tonic and regenerating nature—chops, steaks, wine, porter, &c. You see, therefore, that we know pretty well which ought to be the daily dose of the iodide, but we are not so well informed as regards the absolute quantity which can be given with safety; it is impossible to fix this beforehand. Neither do we know exactly how much time this medication may be continued in order to free patients from the possibility of a relapse. I will merely repeat here what I said about the mercurial medication—namely, that the iodide must be kept on for as long a time as will fairly warrant us in supposing that it has done its duty; but you must recollect that neither this salt nor mercury is a certain and unfailing protection against relapses. Yet I must say that patients who have persevered with the iodide for three or six months have remained a long time without fresh attacks, and they will perhaps never experience any.

There is no occasion for fearing (as some practitioners do) that glandular organs will be in danger of undergoing the process of absorption by the use of iodide of potassium. This apprehension is quite unfounded. If these organs are not diseased, they will not diminish under the use of the iodide, as this substance exercises its activity only upon tissues attacked with tertiary affections. You must be careful to modify the treatment just described according to certain peculiar manifestations. For instance, when you have to contend against syphilitic sarcocele, and the same is exempt from complications, it will be sufficient to use the general treatment. But

when there is much inflammation, you must have recourse to antiphlogistics and emollient applications; and if it were noticed that the testicle is suffering both from syphilis and struma, anti-scrofulous remedies should be added to the usual treatment of such cases. The plastic effusion will be efficiently controlled by rubbing the part with the mercurial ointment, and covering the whole with a soothing cataplasm; and much benefit will likewise be derived in these cases by the methodical compression with strips of plaster, which was spoken of when I considered epididymitis. If you have elastic tumours of the testis to treat, the best practice is to open them as soon as fluctuation is detected, and you should have recourse to sedative applications when you perceive that they are surrounded by an inflammatory areola. But when the ulceration presents no redness, nor any symptoms of irritation, a very good wash may be made with a solution of iodine, in the proportion of one-half or a whole drachm to twelve ounces of distilled water; and when this solution is being prepared, a certain quantity of iodide of potassium should be added, to prevent the precipitation of the iodine. If the granulations of the tertiary ulcerations are too prominent, they should be destroyed with the *pâte de Vienne*, or any other caustic. When elastic tumours are not situated in the scrotum or testicle, they may be attacked by very energetic means—viz., mercurial frictions, *Vigo's* plaster, blisters followed by irritative dressings, as advised by Malapert, &c.; and where suppuration has occurred, the matter should be freed without delay. As for the elastic tumours situated on the mucous membrane of the nasal fossæ or mouth, they may be very beneficially acted upon by lotions containing a solution of iodine, in the proportion of from two to six parts of this substance to one hundred of distilled water; in fact, the

proportion of the iodine may be increased as long as no pain is produced by the application.

The muscular retraction, or plastic degeneration of the muscles, requires local applications besides the internal remedies. Topically, I use circular compression, carefully applied with strips of Vigo's plaster.

Next time we meet I shall take up the treatment of Nodes, and conclude the course with a short recapitulation.

LECTURE XXVIII.

TREATMENT OF NODES.—GENERAL RECAPITULATION.

You probably remember that I divided nodes into three kinds—first, the acute or elastic; secondly, the fluctuating; and thirdly, the plastic. The first requires antiphlogistics and soothing applications; but if, in spite of these, suppuration comes on, exit should be given to the matter, in order to prevent the mischievous effects of its remaining in contact with the bone. But this evacuation should, as much as possible, be practised by sub-cutaneous incisions, so as not to bring the surface of the bone in contact with the external air. Exostosis will require the internal treatment chiefly, though there is no doubt that repeated blisters hasten resorption considerably. But if the periostosis has already arrived at the plastic state, the treatment must be of a very energetic nature; for when ossification and eburnation have taken place, our art is powerless. To combat these exostoses effectually in their early stage, we should have recourse to mercurial ointment, to deobstruants, to compression, &c. When the tertiary symptoms consist only

