sis is primarily by the lymphatics. Both growths are, however, equally malignant, but cachexia is seldom observed so early in the sarcomata as in the cancers.

I have another specimen here which I wish you to look at. It is one of historical interest, and was placed in the museum by my predecessor, the late Dr. Foulis. It is also one of sarcoma, but not precisely the same as the last preparation. It is the first larynx excised in this country for malignant disease. On examining the parts, you will find that the tumour is situated on the under surface of the left vocal cord, and forms a pendulous mass, which hangs into the trachea as far down as the first ring. From the upper part of the tumour, an extension has taken place upwards, and it presents a soft pale appearance. Its structure is that of a spindle-celled sarcoma. This larynx was excised by Dr. Foulis, on September 10th, 1877, and you will find a detailed account of the case in the *Lancet* for October 13th, 1877, and January 26th, 1878. I shall have occasion to refer to this case again, when we come to consider the operation of laryngectomy.

[To be continued.]

SOME REMARKS ON THE VENEREAL DISEASE, CHIEFLY IN REFERENCE TO ITS EVOLUTION.

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I HAVE read Mr. Hutchinson's Lettsomian Lectures on Syphilis, and, I need not add, with interest; for everything that Mr. Hutchinson writes repays a thoughtful perusal. There are points in these lectures which recall a very early period of my career, when, as an articulated pupil of Mr. Travers, I was engaged in assisting to collect materials for his address to the Hunterian Society, at the close of his year of presidency. His subject was the venereal disease, in the broadest acceptance of the term. This address was published, though I believe its circulation was limited; and I have a copy before me, presented by the author, in acknowledgment of the trifling help I was, as a youth, privileged to afford my honoured master.

Mr. Travers's first proposition is, that the secretion of an inflamed mucous membrane is competent to excite a similar condition in a healthy mucous surface with which it is brought into contact; and this he illustrated by examples of inflammatory leucorrhœa causing suppurative ophthalmia in newly-born children, and even purulent discharge from the male urethra. There is, no doubt, more susceptibility to such infection in some individuals than in others, as is exemplified in the communication of gonorrhœa; and this is probably even a more potent factor in the issue than the virulence of the secretion. I may add that the specific nature of gonorrhœal ophthalmia is, at least, questionable. I have certainly seen as fatal consequences from suppurative ophthalmia occurring, where there was no suspicion of specific infection.

The next step considered by Mr. Travers is the production of a sore. This condition, as he argued and as I apprehend few will question, may result from the simple application and retention of gonorrhœal matter from the vagina on an excoriation or cutaneous crevice of the glans penis or prepuce. The secretion from the ulcer consequent on this lesion may, when absorbed, infect the system, producing mild secondary symptoms, manifested chiefly in the throat and on the cutaneous surface, and sometimes affecting the joints.

The more virulent form of primary sore—the excavated ulcer with hardened circumference—Mr. Travers regarded as a constitutional sore, the product of a system already impregnated with poison; or, to use his own words, "a gonorrhœal sore in a fresh subject produces, by absorption, constitutional symptoms of the first order (those referred to above); and communicates a similar sore, having the same tendency to propagate the first order of symptoms. But a gonorrhœal sore, occurring in a person already the subject of the first order of symptoms, becomes a constitutional sore, and secretes a matter capable of producing the second order of symptoms (those from hard chancre) in the individual, and of communicating the matter of chancre to another." Of course Mr. Travers meant that this is the way in which a chancre was originally, and may still be produced; and no doubt individual susceptibility greatly influences the result. Probably also the maximum of intensity of the poison is not reached until it has passed, under favouring circumstances both constitutional and antecedent, through several individuals.

These views were not original; for Hunter, as is well known, regarded gonorrhœa and syphilis as modifications of one and the same poison. But I suppose Mr. Travers thought it desirable to recall public attention to these opinions, whilst he illustrated the views he entertained by his own experience.

