went on to their home to obtain a horse on which to deliver the patient to his friends. By these arrangements small-pox commenced its ravages at two centres at the same time. On visiting the home of the importer of the disease shortly after his arrival, seventeen individuals were found affected,³ occupying ten huts, all within a radius of 100 yards. In order to limit the spread of the contagion, sentinels were posted in a ring around the area in which those suffering were residing, so as to prevent ingress and egress. In assisting me to appoint men for such duty, the petty chief showed ingenuity in picking out only those who were young, handsome, and unmarried, remarking that such would be least likely to sleep at their posts.

More to be relied on than quarantine we urged on the neighbours the importance of vaccination, and accordingly a few children just outside the cordon were operated on; from these on the eighth day more could be protected, and by the third week there was sufficient virus at hand for the needed purpose. By these means the outbreak did not spread beyond its original limits. With the same malady epidemic in various parts of the adjacent territories, and the natives constantly moving about, it was not to be wondered at that in several quarters the contagion was repeatedly reintroduced into our district. In all cases the precautionary measures mentioned were adopted. Sometimes one was fortunate enough to check an eruption at its birth by timely vaccination of those in immediate contact with the victim of the disease. Now and then both vaccination and small-pox ran their course together in the same individual, the former having been administered too many days after exposure to the germs of the disease.

Those who, inside quarantine limits, were successfully vaccinated were able to stand as severe a test as could be devised, as they lived in the same huts as the patients, and nursed and tended them. I have no single note of any unvaccinated person enclosed in a quarantine line escaping the disease; while, on the other hand, the numerous instances occurring during many months of vaccinated people being enclosed with those dying of the pest, and yet escaping all illness, opened the eyes of the savages to the value of Jenner's discovery.

Within twelve months from September 1884 I had personally visited and dealt with twenty separate epidemics in our district, affecting in all 370 people, and causing 118 deaths. Though during this period endeavours were made to establish general vaccination through our territory it was found impossible to do so, owing to the selfishness of those operated on in not returning on the eighth day, their idea being, "I am safe, let others look out for themselves," and hundreds had to be sent away on the vaccination day dissatisfied. It is noteworthy that while in some civilised communities the aversion is to have any virus inserted, among these savages the aversion was to have any virus extracted from them.³ In the difficulty of obtaining a constant arm-to-arm supply of virus, stored lymph was repeatedly obtained from the Local Government Board and from private agencies in London. Good results were obtained from both calf and human vaccine when used directly after receipt.

Here and there, in exceptional cases, the tribesmen quite close to a small-pox centre would refuse vaccination. In one instance, with the disease raging only forty yards away, a large family preferred the witch doctor's remedy to mine. It was thought quite safe to predict for this household small-pox for a companion; but the course of events proved the unwisdom of prophecy, for although remaining all the time on their original ground⁶ until the quarantine was relaxed, the plague never touched them.

The witch-doctors, at the commencement of the panic, visited all villages, and, in return for sheep and oxen, gave the inhabitants decoctions to drink to avert the calamity. Some of them went into small-pox centres to treat the sick, and, returning to their homes, in two instances lighted up the flame of contagion in their own families, and died themselves.⁷

³ The locality where the epidemic was started by the sojourn of the patient while his friends left him was too far away for one to be able to visit it, and accordingly directions were sent to fix a quarantine and the neighbours advised to get themselves vaccinated.

⁴ The Government, when advised to proclaim a Public Health Act to enforce such to return, replied that they had no machinery to carry out such a provision. See Blue-book Reports of District Surgeons (Author). 1885. Cape Colony.

⁵ The prisoners, of whom we sometimes had fifty or more at the Residency, became unwilling aids during the year in the spread of lymph.

⁶ In this instance they could not have moved, for they were included inside the quarantine line as part of a contagious community.

⁷ The white doctor could point to such instances as the consecutive deaths of

Finding their patients' faith in swallowing a pint or two of stewed roots as a charm against the disease waning, the native healers gave up their original practice, and paid vaccination a compliment by imitating its operation in their practice of preventive medicine.⁸

In addition to breaking the cuticle over the deltoids, they performed the operation over both wrists, on the chest, in the back between the shoulders, and over both ankles; in the abraded spots roots were rubbed.

The natives, in the later stage, when the crusts were falling off, made a general custom of smearing the whole body with a compound made of grease, and clay obtained from the soil. This practice they considered of therapeutic value in preventing pitting.

Among the sequelæ, one case only, and that in an infant, was noted of total blindness.

