being seen to rightwards of the monocular median line; there is, moreover, a coalescence of the two median lines of monocular vision for the formation of the median line of binocular vision; so that, as has been already indicated, the two internal recti are non-consensual muscles. Neither, lastly, should it be overlooked that there is a main directive median line proceeding from the encephalic centre of perception directly forwards; this is not of visual origin, being determined by the tactual muscles regulating the position of the body. When the eyes are converging on some object on the right side of the body, the median line of binocular vision is inclined at an angle to the main directive line; the main directive line, however, has no bearing on the phenomena of double vision, these being definable as being the relation that ocular spectra hold to the median line of binocular vision.

Before concluding with a recital of the details of such phenomena it will be expedient to treat of "double touch," inasmuch as the singular experience bears precisely the same relation to the special tactile sense that double vision does to the visual sense. Proning the right hand let us place two marbles in contact with the right and left margins of the index finger respectively; one of the marbles will be perceived to the right by the agency of the muscle moving the finger in this direction, the other to the left by the muscle moving the finger to the left, and the median line to which these diverse directions are related will be none other than a line bisecting the finger longitudinally.

In the well known experiment of double touch, the median directive line is one proceeding from the web of the index and middle fingers so as to separate them. The small marble is in contact with the right margin of the middle finger, which is under the directive influence of the muscle moving this finger towards the right, and it is in contact with the left margin of the index finger, which is under the influence of the muscle moving this finger towards the left. Since, therefore, the single marble is under influences determining directive perceptions both to the right and to the left, and seeing that these diverse directions hold relation to a median line that is common to both fingers, it will follow that there must be the perception of two marbles, as in the experiment with two actual marbles in contact with the index finger.

But, returning to a practical consideration of the facts of double and single vision, let us treat of them thus:—

First, as regards an object that is contained by the angle of binocular convergence, it will be seen to the left of the median line of the right eye and to the right of the median line of the left eye. These duplicate median lines of monocular vision become resolved into the single median line of binocular vision, and the object is under influences which determine directions both towards the right and towards the left; consequently, as with the marble, there will be a duplicate resultant perception.

Secondly, with regard to an object that is contained by the extension of the above angle, it is seen to the right of the median line of the right eye, to the left of the median line of the left eye, and both to right and left of the median line of binocular vision—i.e., duplicated.

Thirdly, with reference to an object that is contained by either of the exterior angles of binocular convergence, it will be seen to the right of the median line of the right eye if it be seen to the right of the median line of the left eye, and thus it will be seen to the right of the median line of binocular vision. So, similarly, with regard to an object that is seen to the left of the median line of each eye, it will be seen to the left of the median line of binocular vision.

Lastly, let us suppose that an object is seen four degrees to the left of the median line of the right eye, and eight degrees to the left of that of the left eye, it will be seen single and along a line of visible direction that is six degrees (the mean) from the median line of binocular vision, and this mean angle of six degrees will be formed at the encephalic centre of perception. There is, under these circumstances, the same composition of directive forces that is evidenced when the eyes are made to converge on a lateral object in the field of vision. Let the eyes converge on an object that is six degrees to the right of the main median line of direction; the left eye may perceive the object eight degrees to the right of the main line, and the right eye four degrees; but binocular vision will give it its correct value of six degrees, by virtue of muscular co-operation and the agency of the aforesaid directive composition.

New Kent-road, S.E.

REMARKABLE CASE OF PERIODICAL PEELING OF THE CUTICLE.

BY A. CHEVALLIER PRESTON, M.R.C.S.

THE following interesting case, which occurred in my practice, is, I think, worthy of being placed on record.