in osteocopes, they will generally give way in about a week's time, where adequate means be used ; if it happen otherwise, you may suspect some local inflammation to be going on. If the patient, affected with osteocopes, is in a state which counter-indicates the general treatment,—if he be labouring under an attack of blennorrhagia,—it will be advisable to use merely topical applications for a little while, and among these you will find blisters very well calculated to remove pain ; they should therefore be continued until you are able to have recourse to the internal medication. In this respect exostosis may be classed with periostosis. But when exostosis has reached the stage of eburnation, it is impossible to effect its resorption, and no reliance must be placed on the iodide of potassium. The surgeon's knife is then the only resource ; the exuberant portion of the bone must be removed, if it prove at all inconvenient ; and this operation will in general have to be performed on the tibia, forearm, clavicles, or sternum. If excision is resorted to, it should not be delayed, and be done before the exostosis, if it is of the nature of an epiphysis, be adherent to the bone ; there is no difficulty whatever in the removal. If the osteitis has suppurated, the matter should not be allowed to stagnate, but be removed by repeated dressings ; any detritus which could irritate the soft parts, by acting as a foreign body, should be carefully taken away ; in fact, the usual rules of sound surgical practice, unconnected with syphilis, should be strictly adhered to. Allow me now, gentlemen, before finally closing this course of lectures, to recapitulate, in a few words, the precepts which I have endeavoured to inculcate into your minds.

The great class of venereal diseases comprises two very distinct orders—first, the non-virulent diseases, the type of which is blennorrhagia ; the second, the virulent diseases, the type of which is chancre.

First order.—The blennorrhagic affections do not

taint the constitution, are not transmissible by heredity, and never yield any positive results by inoculation either on the skin or mucous membranes; they are contagious in the manner of irritants, the simple catarrho-phlegmonous discharge being the most common form.

Second order.—The *virulent* affections owe their origin to a peculiar principle, to an ulceration which can be reproduced at will, and inoculable within a certain period. The ulceration always springs up at the very spot where the virulent matter has been implanted, and its evolution takes place in a variable space of time. The virulent effect may remain strictly local, and merely give rise to consecutive phenomena, of which the most common is the suppuration of the inguinal glands; but it may penetrate into the economy, and determine in the same a set of characteristic symptoms. The general infection of the system is the result of an idiosyncrasy which does not invariably exist in every individual. The most tangible phenomenon of this infection is the specific induration of the chancre. There is no such thing as a specifically indurated chancre, without subsequent symptoms of constitutional syphilis. Once or twice in a hundred cases the induration may be ill-defined and pass unnoticed; but if the attention be directed to the inguinal glands (which inevitably suffer by the infection), the existence of an indurated chancre may, by their state, be inferred; for a bubo, consecutive to such a chancre, *never* suppurates specifically. There is no constitutional syphilis without a primary local accident. When the infection has taken place, we may look for the secondary manifestations within a twelvemonth. But if a mercurial treatment be used, these manifestations may be prevented or retarded for more or less time, or perhaps for ever. When no treatment, however, has intervened, there is an admirable order in the succession of the manifestations,

which is denied only by those people who will not be convinced. Primary, consecutive, secondary, transitory, and tertiary accidents follow each other with the most perfect regularity. But I repeat it,—a treatment breaks up the order altogether. If a mercurial course has been gone through, the secondary manifestations may, under its influence, be retarded for a variable time ; but it does not destroy the diathesis, and merely postpones the secondary symptoms. On the other hand, you will remember that the mercurial treatment does not prevent tertiary accidents, and these may even appear whilst the secondary symptoms are being kept off by mercury ; the latter may then make their appearance *after* the tertiary accidents have disappeared, and thus the order of the manifestations may be totally inverted. Constitutional syphilis can be contracted but *once*,—the diathesis can never be doubled. The diathesis persists, but the manifestations are not certain or inevitable. This diathesis is not incompatible with health. Syphilitic cachexia is very rare. The non-virulent affections require no specific medication, neither do the virulent primary accidents ; mercury is used for the latter only in exceptional cases—namely, where the chancre is indurated. Constitutional syphilis demands a mercurial treatment ; but when the later secondary symptoms and the tertiary have come on, mercury should be abandoned, and iodide of potassium be taken up. The latter is then the medication *par excellence*. Whenever we have to treat any peculiar disorder or affection of the viscera, along with syphilis, we should never lose sight of the indications which belong to that intercurrent disease, and should even delay the specific medication, if found necessary.

