terminated by heat and evaporation, and poisonous qualities brought out when the associated vapour is condensed.

The peculiar properties of many bodies disappear in combination. There is nothing, therefore, to negative the supposition that the hurtful qualities of terrestrial effluvia may appear only when their union with aqueous vapour is decomposed: and the theory accounts for the comparative absence of noxious qualities in the day time. It is not more difficult to conceive the irregular and unequal dispersion of hurtful exhalations over limited spots or tracts of country, occasioned by terrestrial radiation, than to be convinced of similar inequalities in the distribution of clouds and fog. And this would explain the immunity afforded by elevation. Moreover, sundry phenomena in relation to diseases have been attributed to the light of the moon; but, when the moon shines, the atmosphere must be free of clouds, and a clear atmosphere is the most favourable to the specific influences of radiation.

Maldstone, Jan. 1854.

[To be continued.]

CLINICAL LECTURES, DELIVERED AT THE LOCK HOSPITAL, LONDON.

By HENRY LEE, Esq., F.R.C.S., Surgeon to the Hospital.

No. II. (Nov. 15TH, 1853.)

GENTLEMEN:—In my last lecture, I brought under your notice three forms of inflammation produced by the direct contact of syphilitic matter. In one of these, I mentioned that the action terminates directly in the death of the infected part; and I pointed out that, inasmuch as the syphilitic virus requires a living nidus for its development, the death of the part in which it is placed involves the destruction of the virus itself. The time during which the virus may remain in a part without producing any but a local action is at least four or five days. If within this time the part be destroyed by caustic, or if it slough spontaneously, a simple ulcer only will remain. There will then be no longer any local specific action; the inguinal glands will not participate in the disease; and the constitution will not become affected. If, however, the sloughing is produced after either of the other forms of inflammation have existed, then it will not interfere with the usual course of the disease, but may be regarded as an accidental complication.

Of this first effect of inflammation, we have examples in cases in which parts have been purposely inoculated, and the inoculation has been destroyed by the application of some caustic. I may mention here, that, in performing this operation, it is well to use the nitric acid or the potassa cum calce, in order to destroy the inoculated part. The action of the nitrate of silver is superficial, and there is reason to believe that it sometimes removes a superficial layer of the skin, without penetrating to the same depth as the point of the lancet.

The second form of inflammation produced by the direct contact of syphilitic matter, which I mentioned, was that in which the action terminated in acute ulceration. In this affection, the disease is not confined to the part to which the poison is applied; it may be traced in the clearest way along the absorbent vessels, generally on one side only. In any part of its course, the poison may inoculate the vessel in which it is contained, and may produce a fresh syphilitic sore, the secretion of which may again be inoculated. It usually happens, however, that the inguinal gland in which the absorbent vessels terminate is the part affected. Here alone, in the great majority of cases, does the poison exercise its influence upon the absorbent system; but that the poison actually passes, as such, through the absorbent vessels, we have abundant proof in the occasional formation of specific abscesses in the course of those vessels. This circumstance has actually occurred in the case of the patient to which I have directed your attention, as present-

ing a well marked instance of this disease. Between the open bubo in the groin, and the inflamed and irregularly ulcerated surface at the seat of the primary disease, a small abscess has formed. This presents tumid and irritable edges; and I cannot doubt that an inoculable pus might have been derived from it. We can then distinctly trace the entrance of the syphilitic poison into the lymphatic vessels, and from them into the absorbent glands in which these vessels terminate. The actual existence of the virus in any part of this course may be demonstrated by experiments, which have been far too often repeated to require any additional confirmation. Arrived at this point in its course, on its way apparently towards the thoracic duct, and from there to the general circulation, what becomes of it? A very wonderful change is here brought about. The specific virulent poison, which before was liable to contaminate every living part that it came in contact with, cannot now be traced beyond this point. The absorbent vessels between the inflamed gland and the thoracic duct do not ulcerate or suppurate; the glands into which they empty themselves do not become enlarged or inflamed. The influence of the poison is here then gone. Beyond the glands first in order, the fluids which the absorbent vessels contain are bland and harmless, incapable of being inoculated, or of infecting any part with which they come in contact. What then has become of the poison? We find it in the vessels going into the inflamed absorbent glands, but we do not find it in the vessels which proceed from those glands. In a certain number of cases, no doubt, the poison is in great measure discharged in the suppuration to which its presence gives rise. But, when we consider the exceedingly minute quantity of an animal poison that is capable of producing its specific action on a part, this explanation is not sufficient. Some of the fluid or particles which enter the gland must, in some form or other, we should think, pass through it, whether it suppurate or not. Even although we should suppose that the inflammation produced in the gland entirely obstructed its channels, still, before such obstruction could take place, some fluid would surely have time to pass; and this, if its quality remained unchanged, would be abundantly sufficient to inoculate any part with which it came in contact, or to infect the general system.