There are some points in connection with this subject on which I

will venture to make a few remarks, more in the form of suggestion than of authoritative opinion, and certainly not in a spirit of controversial criticism; for I must candidly admit that I have not at hand any statistics sufficiently comprehensive to carry weight; and I am aware how little value is attached—and perhaps justly so—to opinions thus unsupported.

First, concerning what is generally understood by constitutional influence. This is exemplified in numberless ways in modifying the characteristics of disease; and I can see nothing extravagant in the supposition that a simple inflammatory product may be thereby converted (to use Mr. Hutchinson's word) into a specialised form of disease; and again that this specialised form should, in course of time, assume a specific type; more permanent in character because it has reached its maximum development in that particular direction. In such evolution time is an essential ingredient; as well as the character of the infecting matter and the susceptibility of the recipient; both of which are dependent on inherited or acquired diathesis. This is exemplified in the circumstance that two individuals, deriving syphilis (I use the word in an extended sense) from the same source, are not necessarily affected to the same degree, or even in exactly the same way.

The study of ordinary septic inflammation from decomposing or diseased animal-matter affords an analogous illustration; the susceptibility of the recipient greatly influences the result. Here likewise, as I know by repeated personal experience as well as from observation, there is a period of incubation (if I may so term it) before what may be regarded as the zymotic action commences. In these instances the interval is short compared with that in the case of most specific poisons, perhaps because the affinity between the poison and the circulating fluids is closer in the former than in the latter. But the period of incubation in what are termed specific diseases is not such as to admit of their being thus classified under one general law. It is true that some of the exanthemata are approximately regular as regards the interval between exposure to infection and the manifestation of disease; but they differ in this respect from one another. Yet I think that in a few, as probably in syphilis, there is a direct ratio between the virulence of the poison and the length of time it is present in the system before it is developed. Certainly a chancreoid (by which I mean a soft sore) has a shorter period of incubation than a chancre; and I think it a subject worthy of further investigation, whether there is not a more or less regular association between the length of incubation and the subsequent severity of the constitutional affection. That the interval alluded to varies very much in different instances cannot be doubted; and the simplest, and, as I believe, the true, explanation of the conflicting evidence on this point is afforded by the admission that there are many grades of the same disease; the mildest of which is developed after a short interval, whilst the severer forms are more delayed; the intensity perhaps bearing, as I have remarked, a direct relation to the length of incubation. The case of the self-vaccinated medical man, mentioned by Mr. Hutchinson, illustrates the latter class.

My creed, then, derived from observation, is that there may be superficial sores—mere ulcerated excoriations—which heal without constitutional treatment, and leave no after-consequences; that there are other superficial sores which appear after a varying period of incubation, and, though possessing none of the special characteristics of chancre, namely, induration and exedent ulceration, yet may entail mild secondary symptoms; that there is a third class, the genuine chancre, with a longer period of incubation, and entailing, more certainly, severer and more complicated secondary symptoms, which are far less amenable to treatment. Between these last two or constitutional varieties of the disease there is no hard and fast line to be drawn; the gradations between the extremes being many, and determined by circumstances both personal and extraneous, of which the quality of the imparted virus is the most influential. I believe that mercury is competent to save a patient from the constitutional sequences of even a hard chancre; at the same time I should not feel justified in promising immunity from secondary complications in any case, where even a short interval only had elapsed between exposure to infection and the local development of the disease; though the sore were superficial and devoid of surrounding induration.