It is now my pleasing duty to thank you for your kind attention. I am proud of having seen you here in such numbers, when the country offered so many attractions, and the toils of the winter were calling

for relaxation. I hope that the practical results of these lectures will be the alleviation of human suffering wheresoever you are scattered. With my best wishes I bid you farewell.

APPENDIX.

THE reporter of these lectures made a collection of the Formulæ which he saw in use at the Hôpital du Midi, while attending the wards in the summer of 1847. A great many of them are interspersed in the Lectures; he thinks, however, that presenting them in a synoptical form will promote convenience.

NON-VIRULENT DISEASES.

1. *Injection for Balano-posthitis.*—Make three injections a-day between the glans and prepuce with the following fluid:—Distilled water, three ounces; nitrate of silver, two scruples.

2. *Abortive Treatment of Blennorrhagia.*—Make one injection only with the following liquid:—Distilled water, one ounce; nitrate of silver, fifteen grains. And take every day, in three doses, the following powder: Cubebs, one ounce; alum, thirty grains.

3. *Injection for Blennorrhagia when the period for the Abortive Treatment is passed.*—Make three injections daily with the following liquid:—Rose water, six ounces and a half; sulphate of zinc, and acetate of lead, of each, fifteen grains.

4. *Internal Treatment of Blennorrhagia.*—Take one tablespoonful of the following emulsion three times a-day:—Copaiba, syrup of tolu, and syrup of poppies, of each, one ounce; peppermint water, two ounces; gum arabic, a sufficient quantity; orange-flower water, two drachms.

5. *Acute stage of Blennorrhagia*.—Twenty leeches to the perinæum; bath after the leeches; refreshing drinks; rest in bed; low diet; suspensory bandage. Take one of the following pills four times a-day:—Expressed and inspissated juice of lettuce (*lactuca sativa*), and camphor, of each, forty-five grains; make twenty pills.

6. *Gleet*.—Make every day three injections with the following liquid:—Rose water, and Roussillon wine, of each, six ounces; alum and tannin, of each, ten grains.

7. *Subacute Epididymitis*.—Rub the testis twice a day with the following ointment:—Stronger mercurial ointment, and extract of belladonna, equal parts of each: a poultice to the part after the ointment, and rest.

8. *Acute Epididymitis*.—Fifteen leeches to the perinæum, and the same number in the groin corresponding to the affected epididymis; bath after the leeches; barley-water for common drink; low diet, rest, and poultice.

9. *Chronic Epididymitis*.—Apply Vigo's plaster to the testes; and wear a suspensory bandage.—(Simple plaster, yellow wax, pitch, ammoniacum, bdellium, olibanum, mercury, turpentine, liquid styrax, and volatile oil of lavender, are the component parts of Vigo's plaster.—*Reporter of Lectures*.)

VIRULENT DISEASES.

PRIMARY SYMPTOMS.

CHANCRES.

10. *Abortive Treatment of Chancre*.—Within the first five days of the contagion, destroy the chancre with potassa fusa cum calce (*pâte de Vienne*).

11. *Regular non-indurated Chancre*.—Frequent dressing with the aromatic wine,* extreme cleanliness, occasional light cauterization with the nitrate of silver. Rest, demulcent drinks; when there is inflammation, antiphlogistics, purgatives, and emollient applications. (N.B. No mercury.)

12. *Phagedænic Chancre*.—Complete cauterization with the nitrate of silver, the liquid nitrate of mercury, the potassa cum calce, or the hot iron, according to circumstances. Afterwards lotions with aromatic wine, three ounces; extract of opium, three grains; or, aromatic wine, eight ounces; tannin, thirty grains; or distilled water, three ounces; tartrate of iron and potash, four drachms; or, in the scrofulous diathesis, distilled water, three ounces; tincture of iodine, one drachm; or, sulphur ointments, and sulphureous baths. Internally: tartrate of iron and potash, one ounce; distilled water, eight ounces. One ounce three times a-day.

