

and permanent elasticity peculiar to that kind of spring, admits of easy and constant vibrations backwards and forwards. To the other and posterior extremity of this spring, an artificial *flexible velum* is attached. This part of the instrument is constructed of Mr. Goodyear's preparation of caoutchouc, which, having the property to resist the action of both oils and acids, and at the same time sustaining a high degree of heat, has proved well adapted to the purpose. In attempting to describe the artificial velum, we must, for the want of better terms at present, designate its principal parts as its *body* and *wings*. The body of the velum consists of a lamina of the caoutchouc, of a somewhat triangular form, and of the same size and shape as the vacant space it is intended to occupy, that being the plane which would be indicated by imaginary lines connecting the opposite sides or columns, and subtending the vertical angle of the fissure, at which point the velum is connected to the posterior extremity of the spiral spring. This lamina, constituting the body of the velum, is divided into three pieces, which overlap each other. The wings project obliquely forwards and outwards from each lateral margin of the body, and being made to conform to the shape of the columns or sides of the fissure, are seen to rest upon their inner and anterior surfaces, thus covering a portion of the soft parts which constitute the boundaries of the posterior fauces. In like manner, along each lateral margin of the body, there is (in mechanical phrase) a flange, projecting obliquely backwards and outwards, and extending along down the posterior surface of the column, it terminates at the inferior angle of the velum. In this way the wing and the flange, on the same side, together form a groove fitted to receive the fleshy sides of the fissure. As the preparation of caoutchouc made use of presents a smooth surface, and yields readily to the slightest pressure, it is found to permit the contact and muscular motion of the surrounding soft parts, without causing any irritation. When, therefore, the sides of the fissure tend to approximate, as in deglutition, gargling the throat, or the utterance of some of the short vowel sounds, the three parts of the body of the velum slide readily by each other, thus diminishing the extent of exposed surface, and thereby imitating, to some extent, muscular contractile action, the force being derived from without, and not, of course, contained within the instrument. During the effort made in speaking, the surrounding muscular parts embrace and close upon the artificial velum, and press it back against the concave surface of the pharynx. The passage to the nares being therefore temporarily closed, the occlusion of sound is accomplished, and articulation made attainable, as the voice or sound, as it issues from the glottis, is thereby directed into the cavity of the fauces, and confined there long enough to receive the impressions made upon it by the tongue, lips, &c., in the formation of the consonant letters.

The foregoing description may not be thought sufficiently specific; but some considerations preclude, at the present time, a more detailed account, which, to be intelligible, would require the aid of figures to illustrate the mechanism of the instrument. Even that might fail to satisfy one much interested in the subject, without an opportunity being offered of witnessing actual results derived from its application.

Though the instrument, after having been adapted in the way above described, was found materially to improve the speech, yet it was still considered defective, and not admitting of general application, until other important requisites had also been attained; for it was necessary to make it so yielding as not to irritate the sensitive and restless parts with which it must come in contact; so that it might at all times be retained in place without inconvenience, while eating, drinking, or during sleep. At the same time, it was required to possess a degree of strength and firmness sufficient to sustain the force of any sudden shock, as in coughing, sneezing, or laughing, without the risk of being displaced, or in any way deranged. Durability of the substance composing the velum was also regarded as a point of the first importance to ensure its usefulness. The material made use of, as prepared by Mr. Goodyear, and managed according to his instructions, was found (after some practice in the manipulation necessary to bring it to the shape required) to resist the combined action of all the decomposing agents to which it must become subjected—viz., motion, animal heat, the moisture and acids of the mouth, and the oils of the food. The means afterwards devised to keep it in order, freeing it from deposits, and thus preventing fetor, consist in the occasional use of some alkaline or aromatic preparation.

Any one who has had an opportunity of seeing many cases of congenital fissure of the palate, must have observed that they present considerable diversity in their anatomical features. To meet the peculiarities of each case, therefore, renders a corresponding modification of the metallic part of the instrument necessary; but the same method of constructing the artificial velum is applicable to all the varieties the writer has yet met with. In those cases where, as in persons with hare-lip, the fissure ex-

tends quite through the palatine and superior maxillary bones; the gold plate employed to sustain the velum will of course complete the defective arch of the roof of the mouth.