A somewhat analogous circumstance is observed in cases of cancer. The first set of glands which the absorbent vessels, coming from the seat of the disease, reach, are alone inoculated. The glands second in order, nearer the centre of the circulation, may be enlarged, but they seldom are the seat of malignant disease. Four weeks ago, a patient died in this hospital with obstinate chronic enlargement of the skin on the right labium. My friend Dr. Druiitt, who carefully examined the tumour, assures me that the substance of the skin and of the subcutaneous areolar tissue was infiltrated with cells which he could in no way distinguish from cancer cells. Shortly before her death, the inguinal glands upon both sides suppurated; but, upon examining the body afterwards, we could find no affection at all of the glands within the abdomen. The facts presented by such cases I wish to distinguish from any theoretical explanation of them; yet, must we attempt to give a rational explanation of the cause or connexion of the circumstances which we observe, such an explanation will lead us to further inquiries into similar actions elsewhere, which may throw some light upon our inquiries, and perhaps, in their turn, be illustrated by them.

Independently of the essential nature of the affection, more glands will be found to be affected in malignant disease than in syphilis. This may probably be accounted for by the relative extent of parts affected in the two cases. In the first, the absorbent vessels derived from different parts of the disease may communicate the affection to several absorbent glands; in the second, the extent of surface involved is usually very limited, and the absorbent vessels leading from it are therefore also limited in number.

If we reflect upon the different ways in which foreign substances can be taken into the living body, we shall find that every such way is furnished with certain sentinels or

guards which oppose the entrance of materials which, if admitted, would prove injurious. Whenever any irritating matters are applied to the skin, which might, by being absorbed, become injurious to the system, I need scarcely remind you how the delicate sense of touch reminds us of what is going on, and urges us to get rid of the offending material. This is a sense common to the whole body. But the parts through which foreign matters are usually taken into the system are guarded in an especial manner. Thus, in addition to the sense of touch, we see the mouth guarded by the sense of smell and that of taste: three out of five senses concentrated around the opening by which the food enters into the system; and one at least of the other two always ready to assist in affording information of its nature. If we trace the food onward, we find that it has to pass the double row of teeth, which are acutely sensible to the presence of any hard particles which may have become accidentally mixed with the food. Should any fresh flavour be produced in the process of mastication, there are the means provided for appreciating it as the food passes through the posterior fauces. The stomach we find ready, in its turn, to reject that which is injurious; and, throughout the alimentary canal, there is an apparatus composed of a multitude of different parts, all combining to hurry on and eliminate from the system any materials which, if left, would be detrimental to it.

Finally—and this brings me back again to my subject—we have a wonderful system of minute capillary tubes (endowed with the faculty of distinguishing, so to speak, the chyle from other matters), taking up, pouring freely into the blood, that which is required for the nourishment of the system, but refusing to admit anything else. These lacteals, I need not remind you, are very similar indeed in structure, in disposition, and in function, to the absorbent vessels elsewhere. It is true that we cannot trace equally well the processes involved in assimilation and absorption, in the different individual organs of the body; but, even from what we do know, we have abundant evidence that the same care is taken with regard to each part as with respect to the whole; and that other channels, through which foreign matters may enter the system, are guarded with the same care as that by which the common food is received.

Such facts would lead us to the *a priori* conclusion, that some means must exist to prevent the indiscriminate introduction into the circulation of any materials which might find their way into the absorbents during the active ulceration of a part; and observation demonstrates to us that such a provision really exists. The particles taken up by absorption ultimately again form part of the general circulating fluid from which they were at first derived. They have as much to be assimilated as animal matter taken fresh into the stomach. The bone, the tendon, the muscle, the nerve, which are thus removed, can no longer be recognised as such after they have been acted upon by the absorbents. All the different tissues that undergo this process form a single fluid, which ultimately becomes a part of the general circulating mass, and can then in no way be distinguished from similar products derived from the process of ordinary digestion. The action which converts foreign animal matter into blood, and that which converts parts of the living body into blood by the agency of the absorbents, are then analogous; and they agree in having the very remarkable property of converting some substances which, when introduced in any other way, act as poisons upon the system, into harmless agents. It has been shown by the Abbé Fontana, that the poison of the viper, when introduced into the stomach, undergoes some change which prevents its poisonous effects upon the system. It has also been shown by two French physiologists, that the same thing happens with regard to the Woorara poison; and we have it upon no less authority than that of Sir B. Brodie, that opium may be digested in the stomachs of some animals, and that in that process its poisonous qualities are destroyed. "I have injected", says Sir B. Brodie, "a strong watery solution of opium into the stomach of a rabbit, but no poisonous effect was produced, although a