13. *Indurated Chancre*.—Three dressings a-day with the following ointment:—Calomel, one drachm; æxunge, one ounce. (N.B. Mercury is used internally for the *indurated* chancre: as to the mode of administration, see secondary syphilis, No. 21, as the metal is given in the same manner in both cases.)

BUBOES.

14. *Acute non-Specific Adenitis, vel Inflamed Bubo*.—Twenty leeches on the tumour, emollient cataplasms, barley-water as ordinary drink, rest, broths.

* Aromatic wine (Parisian codex). Aromatic species (viz. the dried tops of the sage, balm, thyme, wild thyme, marjoram, hyssop, peppermint, wormwood), two parts: vulnerary spirit (viz., alcoholic distillation of anthyllis vulneraria, origanum, gnaphalium dioicum, arbutus uva ursi, and several others, known under the name of vulnerary flowers, and largely exported through Europe by the Swiss for popular purposes), one part; red wine, sixteen parts. Macerate for a few days, then filter.

If fluctuation be detected, let out the purulent matter by a free incision.

15. *Abortive Treatment of the Bubo Consecutive, by absorption of the Virus, to the non-indurated Chancre.*—Deep cauterization of ten minutes' duration, with the potassa fusa cum calce, and await the fall of the eschar. (N.B. Analogous to the early destruction of chancre.)

16. *Bubo Consecutive to the non-Indurated Chancre, which inevitably Suppurates.*—Use antiphlogistics according to circumstances, and then free the purulent matter by cauterization with potassa fusa; gradually destroy afterwards, by the use of caustics, the glandular mass which lies at the bottom of the open bubo. To the poultices used after cauterization may be added an ointment, of equal parts of extract of belladonna and mercurial ointment.

17. *Horse-shoe Bubo and Gangrene.*—Horse-shoe and phagedænic ulcers in the groin, resulting from a suppurating bubo, require the dressings mentioned in No. 12. Gangrene: Chloride of lime, one ounce; distilled water, three ounces. This lotion is to be used several times a-day. Or, powdered charcoal, powdered Peruvian bark, equal parts of each, to be thickly applied to the sore.

PREPUTIAL COMPLICATIONS.

18. *Phimosis.*—Inject between the glans and prepuce the aromatic wine with opium, as mentioned in No. 12, and use emollient and sedative applications; if gangrene be imminent, operate.

19. *Paraphimosis.*—Keep the organ raised, and surround it with cold compresses. Bland diet, refreshing drinks; endeavour to reduce or free the constriction by an incision, according to circumstances. After the strangulation is relieved, use emollient and antiseptic applications combined with opium.

SCROFULOUS COMPLICATIONS.

20. Order every day the following emulsion in three equal doses;—Iodine, three grains; oil of sweet almonds, one ounce; gum arabic, a sufficiency; almond emulsion, three ounces.

SECONDARY SYPHILIS.

21. Order every day three tumblers of decoction of saponaria leaves, and put into each tumbler one tablespoonful of sirop de cuisinier (N.B. Sirop de cuisinier: sarsaparilla, borage and white rose leaves, senna, aniseed, honey, and sugar); and take every day one of the following pills:—Proto-iodide of mercury, inspissated juice of lactuca sativa, of each forty-five grains; extract of opium, fifteen grains; extract of hemlock, one drachm and a half. Mix, and make sixty pills.

22. *Slight Stomatitis*.—To gargle three times a-day with the following liquid;—Decoction of lactuca sativa, five ounces; honey, one ounce and a half; alum, one drachm and a half.

23. *Mercurial Stomatitis*.—To gargle three times a-day with the following liquid:—Decoction of lactuca sativa, five ounces; honey, four drachms; hydrochloric acid, fifteen drops.

24. *Salivation*.—Order every day one drachm of flowers of sulphur, incorporated with honey. As a common beverage, the nitric acid lemonade. Gargle three times a-day with decoction of lactuca sativa, five ounces; honey, four drachms; hydrochloric acid, fifteen drops.

25. *Mucous Patches in the Mouth*.—Gargle three times a-day with decoction of hemlock, six ounces and a half; bichloride of mercury, three grains.