We would now willingly add some account of the elocutionary practice and discipline resorted to in order to obtain the full benefit of the instrument after its adaptation; but this may well be deferred to a future paper; more space having already been occupied than was at first intended—the purpose of this communication is indeed merely to announce what had thus far been accomplished.

2, Vernon-place, Bloomsbury, June, 1845.

* * We are happy to give publicity to Mr. Stearns's very ingenious invention, which we really believe calculated to relieve a most distressing infirmity. We have seen the instrument applied in a well-marked case of congenital fissure of the velum palati, and found Mr. Stearns's promises fully substantiated. The articulation, previously very imperfect, at once became so natural that a person not acquainted with the history of the patient would scarcely have imagined there was any defect whatever in the organs of speech.—ED. LANCET.

CLINICAL CONTRIBUTIONS FROM PRIVATE PRACTICE.

CASE OF CONTINUED PRIAPISM.

By JOHN W. TRIPE, Esq. Surgeon.

R. W—, aged twenty-six, a seaman, of stout make and florid complexion, stated, that he arrived from Calcutta about the 12th of April, 1844, and had lodged with a female ever since. On Friday night, the 26th of the same month, he experienced an unusually fierce desire, with intense erection of the penis, which latter lasted throughout the night, with but little mitigation, being attended with pain of the left side of the organ, near the bulb, and an inclination of it towards the same side. These symptoms continuing, although congress was frequently resorted to, induced him to send for medical aid about two P.M. of the day following, when I found him in the condition above described.

On examination, the corpus spongiosum was found moderately turgid, especially the gland, which was situated near to the anterior superior spinous process of the ilium, and almost touching the abdominal parietes; the corpora cavernosa were fully distended and firm, scarcely yielding to pressure, and without any perceptible difference, either in colour or firmness, at the part from which the inclination towards the left side commenced. When its restoration towards the median line was attempted, the pain was much increased. Beyond these, he did not experience any uneasy sensation, nor was his health in any way deranged, the skin being rather moist, the tongue clean and moist, the pulse 75, full and soft, and the bowels open.

Let a cold lotion be applied, and let him take a quarter of a grain of tartar emetic, with one grain of powdered opium, every fourth hour; and three grains of calomel, with six of compound extract of colocynth, immediately.

April 28.—Slightly improved, the pain and inclination towards the left side being lessened, and also the distention of the corpus spongiosum. Repeat the medicines. Nine P.M.—The pain is slightly increased. Let six leeches be applied to the part.

29th.—Decidedly better. The pain is much alleviated, and the corpora cavernosa rather flaccid. The organ has assumed the median line, and forms nearly a right angle with the abdomen. Repeat all the medicines.

30th.—Much worse. The condition of the parts resembles that first described, with the exception of the inclination to the left. On close questioning, he acknowledges having had frequent communication since the 26th, and with the usual results, so that I advised his removal to the London Hospital. The report during the time he remained in the hospital was furnished by the senior dresser:—

R. W—, admitted for priapism, under the care of Mr. Luke, on the 30th of April, 1844. The corpora cavernosa are very much distended, but not the corpus spongiosum, or glands; the left crus of the penis is very firm.

Let him be bled to sixteen ounces, and twenty leeches be applied to the perineum. Apply a lotion of spirit in lime water, and give one scruple of calomel and rhubarb.

The pain was relieved by these means, but the tension of the parts was not at all diminished.

May 1st.—About the same.

Let him have some house medicine, and saline antimonial mixture three times a day.

2nd.—Not at all relieved, the disease being as intense as ever.

Let him have two grains of calomel every third hour.

5th.—The mercury has produced salivation, therefore it is discontinued; the organ is not so tense; the angle which it forms with the abdomen approaching nearer to a right angle.

10th.—Left the hospital of his own accord; in fact, much against the wishes of Mr. Luke. The penis is more flaccid, and forms a right, instead of an acute angle, with the pubis.