I believe it is an admitted fact that secondary symptoms sometimes occur without any history of primary disease except gonorrhœa; and the suggested explanation is that a primary lesion must have existed out of sight, in some part of the urethra. Now, the phenomena attending the communication of gonorrhœa are more intelligible where the recipient is the female than the converse. The orifice only of the male urethra is exposed; and the canal is not only swept in the act of coition, but frequently irrigated afterwards by the current of urine. How much more difficult, then, it is to conceive that the

secretion of a chancre can be conveyed retrogressively along the urethra for some distance, so as to produce a sore by direct contact: it is not even helped by ciliary movement. I think that this explanation must be a mistake; and that any sore so existing is simply an ulceration of the inflamed mucous membrane, commencing in the follicles; the induration sometimes felt being inflammatory deposit in the submucous areolar tissue, such as we meet with in the initiatory stage of insidious urethral abscess from a similar cause. I believe that, as there are virulent and non-virulent sores, so there are specific and simple discharges from the urethra; the former alone being capable of entailing after-consequences, either by direct absorption from the mucous surface, or from an ulcerated lesion. I may also remark that the interval between exposure and infection varies in gonorrhœa: probably—but I do not express any opinion on the point—there may be some relation between the latent period in this case also, though not in the same sense, and the poisonous quality of the infecting matter. I may add that I do not remember to have met with any case which suggested to me the presence of a hard chancre in the urethra.

Again, does the quantity of virus, as well as its quality, influence the result? It is said to do so in vaccination, and appears to do so in some specific fevers. In syphilis this inquiry could be answered only by experiment. I am not disposed to attach much importance to this question: certainly quality is more potent in determining the issue.

The presence of syphilis in the system is not unfrequently evinced by the character which a casual ulcer assumes; one, that is, which is the result of an accidental lesion of the skin: and the secretion from such ulcer would, I apprehend, possess the infecting properties of a primary syphilitic sore. The undesigned experiments supplied by vaccination leave little doubt on this point.

But the introduction of a non-specific poison from an extraneous source is not a *sine quâ non* in the production of septicism; it may be home-bred: and this fact illustrates, in a remarkable way, the influence exercised by the intrinsic condition of a patient over some trivial exciting cause of mischief, which in a healthy subject would pass almost unnoticed. All hospital surgeons know the class of patients amongst whom they may expect this poison-generating tendency. The discharge from a festering wound not only diffuses its poison throughout the system of the sufferer, but is qualified to impart its fatal virulence to others, when brought into contact with any trivial breach of surface.

I am not aware whether surgeons are generally agreed as to the presence of a breach of surface being an essential condition for the production of a chancre. There is, probably, in most instances, some trivial abrasion or fissure of the skin; but I do not think this is by any means necessary, at any rate at the time of sexual intercourse. I apprehend that, in the majority of cases, want of cleanliness is sufficient to account for the result without previous lesion of skin. The irritating secretion of a sore, left undisturbed in contact with the delicate surface of the penis or vagina, is competent to do the mischief. The frequency of chancre at or near to the frænum preputii is probably due to slight laceration of this part. The first localisation of the disease at the original seat of lesion, in these specialised or specific animal poisons, is not the less remarkable because it is a recognised fact of every-day occurrence. What occurs in the interval—frequently long—between infection and development? Is the local activity the manifestation of reaction, or is the constitution unimplicated until after the localised poison is matured? I am not aware that these questions have been satisfactorily answered; though attempts have been made to solve them by the early destruction of chancre. My own opinion may be expressed by the admission that I have never had faith enough to try this experiment.

As regards the exhaustion of susceptibility to syphilis after the first attack, I believe the solution of this problem must be sought in the consideration of many complex questions associated with the past history of the disease and the antecedent condition of the patient in each case. A mild attack, chancreoid, does not secure immunity: probably, as I believe is the case with some of the exanthemata, a severe form is, when really cured, a better but not certain safeguard against a second attack.

An allied question is, whether a strongly pronounced manifestation of secondary symptoms is any security against the later development of internal organic complications. I cannot answer this question; yet I think it not improbable that such is the case, as I am disposed to regard the cutaneous affections especially as, in a measure, eliminative. But here again much depends on the virulence of the poison and the condition of the recipient; and it is very difficult to reach any satisfactory conclusion on an abstract question, where the necessary data are so complex.

