study how much of diversion and limitation of epidemics can be secured by their artificial and preliminary introduction into some part other than that which it seems their habit to attack with virulence. How much of the modified effect is owing to mode of introduction rather than to attenuation?

3. Still, further, if changes can so be wrought in systems as to make them unresponsive of diseases, as we know to be the fact with many ailments, cannot and do not quinine, alcohol, potassium-chloride, ferric chloride, and other antimicrophytes, antizootics, or antiseptics, cause the blood and tissues to be protected from the invasion while there is exposure thereto, and so may we not prevent epidemics?

We now know, by actual experiments and observation, that we can see the blood-corpuscles multiplying during the administration of iron, and can, with small doses of quinine, potassium-chloride, arsenic, etc., have the sustained presence of these in the blood. There is good reason for thinking that, during such presence, the blood and tissues become resistful to that multiplying plant-life which, either directly, or by its overpowering abundance, or by mechanical clogging of blood-paths, constitutes the gravity of the disease; also that we can anticipate the action of the introduced contagium, and make the system refuse to nourish or propagate the parasite. Thus, either all may escape the prevailing influence, or so many that it cannot prevail among the people, and so cannot become epidemic. This temporary prophylaxis, during what, for the want of a better term, has sometimes been called an epidemic tendency or constitution of the atmosphere, is most worthy of accurate trial. As to its reality, many corroborative facts from Polli, Parkes, Panum, Bert, etc., can be adduced.

Then, last of all, comes the question of the limitation of diseases in their attempt to become epidemics, and after they have so become; the former being most valuable forethought, the latter being not unimportant afterthought. This limitation involves the study of the natural history of every communicable disease in all its minutiae, that we may know its times and seasons, the distance at which it can be propagated, the length of period of its communicability, the secretions or families most likely to convey it, the relation of breath and of air to it, and all other facts which are relative to its transmissibility; and, as a sequel, comes in a study of isolation, and of disinfection, etc., as a system of rules and regulations.

Our imperfection of knowledge does not hinder us from general rules and methods founded on apparently correct generalisation as to all communicable diseases, and specifications as to some, so far as we know.

The most inspiring result of what we may call the modern departure in epidemiology, is not so much the conclusiveness or completeness of facts in any one direction as the unmistakable indication of precision in the laws of communicable diseases, these being as accurate as those that obtain in nature, giving us the comfortable persuasion that they are ascertainable and classifiable, although, for various reasons, difficult of ascertainment, but likely to yield to analytic and statistical methods, and to that tact of experience in observation which can be acquired but cannot be described.

The chief contentions of this paper are, therefore, as follows.

1. In the study of the *contagium vivum*, we are to recognise not only change from culture or attenuation, but, as in plant-life and animal life, to recognise manifold changes which may take place, so discursive as to obscure identity, and so as to make what, in pathology and treatment, may be a new disease, without involving the doctrine of spontaneous generation.

2. We must give significance to the effect of imparting a disease to the system by channels or modes of introduction different from what may be called its normal method of entrance, and allow for modification of effect from this cause, without any real attenuation.

3. We must study closely, not only the general effects of surroundings, but the fertilisation or rankness which certain diseases attain from a compost especially adapted to them.

4. We need, with the same precision, and in a similar direction, to ascertain what are the conditions of individuals who furnish in themselves extraordinary soil for communicable diseases, or who withstand seizure amid exposure, or have but a mild attack, and to recognise that there are ascertainable reasons for this difference, a definite law of susceptibility.

5. We need to give great prominence to a study of direct prophylactic methods, and such as shall seek, during exposure or the prevalence of an epidemic, to prevent an attack, by imparting to the blood and tissues the presence of such substance as shall prevent those changes which an introduced morbid agent would otherwise set up.

NARRATIVE OF AN INSTANCE OF CURE OF LUPUS ERYTHEMATOSUS.

By JONATHAN HUTCHINSON, F.R.S.,
Emeritus Professor of Surgery to the London Hospital.

ALL who know the disease will, I am sure, admit that cases of recovery from lupus erythematosus are, unfortunately, rare. As an instance of completed cure, the case which I am about to relate becomes, I think, of much interest.

I first saw Mr. J. P. B. on March 4th, 1881. He came to me on account of patches of erythema-lupus on each side of his nose, about its middle. There was a third on its ridge, near the tip, but the three did not coalesce, and thus the bat's-wing was not complete. Their arrangement was, however, quite symmetrical. Mr. B. was a tall man, rather spare, but in fairly good health. His age was 45. He had never suffered from actual chilblains, but had a feeble circulation, and dusky ears. A maternal aunt had died of phthisis. He had himself once consulted the late Dr. Baly, in the belief that his chest was delicate, but had been told that he ailed nothing but "dyspepsia and weak heart." His skin had always been very irritable, and he was liable to little spots on the hands, etc., which itched intolerably, and which he used to scratch until they became sore. Such was his state when the erythema-patches showed themselves on his nose. I may add that he was living the life of a country gentleman in a cold district. The patches had been present about a year when he came to me. I prescribed for him arsenic internally, and a weak lotion of tar and lead to bathe the patches.