After leaving the hospital, he returned to his former abode, having free intercourse with the same female, until he left England for Sydney. During this time he had erections, and complete communication; the former proceeding to the usual extent, and afterwards gradually subsiding to the state in which the organ was previously to the venereal organism.

On leaving England, (May 18th,) his condition was as follows: Corpus spongiosum flaccid, corpora cavernosa moderately tense, and forming only an angle of about 45° with the pubis.

By letter, dated September, the condition last described remained without alteration for more than three months after he left England, but after that became rapidly palliated, and is now quite removed. On his return home he was perfectly cured, and without any ill results from his accident.

The remarks required by a case of this kind are but few. The lesion appears to have been caused by effusion of blood into the cells of the corpora cavernosa, which remained in a semi-fluid condition. The time (four months) during which it continued is very remarkable, whilst the perfect recovery of the patient eventually, seems to show that any instrumental mode of cure should not be attempted, unless undoubted signs of gangrene appear. In a case treated by Mr. Calloway, and published in the *Medical Repository* for April, 1824, venesection, leeching, the warm bath, tobacco enemas, tartar emetic, and nitre, were exhibited, and camphorated mercurial ointment was rubbed into the part, but without any benefit; wherefore, on the sixteenth day after the erection occurred, the left crus of the penis was punctured with a lancet, and a large quantity of dark grumous blood let out. By pressing the part, both corpora cavernosa were emptied through the aperture, which was followed for a few days by the escape both of pus and blood. The patient recovered, but never regained the power of erection, and therefore remained impotent for the remainder of his life, forming a marked contrast to the success of the foregoing case. In Mr. C.'s case, it occurred during, and was not diminished by repeated connexion.

Commercial-road, March 19, 1845.

CASE OF ACUTE HYDROCEPHALUS TREATED SUCCESSFULLY.

By G. S. C. BUTLER, M.D., M.R.C.S.E., Castletown, Isle of Man.

APRIL 27TH, I was sent for to see a child, aged five years, of delicate constitution. Two days previous to my seeing her she complained of great pain about the epigastric region, great languor and pain in the head, very frequently picking her nose, and other inflammatory symptoms. Her mother gave her three grains of chloride of mercury at the time she first complained; the morning after, she had some senna and salts, which opened the bowels very freely, but did not in any way mitigate the urgent symptoms, which were unabated at my first visit.

When I first saw her she was lying in her mother's arms, with the head hanging back, seemingly unable to support its weight. The skin was hot and dry; the face flushed; the tongue parched; great suffused redness about the eyes; the pupils dilated; pain in the head very acute, and other symptoms of pyrexia; the bowels regular; there was great heat about the head; the pulse 140 per minute. Occasionally she uttered a piercing cry, and I ordered cold applications of vinegar and water to the head, also the following mixture:—Acetate of ammonia water, one ounce and a half; spirit of nitric ether, tartrate of antimony wine, each two drachms; distilled water, one ounce. Mix. A small spoonful to be taken every hour.

At my second visit, the same day, the child seemed better in every respect. The pulse was now 120, skin cooler, and tongue much the same. Ordered the mixture to be continued. Shortly after, I was called back, as all the former symptoms began again to appear with double severity. Four leeches were now applied to the temples, which bled very profusely after their removal.

28th.—The child slept well; the face flushed; pulse 120, and wiry; tongue furred; skin still very hot and dry; no passage from the bowels; great thirst; the eyelids half closed; pupils dilated; heat in head very great; mind perfectly sensible, but cross. Ordered the following:—Pulverized scammony, four grains; chloride of mercury, two grains; pulverized jalap, five grains. This medicine she threw up. Another of the same was given about half an hour after, which she retained. At ten P.M. the medicine had not affected the bowels. An injection of castor oil and oil of terebinth was given, but without effect. Cold to head as before.