similar solution, injected into the cellular membrane, occasions stupefaction and death." In like manner, as I have before intimated, we find that cancerous matter cannot be propagated from a part to the general system through the lymphatic glands; but we have evidence to prove that it may, under certain circumstances, be so propagated through the blood-vessels. It is true that the veins in the immediate neighbourhood of a cancer are very frequently blocked up with coagula, affording another instance of the preservative power above mentioned; but, when this is not the case, the cancer cells may apparently be conveyed in the course of the circulation, and infect distant parts. We have an experiment on the authority of Langenbeck, related in the *Encyclopédie Anatomique*, in which some fresh cancerous matter was injected into the veins of a dog, and cancerous tubercles were consequently developed in the animal's lungs.

In like manner, I suppose, it might be possible under certain peculiar circumstances to infect the general system with cancer through the absorbent vessels, but the fact already mentioned that the glands first in order, only are affected in consequence of local cancerous diseases forbids the idea that this is the way in which the disease is usually conveyed to other parts.

These observations will, I hope, prepare us to consider on sound physiological principles the change that is produced in the syphilitic poison during the passage of the matters in which it is contained through the lymphatic glands. These materials are themselves undergoing a change which will fit them for becoming part of the circulating fluid, and it would seem that the poison itself undergoes a change similar to that produced in the poison of the viper or in the Woorara poison in the stomach. It is well known that this power of digesting or resisting the effects of certain poisons may be acquired, and the experiments on syphilisation lately performed on the continent appear to give some countenance to the idea that a similar power may be acquired of resisting the effects of the syphilitic poison upon the system. It is well known that the human stomach may acquire the power of digesting opium, and that it may be taken in such quantities as to serve almost as an article of diet.

The action of the syphilitic poison must not, however, be confounded with that of other poisons which produce their effects immediately upon their application. A certain definite and peculiar action has to be gone through before the syphilitic virus can, under ordinary circumstances, enter the system. This action may vary according to the kind of inflammation to which its immediate application gives rise, but in all a certain interval must elapse before the poison can be absorbed so as to produce its specific effects upon the constitution. During this period it is that the ulcerative inflammation takes place in the class of cases which we are now considering.

In this process of ulceration, the freshly contaminated parts are constantly being removed. The tissues infected one day are removed the next. Now all experiments on inoculation have tended to prove that the syphilitic poison when removed to a fresh part, has to begin afresh the morbid action peculiar to it, before it can infect that part and through it the constitution. But in the case we are considering, the infected parts are removed as they become impregnated with the poison. The poison, before its removal, may affect other parts, but it is removed, and apparently carried along the absorbents before the process can be gone through which in other cases issues in syphilitic disease of the system. Thus, a sore affected with acute syphilitic ulceration presents the phenomenon of a series of abortive inoculations, each part in its turn being infected and destroyed by ulceration before the process, which is essential to the action of the poison upon the system at large, can be accomplished. Ulceration, like mortification, destroys the vitality of the parts which it attacks, although in a more gradual manner; and as we have before seen that the syphilitic poison requires a living nidus and a certain interval of time for its development into a constitutional disease, the

process of ulceration as effectually destroys that process as that of mortification does. There is, however, this difference, that in the latter the poison is expelled altogether from the system; in the former it is, in part at least, carried along the absorbent vessels. In these vessels we find it retaining its poisonous qualities until it enters a lymphatic gland. Here a power is manifested which prevents its introduction into the system—a power which, as I have conceived, bears some analogy to that which is evinced by the stomach in the conversion or rejection of poisonous substances. The difference in the nature of the fluid in the lymphatic vessels before and after it has passed the inguinal glands is analogous to the difference in the qualities of the Woorara poison before and after it has undergone digestion in the stomach and the lacteals. In both cases do the fluid contents of the lymphatic vessels undergo a change in the glands fitting them to become a part of the circulating fluid; in both cases are poisonous matters sometimes converted or assimilated, and sometimes rejected; by vomiting in the case of the stomach, by suppuration in the case of the lymphatics.

In looking over my notes of cases which have presented themselves at this hospital within the last year or two, I have collected together and arranged in a tabular form forty-nine consecutive cases of suppurating bubo. Of these, five only are recorded as having been accompanied by any secondary affection during the period that they remained under observation. In one of these five, there was a distinct history of previous disease, both primary and secondary. In another, the cervical glands were enlarged, and the suppuration in the groin may, therefore, probably have been of a strumous character. In two cases, the secondary eruption was tubercular; an affection most obstinate in the nature, and most liable to recur after having once disappeared, and comparatively seldom occurring as the first symptom of cutaneous disease. These, then, I regard in all probability like the first of the five cases, as the result of some previous syphilitic infection. This analysis would thus leave only one case out of forty-nine in which a suppurating bubo was apparently even followed by secondary symptoms. In this exceptional case, the secondary eruption appeared a month after the occurrence of the bubo, and may, like the others, have depended upon previous disease.