Between 1881 and April 1883, I saw nothing of Mr. B. At the latter date, his surgeon, Mr. Williams, of Norwich, wrote me that he was worse. It was now decided to insist on the use of arsenic.

In February 1885, Mr. B. called to show himself, and to tell me that his lupus was quite well. It was absolutely so. White, thin, inconspicuous scars took the place of the former patches, and there was neither thickening nor erythema at their edges. The scars on the sides of the nose were each as large as a shilling, that on its middle not so big. On the scalp, which was nearly bald, there were several other scars as big as the end of one's thumb, which were the remains of other patches which had developed since his visit to me. As regards his cure, Mr. B. said that it was unquestionably due to arsenic. He said that, in consequence of my having remarked that I trusted most to external treatment, he did not, on the first occasion, continue the arsenic, having a prejudice against it, but used the tar and lead wash assiduously. The patches increased, and new ones on his scalp formed. Two years later, in 1883, Mr. Williams insisted on his taking the arsenic, and increased the dose. It was continued for fifteen months regularly, caused a sharp attack of shingles, and made the eyes red and irritable, but, in the end, quite cured the lupus. I inquired carefully as to whether any local remedy had been employed simultaneously, which might have been the real agent in the cure, but it did not appear that such was the case. As regards the patches on the scalp, it is true that Mr. B. thought that a hair-wash, "which made the scalp smart," had done them good; so much impressed had he been with this belief, that he applied the wash to his nose also, but this had been done only on a few occasions, and had not, he thought, helped the cure. It must also be remembered that he was taking arsenic all the time that the wash was being credited with the cure of the scalp-patches.

COMMENTS.—I have prescribed arsenic for many other cases of lupus erythematosus, but, having never realised any definite result, I have not urged it with much faith. It may easily be the fact that it has seldom been sufficiently pushed. It will be seen that, in this case, we have proof, in the occurrence of arsenical shingles and of red eyes, of the full physiological influence of the drug. I have, in a certain minority of cases, cured, or partially cured, this disease by the use of external applications, but have never thought that internal medication had any definite effect. This case would certainly suggest a more free use of our great remedy. I fear, however, that we shall find that it is by no means generally successful, and that Mr. B.'s case is, after all, a fortunate exception to rule. I have certainly seen many cases in which other surgeons had, before the patient came to me, pushed arsenic very freely, and sometimes apparently rather with injury than with benefit. The clinical fact that lupus erythematosus differs from all other forms of lupus in its tendency to develop symmetrically in isolated and independent patches, seems to show an alliance with psoriasis. At any rate, it indicates a constitutional rather than a local origin, and, as such, implies the probable need of internal remedies.

I append a note from Mr. Williams, which gives details as to the treatment.

"Norwich, March 5th, 1885.

"My dear Sir,—I am very glad Mr. B. called on you; he seems to me to be quite cured of his affection.

"The arsenic was pushed to its fullest, and persisted in from March 1883. Until lately, that is, until about three or four months ago, no local application was ordered by me; but, very rarely, he used a lotion prescribed by you, I think liquor carbonis detergens. Mr. B. took five-drop doses of liquor arsenicalis in water, three times a day, very seldom missing a single dose. When his conjunctivæ became congested, and the eyelids swollen, he left the remedy off for several days, more or less, according to the condition of the eyes. I was constantly urging him to go on with the remedy—pertinaciously so, indeed—and the result has been what you see.—I am, yours very faithfully, CHARLES WILLIAMS."

RETRACTION OF TESTICLE INTO ABDOMEN.

By J. B. HAMILTON, M.D., Surgeon-Major Army Medical Staff.

THE following case seems worthy of record, as being, if not unique, at all events exceedingly rare, and not, as far as I can ascertain, mentioned in any of the text-books.

Private J. N., a well developed and healthy young soldier, 21 years of age, was brought to hospital a few weeks ago, complaining of a painful swelling in the right groin. He stated that, when riding "barebacked" that morning, the horse suddenly plunged and threw him on to the withers; he at once felt a most sickening pain in the groin, and had to dismount and report himself sick.

On examination, an oval tumour could be felt in the right inguinal region, which gave no impulse on coughing, but was exceedingly tender to the touch. An inspection of the scrotum revealed the fact that the left testicle was *in situ*, but the right was absent. The man stated positively (and this is confirmed by the medical history-sheet) that, previously to the accident, both testicles were in their proper position. An attempt was made to "reduce the dislocation," but without effect, as the pain was so severe the man could not endure the necessary manipulation. I then ordered him to be placed in a warm bath and to have a dose of tincture of opium, with directions to endeavour to push the testicle back into the scrotum when the parts became relaxed. In the meantime, the man had to go to stool, and, on his giving a sudden bend to the left side, the testicle slipped up into the abdomen, and, when he was next examined, it could not be felt in any position.

The man was threatened with an attack of orchitis, which, if it had taken place in the abdomen, might have been most serious; but, having been kept in bed, and given small doses of calomel and opium every few hours, with fomentations to the abdomen, the pain subsided, and he recovered.