M. J—, aged sixty-seven, a fairly nourished woman, of fair complexion, a native of Gloucestershire, came under my care in July last. The complaint from which she was then suffering was of old standing; but she stated that she had with this exception enjoyed good health from childhood. The only serious illness had been small-pox at the age of two years, and she has a large bronchocoele, which developed at the age of puberty. Subjoined is the history she gave me of her present illness, which is, according to her statement, identical with what she has suffered at intervals since childhood. At intervals of a month or six weeks the following occurrences manifest themselves:—After a day or two of slight feeling of malaise, the skin of every part of the body comes away in "casts," and the cuticle, which separates from the extremities, does so in one entire and sometimes unbroken piece, resembling a "glove" or "stocking." The new skin beneath has the appearance of ordinary skin after desquamation, and "lasts her," to use her own expression, for several weeks, when it begins to get irritable and inflamed. She has lately been going through one of these "changes," and I have had the opportunity of watching her daily. The first time I saw her, a week before the final "casting off," she was feeling unwell, and told me she was expecting a change of skin, and begged me to give her no medicine, as she had found that certain medicines that were prescribed for her at this stage made the skin fall off more thickly, and caused her pain, by leaving only a thin covering all over the body; at least, this was her experience. She was then suffering from slight rheumatic pains in her left elbow, for which I prescribed an anodyne liniment, which relieved her; but she was not able to continue it, as the peeling commenced where the liniment was applied, and the new skin was too tender to bear it. She was kept in bed, being cold weather, and in three days the desquamation became general; the skin of her nose, ears, and hands coming off as complete casts. The desquamated skin is of the thickness of the ordinary cuticle, and in places it is as tough as the lining of a hen's egg, and I have preserved the covering of the hands and feet in spirit. Now that the skin has come off she expresses herself as "quite well" again, and is able to get about, feeling far more comfortable in the new skin than in the old one. I questioned her closely as to her previous history and could gather nothing from it to throw any light on the cause of this extraordinary phenomenon. She has had a large family, and has healthy children; none of them having any appearance of her idiosyncrasy. The state of her menstrual functions was always good up to the change of life, seventeen years ago, and she did not associate this occurrence with the menstrual flow at any time, unless by accident. She states that she first remembers an attack of this kind at the age of seven years, and she was afterwards told by a medical man that it was from "catching cold after the small-pox." The phenomena of this disease are so unfamiliar to me, that I shall welcome any hints as to diagnosis, etiology, and treatment of the case.

Amberley, Canterbury, N.Z.

CASE OF SEVERE CUT THROAT;

WITH SOME REMARKS ON THE ADMINISTRATION OF
NUTRITIVE ENEMATA.

BY S. J. RENNIE,

SURGEON, ARMY MEDICAL DEPARTMENT; LATE CIVIL SURGEON IN CHARGE
OF THE 16TH BRIGADE DEPÔT, ASHTON-UNDER-LYNE.

W. T—, aged forty-three, a private in the 96th Regiment, of twenty-one years' service, a man of intemperate habits, and who had previously suffered from syphilis, having lost the greater portion of his palate from necrosis, was admitted to the Station Hospital, Ashton, on Sept. 27th, 1880, at 7 A.M., he having been found in a state of syncope, in one of the latrines, with his throat cut.

On examination of the wound it was found to extend from the posterior border of the left to the anterior border

of the right sterno-mastoid muscle, across the crico-thyroid membrane, dividing the larynx completely and opening the œsophagus. The left external jugular and several other large veins were divided, as well as one or two large arterial branches, and the patient was in a state of profound syncope from the very profuse hæmorrhage that had occurred. An enema of brandy was at once administered and the vessels secured, sutures also being introduced on each side of the wound to bring its gaping edges nearer together, but not so as to close it over the trachea. He was then stripped and put to bed, with hot-water bottles, &c., when it was found that he was suffering from phagedænic chancre, the penis having almost sloughed off. He had concealed his disease for four months, and this was afterwards found to be the cause of the rash act. A tent was then erected over his bed, which was placed before the ward fire, and steam introduced beneath its folds, and this was kept constantly going till the wound was entirely healed. The throat was well cleansed with carbolic lotion and dressed with a single layer of carbolic gauze, laid lightly on, and changed frequently, and the penis enveloped in a charcoal poultice. He was fed during the remainder of the day and night by specially prepared nutritive enemata, the preparation of which I shall draw attention to afterwards. Evening temperature 97° F.; pulse 65, feeble. Ordered one-third of a grain of morphia hypodermically.

Sept. 28th: The patient slept about three hours; had expectorated large quantities of clot and bloody sputum. Temperature 99·5°. Ordered seven ounces of brandy, two pints of milk, two eggs, and three pints of beef-tea, which were administered in portions four times daily by the stomach-pump, and this was done regularly till he was able to swallow, the only additions made being a little arrowroot and raw steak shredded in the beef-tea. Throat dressed. Evening temperature 99°. Repeated hypodermic injection.—29th: Slept fairly well. Temperature 99°; pulse 80. Bowels not opened. Ordered one ounce of castor oil, which was given along with food. Wound commencing to granulate at edges. Evening temperature 100°. Repeated hypodermic injection of morphia.—30th: Slept some hours. Bowels opened twice. Fed and dressed as usual. Evening temperature normal. Repeated hypodermic injection.

On Oct. 1st the wound was brought closer together by stays of strapping, which depressed the chin on the chest. The patient felt better. Ordered black lotion to penis, and ten grains of ointment of mercury to be rubbed into the inside of the thigh twice daily. Evening temperature normal. Morphia discontinued.

The same treatment was pursued till Oct. 10th, when, his mouth beginning to get sore, he was ordered instead ten grains of iodide of potassium twice daily, to be given with food. Black lotion to be continued. Penis looks much better, and throat is healing rapidly, the treatment now adopted being the protection of the wound by the layer of gauze and the free use of Condy's fluid lotion to remove secretion as soon as formed.