The mortality was greater, perhaps, than it would otherwise have been, owing to the insufficient care the people had. The lot of the unfortunates shut in the quarantine was pitiable in the extreme. In one instance, out of more than thirty enclosed every male died; and the girls, while themselves stricken, had to dig the graves and bury their relations.⁹ In addition to the terror shut in with them, the helpless victims during the night remained in fear lest they should see their hut in flames, as neighbours sometimes endeavoured to burn out the pestilence by thrusting a lighted brand into thatch. Hunger had also to be endured, as friends around, taking advantage of the adversity of the sufferers, were apt to steal any stock that strayed to the boundary line.

In January, 1885, the author resigned his appointment. The after-history of the disorder, obtained from reliable sources in the colony, is as follows: After a brief pause the disease broke out again in the district in 1886, and caused great havoc.¹⁰ During 1887 only four doubtful cases were observed by the district surgeon, and the epidemic finished.

The noteworthy points in the history of this epidemic are:

1. Of the premonitory symptoms usually given as distinctive of small-pox, only headache was complained of by the Kafirs.
2. Vaccination was absolutely protective. I have no single note of any person bearing a good vaccination mark (no matter when performed) having taken the disease, either inside or outside the cordons, although such a case was looked for.
3. The disease was extremely contagious, but people (unvaccinated) lived within forty yards of active confluent small-pox without suffering.
4. Stored lymph, when recent, was capable of producing good protective vesicles.
5. By general vaccination in a circle round an infective centre the spread of the complaint could be stayed locally.
6. Quarantine and partial vaccination were inefficacious to preserve the district from fresh inroads.

CASE OF GANGRENE OF THE LOWER EXTREMITIES FOLLOWING A BLOW ON THE EPIGASTRIUM: DOUBLE AMPUTATION AND REMARKS.

By GEORGE CURTIS,

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[Communicated by the Director-General of the Medical Department of the Navy.]

A KROOMAN, aged 28, was received into this hospital on August 4th, 1888, suffering from gangrene of the lower extremities, the line of demarcation being well formed in each in an irregular ring from four to six inches above the malleoli: pulse 80, weak; body temperature ranging from 100.4° to 103° F.; gangrenous parts very fetid, covered with bullæ, swollen and crepitant to touch.

native physicians, while he, on the other hand, repeatedly visited the infected kraals, as a proof of the powerlessness of Kafir skill. With their logical instinct all acknowledged that their "own men were no good at small-pox."

⁸ After the deaths mentioned, they declined treating the disease itself.

⁹ In one spot five were shut in by cordon. Every one of these succumbed, and the writer, with the help of a native policeman, buried the last to perish, who had already been partially eaten by wild dogs.

¹⁰ It is difficult to estimate the number of people who suffered during the epidemic; my numbers refer to those actually seen by myself.

The above condition resulted from stoppage of the circulation of the parts, which came on rapidly, accompanied by intense pain, on emerging from a state of relapsing syncope caused by a severe blow on the epigastrium on board his ship on July 10th at sea. He was struck by a capstan bar on the abdomen, the capstan having surged as he was "heaving round" when the slack of the towing hawser was being taken in, the ship, which had been in tow, having been cast off by the towing vessel.

Amputation being inevitable, I removed both legs under chloroform on August 6th, about eight inches from the knee. Long and broad flaps were used in front and short behind, and the crests of the tibiae bevelled off. The resulting stumps are neat and sound; the line of cicatrix being behind and above the end of the bone leaves the limb well adapted for the "kneeling pin."

The rationale of the process of gangrene set up simultaneously in both feet after a blow of the abdomen is not self-evident. This man has a rather weak pulse, but the heart sounds are normal; he is a native of the tropics, entering suddenly into a temperate and comparatively cold climate, and was liable to chilled feet by his occasional occupation—namely, washing clothes on a lead flooring; and these circumstances may have predisposed to blood stagnation of the extremities. But the efficient cause of gangrene was plainly the severe blow on the epigastrium, and the subsequent chain of events seems to have been—shock of the sympathetic system, through the sudden contusion of the solar plexus and splanchnic ganglia, etc., (analogous to concussion of the brain or spinal cord); relapsing syncope of heart, with general vasomotor paralysis and stasis of blood in the remote vessels. The blockage of the tibial vessels seems to have been too great for the returning circulation, and local death ensued.

LARYNGOLOGICAL MEMORANDA.

A CAUSE OF NASAL OBSTRUCTION.

If an anterior rhinoscopic examination of the nose be made, it will be observed that at the junction of the skin lining the vestibule with the mucous membrane lining the anterior nares there is a projecting band of tissue running from above, backwards and downwards, along the outer wall of the cavity. If now the patient be directed to inspire strongly or to sniff, it will be found that this band will, at each inspiratory act, approach towards the septum of the nose so as to considerably narrow the air-passage. This band corresponds with the junction between the lower lateral cartilage of the nose and the bony margin of the anterior nares, and its position is marked externally by the depression usually seen immediately above the lower expanded part of the nose.