Why is a chancre hard in its circumference and at its base; and why does it present that peculiar excavated character under ulceration? I think that analogy will help us, in a measure, to understand these conditions. I may remark that I am scarcely disposed to admit that a chancre is, unless exceptionally, a sloughy sore, as it is often described. Yet this distinction is hardly worth notice, as it is merely one of degree and not of kind. The excavation is usually accomplished by molecular disintegration, that is, ulceration; it rarely attains the state of slough, though more often the rapidity of the molecular destruction reaches the intermediate or phagedenic stage. The plastic infiltration which constitutes the indurated circumference of the ulcer would, but for the breach of surface, include the whole of the local disease, and has its analogue in non-specific inflammatory infiltration under other circumstances; and notably so in carbuncle. Under the action of the localised specific poison the affected tissue loses its vitality, and disintegration is the result: in some instances this is slow, in others rapid. Mr. Travers speaks of the tempered character of this destructive phagedenic action at the time he wrote, as compared with his earlier experience; and he attributes the improvement to the use of mercury, although, he adds, that has been obtained probably at the sacrifice of vigorous health in the population, consequent on the excessive and injudicious use of this mineral. I think, indeed, I may say that syphilis has lost some of its severer characteristics within my memory; especially in its secondary stage. Exaggerated examples of rupia were of far more common occurrence fifty years ago than they are now: and so, it appears to me, was destruction in the primary sore. This is hopeful as regards the future. I may here venture to eulogise the perchloride preparation of mercury, in combination with bark: and I am old-fashioned enough still to confide in sarsaparilla, given with the perchloride, as best adapted to many cases, in which the disease has reduced the patient to a state of pitiable suffering and emaciation.

Why is mercury so potent an agent in this disease? There can be no doubt that, as a rule, the progressive activity of the syphilitic poison is incompatible with the active presence of mercury in the system. To whatever cause we may conjecture that the expellent agency of the mineral is due, of one thing I may speak with tolerable certainty; namely, that it is not by its swift and powerful operation that the desired result is accomplished; but by the continuous administration of small doses for a lengthened period, extending beyond the external manifestation of the disease, until the latent tendency to its recrudescence is abolished. We should hear less of what are termed tertiary symptoms or remote sequelæ, if this principle received more attention. The inconstancy of the indications, in different subjects, of the active presence of mercury, renders it difficult to establish any rules as to the dose. A red margin to the gums is quite sufficient, but even this may be absent though the mercury is doing its work; and we must be guided rather by the general symptoms. For a long continuance I prefer small doses—say half a drachm to a drachm—of the perchloride in the day, on which I have known patients thrive and gain flesh. For rapidity of action the iodide is to be preferred.

Of phagedæna I saw a good deal during my early career: in fact we were then rarely without a case in the Magdalen Ward of the Hospital; for it was almost exclusively among females that it occurred. The type of the disease was so associated with the locality whence the victims came, that they were known as Swan Alley cases. Mr. Travers gives a graphic description of this disease, and of the class of patients amongst whom it occurred. The locality was near the Docks, and the wretched girls, ill-fed and plied with gin, lived amid filth and excessive debauchery, until their miserable condition compelled them to seek for admission into the hospital. We were not accustomed to regard these cases as syphilitic, but as due to the combination of the causes which I have enumerated. Certainly they did not require, indeed they could not have borne, any specific treatment. Bark and opium, with a generous diet and regulation of the secretions constituted the general management of these patients; whilst the local treatment usually resolved itself into the free application of strong nitric acid to the ulcerated surface. In most instances if properly applied, after cleansing the ulcer of disorganised *débris*, the effect was rapid and satisfactory, and the healing was often speedy. I have seen a considerable portion of the femoral artery laid bare by this destructive ulceration: yet most of the cases, if uncomplicated and taken in time, recovered under the simple treatment I have described; and, so far as I remember, without the occurrence of secondary symptoms. I may add that I do not recollect any instance in which the disease spread from one patient to another in our foul ward.