Private J. N. was kept under observation for some weeks, and was then discharged to duty as a tentative measure; but shortly afterwards he reported himself sick again, and stated that, when lifting a sack of corn, the testicle came partly down, and gave him great pain. He is now well again, and has been sent to dismounted duty. His condition now is this. The left testicle is in its normal position; the right cannot be felt, the scrotum at that side having tightened up till it has almost disappeared. The right external ring is very patent, and the finger can be passed up into the inguinal canal, but there is no impulse on coughing, nor any tendency to hernia.

The question now is, what is the best treatment to adopt? Several courses are open; the first and simplest, to apply a truss; the second, to perform an operation, as if for hernia, with a view to occluding the canal, and preventing the return of the testicle. If, however, the testicle should come down again, it might be possible (under chloroform) to get it into the scrotum, and to keep it in its place by means of a truss, or even by occluding the canal by passing threads across it, and exciting sufficient inflammation to close it; this was successfully done some years ago by Surgeon-Major Staples, in the case of an Indian wrestler, who had accustomed his testicles to remain in the canal, to prevent their being grasped by his opponents. This man was desirous of getting married, but his future father-in-law would not give his consent till his testicles were in their proper position; in despair he appealed to Mr. Staples, who succeeded in exciting inflammation in the canals, and preventing the retraction of the testicles upwards.

If the testicle of the present patient came down into the canal, and cannot be induced to return into the scrotum, it is a question whether it would not be advisable to remove it, as undoubtedly a movable

testicle, passing in and out of the abdominal cavity, will be a great source of danger, in case it should be injured, or suffer from acute inflammation. I have put forward these remarks in the hope that some other surgeon, who may have met with a similar case, will give me the benefit of his experience.

SURGICAL MEMORANDA.

VESICO-VAGINAL FISTULA.

THE advantage of introducing the finger into the bladder in cases of operation for vesico-vaginal fistula (a procedure which I do not find mentioned in the ordinary text-books) has appeared to me to be worthy of record.

Having dilated the urethra sufficiently to admit the forefinger, my first intention, in a recent case, was to evert the anterior wall of the vagina, in order to facilitate the paring of the edges of the fistula. This requires a third hand; and one has to be careful in the use of sharp instruments. But, as I found the eversion was not so easy of accomplishment as I expected, I cannot say it was of any great benefit in the particular case. In some others where the wall is laxer, it might perhaps be useful.

Where I found it most useful was in introducing the sutures. It was of great value here, because one could introduce the forefinger of the left hand along the bladder, and thus direct the application of the needle with precision and celerity.

The case in which I tried this procedure has done well so far as it has gone, twelve days since the operation.

P. TYTLER, M.D., Surgeon to the Ardwick and Ancoats Hospital, Manchester.

HEREDITARY TRANSMISSION OF DUPUYTREN'S CONTRACTION.

E. McC., 23 years of age, has had, from birth, the little finger of his right hand contracted; it is flexed towards the palm at the second and third phalangeal joints, and the whole finger deviates somewhat to the radial side of the hand. On the whole, it is a typical example of Dupuytren's contraction. The patient's maternal grandfather and his mother's brother both have the same finger of the same hand contracted in a similar way; and, in both these cases, the contraction is said to have existed since birth. The patient has one brother and four sisters living, none of whom exhibit any finger- abnormality. There is no family-history of either gout or rheumatism. SYDNEY H. A. STEPHENSON, M.B., C.M., Nottingham.

THERAPEUTIC MEMORANDA.

THE TREATMENT OF RINGWORM OF THE SCALP.

THE following is a simple and very effectual method of treating ringworm of the scalp.

The child affected is made to sit down on a chair before a washing-basin half filled with warm water; a folded towel is first of all tied round the child's forehead, in such a way that no fluid poured on the head can trickle down into the eyes.

It is best to cut the hair short all round the affected part. If there be many spots of ringworm, the whole head may be closely cropped. Have ready a two-ounce bottle of common spirit of turpentine, an ounce bottle of tincture of iodine, a camel-hair brush, and a 10 per cent. cake of carbolic acid soap.

While the child bends forward over the basin, the spirit of turpentine is freely poured over one or more spots at a time, the forefinger being used to rub the turpentine well into the scalp. Almost immediately the dirt and greasy scabs disappear, and the short broken hairs are seen to stand up like bristles. Generally, in about three minutes' time, the child cries out, "Oh, it nips!" then we know that the turpentine has penetrated deeply. Immediately, the piece of carbolic acid soap is well rubbed into the parts which have been acted on by the temperature, and warm water is freely applied to make this soap into a lather, by which means the head is well washed, and soon appears to be beautifully cleaned. The smarting, such as it is, quickly disappears after the application of the soap. The head is then well dried with a towel. Common tincture of iodine, in two or three coats, is now painted well over the affected parts, and allowed to dry. As soon as the hair is dry, some carbolic oil (1 in 20) is rubbed all through the hair to catch such spores as may be there.

This treatment, applied every morning, or morning and night in