29th.—Heat over the body still the same; pulse 128, and full; great thirst; tongue better in appearance; bowels opened twice very freely; the evacuations had all the appearance of the injection she had had the evening before; there was also a large quantity of scybala of a very light colour, and very offensive; pain referred to head; got a warm bath, and cold to the head during the immersion. Shortly after, the face became very much flushed, the eyes suffused, and the carotids beating very perceptibly. I took about two ounces and a half of blood from the arm, which had an effect upon her so as nearly to cause fainting. The pulse fell to about 100. Ordered the back of the head to be shaved, and a fly-blister to be applied; also two grains of the chloride of mercury to be given every two hours during the day, and friction with the strong mercurial ointment. After taking about four of the powders she seemed greatly better. The skin now became moist, the pulse softer and less frequent. Another warm bath was ordered, and a sixth of a grain of tartrate of antimony. This also relieved the feverish symptoms. The bowels were again opened, and a very dark fœtid evacuation was the result. Continue the calomel.

30th.—Passed a very restless night; kept tossing the head to and fro, and throwing the clothes off her, and frequently picking the blanket; pulse 130, softer; tongue more natural; skin and head cool; complains of pain in the epigastrium; thirst not so great. Warm turpentine to be applied over the seat of pain, and the powder to be continued as before.

May 1st.—Slept badly; bowels opened very freely during the night; pulse 130; tongue better; head better. Continue the mixture as before.—Six P.M. A red eruption, slightly elevated, was to be observed over the face and arms, upon the appearance of which all the head affliction began to subside. Continue powders and mixture.

2nd.—The eruption gone; pulse 120; tongue cleaner, but more red at the edges than usual; skin and head much cooler; the pupils dilate and contract more naturally. Took a cup of tea, with a little bread soaked in it; thirst less.—Nine P.M. Bowels opened very freely, colour more healthy-looking; slight tenesmus. Ordered the chalk mixture; this, however, she did not take, as the tenesmus left without its aid. Slight tenderness over the whole abdominal viscera. Turpentine to be applied as before; cold still to the head. Child whines a good deal, and keeps the legs drawn up; thirst increasing; head cool; eyes seem very much sunken; face very pale; has a great inclination for food; asks frequently for an egg.

3rd.—Had a very restless night; great thirst; skin hot and dry; pulse 124, wiry; tenderness over the abdomen still continues; bowels regular; tongue red and furred; head hot, but not painful. Continue the cold applications to the head; the hands and arms to be washed with vinegar and water. Cold lemonade to be given ad libitum.

4th.—Much better; all the inflammatory symptoms quite gone; appetite returning; pulse 90; tongue clean; eyes brilliant; and not having had a bad symptom ever since, she has continued to improve up to this date.

May 21st, 1845.

FATAL HÆMORRHAGE FROM THE STOMACH AND INTESTINES; PURULENT INFILTRATION OF THE RIGHT LUNG.

By WILLIAM SMITH, Esq. Surgeon, Upper Berkeley-place, Bristol.

W. B.—, aged forty, a moderately strong man, of a bilious temperament, a nursery gardener; is generally much in the open air; not intemperate in his habits. Has an appearance of anxiety strongly marked on the countenance, as if in some degree he suffered from that depression of spirits which accompanies disordered stomach. He had been under my care with suppurating gland in the axilla for about six weeks. After its contents had been evacuated, it left a most troublesome sinus, which, however, was very nearly healed at the expiration of the period above named. From facts which I have learned since his death, he was then guilty of some convivial imprudences, and particularly of drinking some new rum, given him by a relative returned from the West Indies.

On July the 29th he was first taken ill, and on July 30th I saw him, when his symptoms were as follow:—Vomiting, (chiefly of bilious matter,) with continual diarrhœa; the evacuations watery, and accompanied with much tenesmus. There was great prostration of strength, shivering, and a rapid pulse, (110,) bounding under the finger yet easily compressed; slight soreness about the abdomen; the tongue yellow, and furred in the centre, with red edges and tip. The wound in the axilla not being quite well, I thought, from the symptoms, that an attack of erysipelas was impending, especially as he had had one during his illness, after using a stimulating injection to the sinus. Under the influence of calomel and opium, (calomel, eight grains; opium, two grains;