26. *Mucous Tubercles around the Anus (Condylomata)*.—Put twenty leeches to the perinæum. Take every evening a small enema of a decoction of poppy-

heads, cold, and mixed with twenty drops of laudanum. As an habitual beverage, take linseed tea, sweetened with sugar and almond emulsion.

27. *Vegetations*.—Put twice a-day on the vegetations the following powder:—Powdered savine, oxide of iron, calcined alum, of each one drachm.

TERTIARY SYPHILIS.

28. Order one tumbler of decoction of saponaria three times a-day. In each tumblerful put a table-spoonful of the following syrup:—Syrup of sarsaparilla, one pint; iodide of potassium, one ounce.

I N D E X.

- Abscess, urethral, 61, 99
 of the urethra, 99
- Adenitis, or inflammation of the lymphatic vessels and glands,
 187
- Anal blennorrhagia, 126
- Anti-blennorrhagic action, 70
- APPENDIX, 287
- Arthritis, blennorrhagic, 140-145
 seat of the rheumatism in, 142
 treatment of, 144
- Blennorrhagia, 18-145
 absolute diagnosis of, 41
 accidents which may complicate, 39
 cause of rheumatic arthritis in, 141
 chronic stage in, 101
 defence of the new doctrine in, 74-91
 differential diagnosis of, 40
 duration of, 37
 elements of the rational diagnosis in, 41
 - false, 46
 general action on the system in, 70
 history and nomenclature of, 24
 hygiene preventives in, 42-43
 in the female, 114-126
 localities of, 27
 not produced by incubation, 35
 of the vulva, 114
 ordinary mode of transmission of, 34
 paraphimosis in, 51
 phimosis in, 16, 50

- Blennorrhagia, predisposing causes of, 29
 prognosis in, considered generally, 42
 progress of, 37
 special causes of, inquiry into, 30
 structural alterations in, 38
 treatment of, considered generally, 42, 92-103
 abortive, 43, 95
 therapeutic means in, 44
 when fairly developed, 66-74, 92-103
 when the disease is on the decline,
 100-103
 urethral description of, 55
 uterine, 122
 vaginal, 119
- Blennorrhagic affection of the testis, 104-114
 premonitory symptoms of, 106
 treatment of epididymitis in,
 109
 what favourable to its develop-
 ment, 105
 affection of the ovary, 135
 arthritis, 140-145
 ophthalmia, 127-140
 treatment of, 136-140
 urethritis in women, 116
 symptoms and treatment of, 117
- Bones of the cranium, 270
- Bubo, or adenitis, 187-199
 causes of, 187
 how divided, and mode of production, 187
 prognosis in, 193
 treatment of, 195
- Calomel used for frictions, 242
- Cancer, sometimes confounded with chancre, 168
- Caries and necrosis, 268
- Chancre, 19, 31-33, 156-186
 anal, 170
 confounded with cancer, 168
 diagnosis in, 164
 indurated, 160
 deviations from usual progress of, 163
 topical applications for, 184
 not produced by incubation, 36
 peculiarities relative to the seat of, 169
 phagedænic, characters of the, 159
 prognosis in, 171

- Chancre, treatment of, 172-186
 abortive, 176
 prophylactic, 172
 purely phagedænic, 181
 urethral, 169
- Chordee, frequent cause of rupture, 64
- Copaiba, how used, 72
 casualties to which it may give rise, 72
 eczema produced by the use of, 72
 formulæ for the administration of, 93
 mode of administration, and its doses, 92
 pain in the lumbar region caused by the use of, 73
- Corpora cavernosa, induration of the, 64
- Cranium, bones of the, 270
- Cystitis, at the neck of the bladder, 99
- Differential diagnosis in syphilitic sarcocela, 252
- Dysuria, a symptom of blennorrhagia, 60
- Elastic syphilitic tumours, general considerations on, 256
 a tertiary accident, 259
- Empirical preparations of mercury, 246
- Epididymitis, treatment of, 109
 the declining stage, 112
- Erections, how controlled, 97
- Eruptions, exanthematous, 211
 papulous, 213
 secondary, 215
 syphilitic, general characters of, 218
- Exostosis, syphilitic, progress of, 267
- False blennorrhagia, 46
 progress and complications of, 47
 prognosis in, 49
 symptoms of, 46
 treatment of, 49
- Febrile reaction in urethral blennorrhagia, 60
- Female, blennorrhagia in the, 114-126
- Fibrous and osseous system, lesions of the, 261
- FORMULÆ for non-virulent diseases, 287
 virulent diseases, 288
- General recapitulation, 282
- Gonocitis, or blennorrhagic white swelling of the knee, 140
- Hemorrhage, urethral, 98