On the other hand, I have collected and tabulated in the same way thirty-one consecutive cases of secondary syphilitic eruption. In one only of these cases does the history afford any mention of a suppurating bubo, and in that one case the history is not satisfactory upon the point. Had the notes of cases of other years been collected and tabulated in the same way I do not doubt that they would have afforded similar results. Such facts appear to establish indisputably the proposition that the chances of the infection of the system in cases of syphilis are inversely in proportion to the degree of irritation and inflammation of the absorbent vessels leading from the primary seat of disease. As this doctrine may probably appear to many to be contrary to the opinions usually entertained, I have thought it well for the satisfaction of others to collect some independent evidence on the point; and for this purpose I have used the register of the Lock Hospital, which is kept by the house surgeons as they successively come into office. I find here recorded eighty consecutive cases of suppurating bubo. Of these, eleven are recorded as having had some other syphilitic affection besides the strictly primary disease during the time that they remained under observation. In four of these cases, this affection consisted in condylomata alone. In four of a tubercular eruption, and in three of psoriasis. It is to be remarked that here there is an entire absence of any mention of the presence of lichen, or lepra, affections of the most common occurrence as first presenting themselves after infecting syphilitic sores. The condylomata, especially when they occur in female patients, are of such doubtful origin that they cannot be received as affording any evidence of the affection of the general system, at least as a consequence of the primary affections with which they are associated. Omitting, therefore, the cases in which they

have been mentioned as occurring without any other symptom of constitutional disease, we have seventy-six consecutive cases of suppurating bubo from all causes, and in these mention is made of secondary affections in seven only.

The presence of secondary symptoms in this small proportion of cases may with justice be attributed to the recurrence of previous disease, and not to the primary affection which caused the suppurating bubo. This view is materially supported by the kind of eruption observed. In four out of the seven instances the eruption was tubercular, agreeing in this respect with the results obtained from my own case books. The facts presented in both collections of cases, therefore, point to the conclusion that in the comparatively rare instances in which secondary syphilis is found in conjunction with a suppurating bubo, that it depends upon the system having been infected previous to the disease which has given rise to that suppuration. The strongest proof, however, to my own mind of the truth of this doctrine, so full of practical value, is, that having directed my attention to the subject for a considerable time and having called the attention of the pupils to it both here and at King's College Hospital, I have not been able hitherto to find a single case in which a primary sore had clearly given rise to a suppurating bubo, and, at the same time, to constitutional syphilis. From observing, therefore, that where the absorbent vessels are most affected there is the least chance of any constitutional disease, I cannot avoid the conclusion that the absorbent vessels are not the means by which the syphilitic virus usually enters the system.

A CASE OF PARTIAL OVARIOTOMY: SURVIVAL OF THE PATIENT DURING FOUR MONTHS.

By JOHN CROUCH, F.R.C.S.

[The article, of which the above is the title, appeared in our first edition.]

NEWS AND TOPICS OF THE DAY.

NEW LUNATIC ASYLUM FOR BRISTOL. A meeting of the Bristol Town Council was held on 10th January, relative to the erection of a new lunatic asylum for the city and county. Lord Palmerston, the Secretary of State for the Home Department, has sent to the authorities an order, under the provisions of the 16th and 17th of Victoria, c. 100, for the erection of such an asylum, the Commissioners of Lunacy having reported to him that the lunatic asylum at present in existence is wholly inadequate for the wants of the city and district for which it is assigned; and his Lordship therefore directs that a new one shall be built. The estimates laid before the Town Council, show that the sum requisite to carry this resolution into effect will be about £45,000. A lengthened debate on the subject took place, and eventually it was determined to adjourn for a fortnight. In the mean time, the order of Lord Palmerston for the erection of the asylum is to be printed and circulated.

THE VACCINATION ACT. Early in the approaching session of Parliament, Lord Lyttelton intends to introduce a Bill to amend the Act of last session.

MURDEROUS ASSAULT ON DR. LOGAN. A serious assault was lately committed on Dr. William Logan, a practitioner at Milngavie, N. B., and formerly in Balfour. He was on duty betwixt the hours of eleven and twelve, and, while returning home on foot, was assaulted by a desperate ruffian, who seized him by the throat; resistance was made, and the parties went down. The doctor's hat went off; but, after finding it, he retired from his assailant. He had not gone far, when he found that he was stabbed in the groin; he called at the first farm-house, where he remains seriously ill, under Professor Lawrie of Glasgow. The ruffian has been lodged in prison.