Of the occurrence of bubo in connection with chancre and soft sore I would only remark that my impression is that enlarged glands are

met with as often in one as the other, but that suppuration is more rare in chancre. It might be interesting to ascertain whether this evinced sympathy of the lymphatic glands in any way modifies the later consequences of the disease; whether the local suppuration is, in any degree, eliminative. I believe it so acts in the case of some animal poisons: for example, dissecting wounds have usually more serious consequences, that is, more rapid and severe constitutional effects, when the lymphatic glands are not involved, and the poison passes, unchallenged, into the circulation. They appear to arrest or to modify the poison; and their suppuration seems to act eliminatively.

I think I can say most positively that I have treated many cases of soft sore as the first disease contracted; that mercury is frequently needed for their cure; and that they are sometimes very obstinate before they heal.

The doctrine assumed and argued out by Mr. Travers, in reference to the venereal disease, is simply that of evolution, governed by circumstances which are, in great measure, personal, but also dependent on environment. The presence of certain conditions is essential to the production of the disease in any type; and these are the same that favour its progressive development in its more virulent forms. The conditions referred to would seem to exist especially amid a densely populated and civilised people, whose culture is not measured by the standard of moral refinement or personal cleanliness. Yet, even with these disadvantages, medicine and sanitary measures have done something towards the devolution (I use the word as the reverse of evolution) of the disease, if I may draw any conclusion from the contrast between the more exaggerated forms of syphilis when I entered the profession and those of the present time: for, as regards the treatment of the disease in hospital practice, I cannot say that there is much change of opinion as to the use of mercury since I began to study. It is true that instances of profuse salivation then came under our notice; but such practice was not initiated nor pursued in the hospital; and inoculation and fumigation were more generally used as the means of introducing mercury into the system. Sarsaparilla had a high reputation, which has since been, as I think, unjustly denied to it: for it seems to be now entirely ignored. The treatment by iodide of potassium dates from a period more recent than that of which I have been speaking: in it we have a very valuable remedy in secondary affections. But such cases as were then of common occurrence are, as I have remarked, according to my observation, comparatively rare now. I refer especially to exaggerated forms of rapid, phagedenic ulceration of the thigh and abdominal wall, and extensive exfoliation of the skull and other bones; the last-mentioned having been, as I think, not unfrequently due to the abuse of mercury, especially in strumous patients.

I am free to admit that my opinions on these subjects have been, in a measure, influenced through life by the impressions I received thus early; and may, therefore, appear obsolete to the present generation. Yet there is nothing irrational or fantastic in the application of the theory of evolution to disease. Time and circumstance are the requirements of the advocates of this law; and I believe that, with the command of these essentials, a process of devolution may likewise be accomplished. I may add that there is no inconsistency in this application of the theory of evolution with the assumed germ-origin of many diseases; for the specific type and virulence of the poison seem to depend more on some occult attribute of the micro-organisms than on any striking variety in their physical development.

The culture of Pasteur is effecting, rapidly and artificially, what Nature, under favouring circumstances, can and may achieve in time. I apprehend few surgeons of experience would deny that simple tumours sometimes assume a malignant character, and that there are various grades of malignancy. We may some day discover how to reverse this progressive order of evolution, and thus solve the great surgical problem of the day,—the cure of cancer.

These may seem flighty speculations to indulge in, without even the plea of novelty to recommend them. But it is, I think, the wholesome tendency of youth to specialise; and it is the privilege of maturer years to generalise, as exemplified in Mr. Hutchinson's valuable lectures. The time may come when a more enlarged and general recognition of the law of evolution in disease will lead to some unlooked-for revelations, and to the discovery of some more efficient means of not only abating the intensity, but of limiting the variety, of infectious and hereditary maladies; and this must be by denying the requirements of evolution, and favouring those of its reverse.