My attention was recently attracted to this band as a cause of nasal obstruction by observing a case in which expiration through the nose was easily performed, but in which, at each inspiration, the *alæ nasi* fell in to such an extent that the bands above referred to came in contact with the septum, and acted as a complete valve. This patient had all the usual symptoms of nasal obstruction, but examination of the nose and naso-pharynx failed to discover any further cause of obstruction, and, indeed, it was evident that none other existed, for when the anterior nares were held open by a speculum or by drawing the *alæ nasi* away from the middle line with the finger, inspiration was performed with the greatest ease.

This band can be seen more or less well marked in perfectly normal noses, but in such it produces no impediment to inspiration, as it is sufficiently far away from the septum. But in a nose in which the *alæ nasi* do not stand out as prominently as they should (and this we frequently see in adults as the effect of post-nasal growths in childhood), the *alæ nasi* fall in at each inspiration, and this band and the septum come into apposition so as to completely block the nose. The same result may be seen in cases where the anterior part of the septum deviates even slightly to one side.

I believe that this cause of nasal obstruction is usually overlooked because the introduction of a nasal speculum, which is usually the first thing done in a rhinoscopic examination, hides the band from view, and, at the same time, prevents it from falling in during inspiration, and producing its obstructing effect.

I have not yet had the opportunity of observing the effects of treatment in this condition, but I think that the introduction of two hollow vulcanite tubes into the anterior nares at night would hold the passage open, and so prevent the dry mouth, etc., so com-

monly complained of in the morning, and at the same time dilate the apertures so that in time the bands referred to would be sufficiently removed from the septum to cease to do any harm.

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SURGICAL MEMORANDA.

A READY AND EFFECTUAL METHOD OF APPLYING THE PRINCIPLES OF MANIPULATION IN THE REDUCTION OF RECENT DISLOCATIONS OF THE SHOULDER-JOINT.

As a ready and simple method of reducing dislocations of the humerus, I can recommend the following manoeuvre, which I have successfully put in practice in three cases of recent luxation of the humerus (subcoracoid) coming under my personal care.

The patient—suppose the right humerus is dislocated—is placed on the floor on his left side, and the surgeon stoops or kneels beside him, and, taking the patient's right arm, places it with the forearm lying over the operator's neck, whilst the patient is directed to grasp the wrist of the injured arm with his left hand, or lock his fingers together. The surgeon is thus hugged by the arms of the patient. Now, in order to effect reduction, traction should be made "in the axis of the bone perpendicular to the glenoid fossa," as this allows relaxing of the muscles (the main obstacles to reduction), and is the best method of overcoming the mechanical difficulties preventing reduction. By gently raising himself into a more erect position, the surgeon makes traction on the extremity in a gradual, continuous, steady pull, and the weight of the patient's body acts as the counter-extending force, whilst the right hand of the operator, placed in the axilla, feels the head of the bone, and with a gentle touch of his fingers the bone slips into its place. The hands of the operator are entirely free to guide the head of the bone, the right one in the axilla, the left one placed on the shaft of the humerus steadying it, and both helping the mind to change the direction of traction into the line of least resistance by the swaying motion the surgeon can impart to his body in the "hunkering" position in which he acts.

The principles are simple and easily understood. By humouring the muscles and their various degrees of tension, spasm, and resistance the bone can be easily restored to its natural relation with the scapula. No extraordinary effort on the part of the surgeon is required; all movements can be done, as they should, in the gentlest manner possible, persevered in slowly and steadily, without jerking, and it is found that by moderate extension, and without any assistant's help, the surgeon, with surprising ease, and in less than two minutes, feels the bone go into its place with a slight snap. GEORGE S. THOMSON, M.B., M.Ch., M.A.O., R.U.I.,
Mhow. etc., Surgeon, I.M.S., Bombay Army.

CLINICAL MEMORANDA.

CHOREA AND RHEUMATISM.

I THINK the following case may be of interest as throwing some light on the pathology of chorea in connection with rheumatism, especially after the recent discussion at the Medical Society of London on this very interesting question.

On January 12th I saw E. M., aged 14. Both her knees were swollen and tender: she seemed in considerable pain, and her general symptoms pointed unmistakably to acute rheumatism. The heart's action was a little excited, but there was no evidence of any endocardial lesion. She was only just recovering from an attack of quinsy. Under salicylate of soda the arthritic symptoms rapidly subsided, and I was in hopes of a speedy convalescence.

On January 18th well-marked choreic symptoms made their appearance, but every trace of joint affection had gone, and, on careful examination of the heart, no sign of disease could be elicited there, although I auscultated with a strong impression that some valvular lesion ought to be present.

January 21st. Chorea about the same. Again I carefully examined the heart, with negative result. Temperature normal.