The patient progressed favourably till Oct. 24th, when he had a sharp attack of acute pneumonia of the left lung, which was treated by constant poulticing, and quinine in pill, which was introduced, by the aid of a pair of forceps, through the wound into the œsophagus. Iodide discontinued. This lasted till the 29th, when the expectoration became of a bronchitic character, and the temperature fell, redux crepitation being heard, and the chest sounds becoming gradually normal during the following days, with the exception of some bronchitic sounds which have remained up to the present. On Nov. 3rd the iodide was resumed. Cough and expectoration improving; wound in œsophagus healed; able to swallow a little milk. On the 5th the external wound was nearly healed. On the 10th the wound was healed; steam discontinued. On the 15th took a little solid food; swallowed liquids easily; use of stomach-pump discontinued; tent round bed removed; penis healed, leaving a fistulous opening in urethra, about two inches from meatus, and the whole thickness of the corpus cavernosum of the right and part of that of the left side sloughed away and cicatrised for about an inch. Iodide discontinued, and ordered five grains of citrate of iron and ammonia with water, three times a day. Ordered also chicken diet and two pints of porter, as well as three ounces of brandy. On the 17th allowed up. Cough rather troublesome. Ordered a linctus of squill and morphia (one-thirty-sixth of a grain to the dose). Slight pain on left side.

December 1st.—Cough much better. Gradually gaining

strength.—Dec. 30th: Convalescent. Cough almost gone; able to go out and take exercise. Passes urine both by fistula and meatus. Catheter passed occasionally to prevent stricture at fistula. Wound in throat perfectly cicatrised. No signs of any stricture in œsophagus. Gaining flesh rapidly.

Remarks.—The remarkable feature of this case was the patient's recovery after so severe an injury, complicated as it was with pneumonia, and occurring in a constitution so vitiated by climate, intemperate habits, and syphilis. The fact of his having suffered from chancre for four months, which had pulled him down fearfully, and the enormous loss of blood he sustained, must also be taken into consideration. As to the penis, I had thought at first of removing what remained to facilitate matters, as it seemed that ultimately it would be entirely lost by sloughing. Later I had also intended to attempt the restoration of the urethra by a plastic operation, but taking into consideration the amount of cicatricial tissue in the neighbourhood, I came to the conclusion that this was not feasible. With regard to the specially prepared enemata mentioned in the case, I have been in the habit of giving these on several occasions with marked benefit; the rectum tolerating them for a much longer time than it will ordinary nutritive enemata. Their preparation is based upon the ground that the rectum and colon have no power of assimilation, only of absorption, and that to a limited extent. It is therefore necessary, to reap the full benefit from these injections, that they be assimilated previous to their introduction into the bowel, and this is effected by converting their albuminoid constituents into peptones by digestion with an artificial gastric fluid. The rough-and-ready method I have adopted for this purpose is to take a basin of good beef-tea, into which half a pound of lean raw beef-steak has been shredded, and at a new-milk temperature to add one drachm of fresh pepsina porci and half a drachm of dilute hydrochloric acid. This I place on the hob of the fireplace, and let it remain four hours, stirring frequently. It is then in a fit condition for use, and may be introduced in such quantities and at such times as may be considered desirable. Sometimes, however, a little more pepsine is required, which may be ascertained by examination with a spoon. It is necessary to see that the heat does not become too great, as then the process is stopped altogether, and it is better to have it too cold than too hot. If alcohol is to be given along with it, it should not be added till the last minute. Eggs may also be added, having been previously well beaten. I have, as I said before, frequently given these enemata with good results, and I can confidently state that they are well worth a trial by anyone who has a suitable case under his care.

STAB IN THE GROIN; LIGATURE OF THE COMMON ILIAC; GANGRENE; DEATH.

By THOS. WM. WALSH, F.R.C.S. ENG.

Now that both the gentlemen associated with me in the following case are dead, I may without impropriety offer the same for publication.

On Sept. 28th, 1878, I received a telegram (without specifying the nature of the case) to meet Dr. E— in consultation fourteen miles off. On arriving I found that Mr. B—, aged twenty-two, had been stabbed in the left groin twelve days previously. Dr. E— stated that he had ligatured the external iliac, but that arterial hæmorrhage was constantly recurring on the removal of a large pad which was placed over the lower part of the abdomen; that he had a few days previously made another attempt to tie the bleeding vessel, but that the hæmorrhage was so alarming that he immediately desisted.

The patient was much exhausted, yet the only hope of saving life was to arrest the hæmorrhage, and I therefore recommended that the wound should be enlarged and search made for the bleeding vessel. To this all parties assented. Having only my pocket case with me, I extemporised an aneurism needle, with an eye probe securely fastened on a hook tenaculum. On enlarging the wound and removing a considerable clot, the blood immediately jetted out with much force, but by compressing the aorta I was enabled to discover that the bifurcation of the iliac was wounded.