There surely is no more difficulty in thus simplifying the origin of infectious disease,—for example, in tracing a hard chancre, with all its constitutional sequelæ, to a purulent discharge from a mucous surface as its progenitor,—than in recognising the alliance between

man and a monad. If in each case there are missing links to be supplied, I apprehend they are nearer to hand in the former instance than in the latter.

THE THERAPEUTICS OF THE NEUROSES.

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It is necessary to make a few preliminary remarks.

1. Although neuroses are devoid of any recognised pathological anatomy, there can be no doubt that they are evidences of depraved or disordered nutrition, or, at least, of abnormally altered relations between nerve-cell and supplying blood-vessel.

2. Neurotic patients frequently inherit from one or both parents the tendency to their peculiar nervous state; but a large number of neurotic phenomena occur in persons who have inherited no such history. They are met with after overpressure of study in the young, overwork of any kind in the adult, monotony of occupation, anxiety, hygienic conditions abnormal both as regards the healthiness of the environment and the proportion of brain-food to brain-work; and they mean partial starvation of the nervous centres.

A few of the chief neurotic symptoms are: dilated pupil; extreme mobility of the iris; a form of amblyopia that is reflex, of vaso-motor origin, induced by irritation of some of the branches of the fifth nerve, or of filaments from the abdominal or pelvic organs, carried to a vaso-motor centre, and causing constriction of the arteria centralis retinae; or probably sometimes of the vessels supplying the angular gyrus; hemiopia, associated with anaesthesia, and depending on disordered blood-supply to the posterior portion of the internal capsule; various forms of anaesthesia, often very localised, manifestations of a temporarily impaired circulation in the cortex or in the internal capsule, often due to the concentration of the patient's attention on pain elsewhere, or to her thoughts being directed to her emotions or to exalted aspirations; some forms of headache, especially migraine, and the so-called nervous headache often induced by late watching; insomnia, particularly the form engendered by late intellectual work for some considerable period, and relieved by placing a patient for sleep in a nearly upright position, and administering food during the night—or by the administration of ergot; tinnitus, which may often be reflex, and carried up to the tympanum by way of the inferior cervical ganglion; abnormal acuteness of hearing, from ephemeral dilatation of a vessel supplying some of the auditory nuclei, or still more frequently the temporo-sphenoidal convolutions; vertigo, either seeming to depend on slight alterations of pressure in the labyrinth, short of Menière's disease, or when there is a temporary deficiency in the circulation of the middle lobe of the cerebellum; occasional abnormalities of depraved or deficient taste and smell. Motor phenomena in neurotics are so numerous that it is difficult to omit any abnormality of movement from this class; tremor, as of the eyelids; rigor without elevation of temperature; convulsions, either epileptiform, or without complete loss of consciousness, and accompanied by movements of limbs either semi-voluntary or automatic; opisthotonos; hysterical vomiting, with no reflex connection with the pelvic viscera; some varieties of chorea and of hemichorea; paralysis, too universal to depend upon organic lesion, or localised, as of a finger, hand, or arm; contractions, such as torticollis, varieties of talipes, bent arm, the body resting on the heels from flexion of the legs on the thighs; these and many other advanced motor phenomena depend on emotion, and are produced by emotional irritation of vaso-motors in various regions of the brain and cord.

The hyperaesthesiae of skin, such as are seen in some neurotics of unsound mind; hyperalgesia, such as clavus, and the obscure inframammary pain, the tenderness of the hysteric spine, are due to dilatation of vessels in the sensory centres. In speaking of these phenomena, it need scarcely be said that we exclude all cases in which the will of the patient is sufficiently strong to effect a cure. Sir James Paget's expression of an hysterical person, "She cannot will," will serve to include all cases of neurasthenia in neurotic patients.

Amongst the psychological phenomena, it would be necessary to mention every manifestation of emotion. The subjects of "temperance" are probably invariably neurotic. Great excitability may be the rule, reaching on one side even to mania, especially religio-erotomania; whilst in some cases, the melancholic tendency obtains, with concentration of thought on anything connected with the patient herself, especially her physical ailments.