- Iritis, syphilitic, 223
 Inflammation of the lymphatic glands, 60
 prostate gland, 62
 Inoculation of virulent matter, 154
- Mechanism of syphilis, 206
 Mercurial treatment of syphilis, 238
 Mercury, doses of, 237
 chemical forms of, most advantageous, 240
 empirical preparations of, 246
 Mucous membranes, secondary affections of, 226
 papules, 214
- Necrosis and caries, 268
 Nodes, 264
 treatment of, 282
 Non-virulent diseases, formulæ for, 287
- Onychia, 225
 Ophthalmia, blennorrhagic, 127-140
 communicated by contagion, 127
 metastatic, 129
 diagnosis, differential, in,
 132
 prognosis in, 133
 sympathetic, 133
 duration of, 134
 prognosis in, 135
 symptoms of, 135
 treatment of, 136-140
- Osseous and fibrous system, lesions of the, 261
 affection, action of the, on the neighbouring parts, 270
 Osteitis, palatine, 269
 Ovary, blennorrhagic affection of the, 125
- Palatine osteitis, 269
 Paraphimosis, 51
 treatment of, 54
 Phagedænic ulceration, 185
 Phimosis, 46, 50
 operation for, 51
 treatment of, 53
Porte caustique of Lallemand, 99
- Retention of urine, 97

- Ricord's new doctrine, defence of, 74-91
 Rupture of the urethra, 64
- Sarcocele, syphilitic, 249
 diagnosis in, 252
 treatment of, 255
 evolution and progress of, 259
 plastic, prognosis in, 256
 treatment of, 255
- Sédillot's pills, 186
- Sores, syphilitic, general character of, 218
- Struma and syphilis, 266
- Syphilides, or eruptions on the skin, 211
- Syphilis, 145
 constitutional, 199
 duration and progress of, 156
 causes of, 199
 etymology of, unknown, 146
 hereditary, 202
 mechanism of the affection, 206
 mercurial treatment of, 238
 propagation of, 151
 secondary, symptoms premonitory of, 207
 action of mercury in, 233
 symptoms, 233
 anti-mercurial medication in, 236
 prognosis in, 228
 treatment of, 231, 246
- Syphilitic sarcocele, 249
- Tertiary manifestations, 248, 261
 syphilitic sarcocele the earliest, 249
 accident, an elastic tumour, 259
 affections of the lachrymal apparatus, 273
 muscular affections, 258
 osteocopes, 262
 peculiar characters of, 262
 symptoms, prophylactic treatment of, 275
- Testis, blennorrhagic affection of the, 104-114
- Treatment of blennorrhagia, 42, 44, 66-74, 92-103
 when the disease is on the decline,
 100-103
- Tubercular sarcocele, 255
- Ulcerations, phagedænic, 185
 secondary, 226

- Urethral blennorrhagia, description of, 55
accidents, complicating, 60
symptoms of, considered generally, 36
hemorrhage, 98
- Urethritis in women, blennorrhagic, 116
symptoms, and treatment of, 117
- Uterine blennorrhagia, 122
treatment of, 124
catarrh, 174
- Vaginal blennorrhagia, 119
treatment of, 121
- Vallet's pills, 185
- Venereal, the history of, 13-17
accidents, the use of the speculum when begun in, 20
Benedict, Fernel, and John Hunter, on the, 15
defence of the new doctrine in, 74-91
modern classification of, 18
supposed always to have existed, 14
the study of it, as it regards morals and hygiene, and
legal medicine, 14
virulent, 74
- Virulent diseases, formulæ for, 288
order of, 145
matter, phenomena resulting from the inoculation of, 153

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