vent this. The practice is undoubtedly good, although the principle on which it is recommended may not be correct.

But a most important part of the treatment consists in the use of a stimulating application to the eye; and the best method of employing this is to drop a strong solution of nitrate of silver, six or eight grains to the ounce of distilled water, into the eye, and to repeat it every hour, so that its immediate effect may not be permitted to pass off before it is repeated. You should, in order to do this effectually, let the eyelids be carefully separated, and wash clean the surface of the eye by dropping in some tepid water, and immediately afterwards allow a few drops of the solution to fall into the external canthus, so that, by the action of the orbicularis palpebrarum, it may be swept fairly over the whole surface of the inflamed conjunctiva. This must be persevered in until the puriform secretion is entirely arrested, when it will be found that the swelling of the conjunctiva will gradually subside, and the disease may then be fairly said to be cured, although for some time afterwards there will remain some traces of inflammation, which gradually disappear.

It appears to me that in these formidable cases we must trust to a combination of active measures, rather than found our expectations entirely on any single class of remedies.

When, unfortunately, sloughing of the cornea has commenced, all active antiphlogistic treatment must be discontinued; but the stimulating plan, somewhat modified, may be pursued; or the use of an astringent collyrium, as a weak solution of alum, may be employed with advantage; and the constitution being supported by a more generous diet, and tonics, the sloughing process will be arrested, and cicatrization of the cornea may be anticipated, leaving in all probability a very slight opacity.

ILLUSTRATIONS OF THE SUCCESSFUL TREATMENT OF CLEFT PALATE.

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IN THE LANCET of September 2, 1850, I published a paper containing three illustrations of the complete cure of cleft palate by the division of the above-mentioned muscles. I then endeavoured to show why the incisions proposed by Professor Fergusson were entitled to greater confidence than any hitherto proposed, and concluded with the remark, that if the operation were properly performed, according to this method, I felt convinced success would *in future* be the rule, and failure the exception, being exactly the reverse of what had before happened in this country. I have much pleasure, therefore, in now bringing forward four additional illustrations of success, to show the correctness of those anticipations; at the same time, I may observe that I have not as yet had a single instance of failure.

CASE 1.—A man, aged eighteen, living in Park-lane, Waltham Cross, healthy, and in good condition, came into the Charing-cross Hospital, October 11th, 1850. A cleft extended entirely through the soft palate, and rather better than half an inch into the hard palate, its anterior extremity being obtusely rounded off at the posterior edge of the palate bone: the cleft was about half an inch wide. Both sides were nearly equal in size and of good thickness throughout. The operation was performed on the 18th of October, 1850. It was obvious here, as in the second case related in the former paper, where the cleft extended much farther into the hard palate, that the simple division of the muscles would not suffice to close the anterior part of the fissure. Therefore, after freely dividing the levator palati above, and the palato-pharyngeus in the posterior arch, the mucous membrane and fibrous tissue were carefully peeled off from the under surface of the palate bones, and then, with pointed scissors, curved on the flat, the soft palate was completely severed from the posterior edge of the palate bones, upwards into the nostrils, leaving the mucous membrane towards the mouth entire through the whole length of the flap, in the manner advised by Dr. Warren. In doing this, a slight nick was accidentally made in the edge of the right flap, which afterwards interfered a good deal with the proper adjustment of the parts. The edges were pared by piercing with a small double-edged scalpel, which removed a small band about half a line in thickness along the whole length of the flap. Five sutures were necessary, those in the palate entering fully half an inch

from the edge of the flap. They were tied, beginning with the most anterior, with the knot described in the last paper. As there was still a little tension on the right side after the ligatures were tied, the palato-glossus was divided in the anterior arch of the palate. The nick above mentioned, in the right flap, prevented perfect adaptation, and made me anticipate mischief at this point. It was caused by using a knife which had not been made according to order, and came in only just before the operation; consequently it could not be proved, as any new instrument ought to be, before use.

Barley-water, beef-tea, thickened in various ways, wine and water, were freely given when the patient felt inclined to take them. For the first three or four days, injections of beef-tea and sherry were administered morning and evening. He was very comfortable the first evening after the operation, and slept well. On the 21st, the third day having been completed, No. 4 ligature was removed. The ends of the uvula had slightly separated; the other ligatures held well. On the following day, No. 1 was removed. There was sloughing about it, which appeared to spring from the nick alluded to, and which I feared would be extensive. The breath was very foetid; he fed well; his bowels were kept open by purgative enemata. The sutures were all away on the sixth day, and then the sloughy part at the anterior angle separated and left an opening in front which would admit the forefinger, but between this and the open ends of the uvula there was perfect union. It was gratifying to see how the opening in front diminished from day to day, as also did the slight separation of the ends of the uvula, assisted by the occasional use of the concentrated solution of cantharides in acetic acid, advised by Dieffenbach. On the 26th Nov., he left the hospital, with a slight separation of the uvula, and the opening in front scarcely admitting the end of the little finger. He was instructed in the use of the blistering fluid, and came back in two months with the opening nearly closed, and shortly after it was perfectly so. The details of the latter part of the case are dwelt upon to show that from the almost certainty of the union which the division of the muscles allows to take place in the largest and thickest part of the velum, any accident in front of or behind this point really makes very little difference in the ultimate result. This observation I have been able to verify on two or three occasions where the operation was not performed by myself.

CASE 2.—A man, living in Market-street, Oxford-street, aged forty-one, a shoemaker, in good health, came into the hospital a few days after the preceding case. The cleft commenced half an inch behind the hard palate, and divided the velum as well as the uvula very equally, the flaps touching each other on attempting to swallow. The operation was performed on the 24th October, 1850. A free division of the levator and palato-pharyngeus muscles rendered the flaps quite flaccid, and after paring the edges, four sutures sufficed to keep the parts in apposition without the slightest strain. The duration of the operation was very much curtailed by not having, as in the former instance, to separate the soft parts from the bone. He suffered very little in consequence. The rules as to diet were precisely the same as in the last case. He progressed without the slightest bad symptom. On the 28th—four days completed—No. 1 ligature was removed; on the 29th, No. 4; and on the 30th—the fifth day—the remaining two ligatures were taken away; and it was not until that time it was observed the uvula was slightly separated at the point. Everywhere else the union was quite firm, and in a few days he left the hospital (Nov. 7, 1850).

CASE 3.—This case surpasses any of the others in point of interest, in respect to the particular method, and shows very conspicuously to what an extent one can rely on the security the division of muscles gives, under very disadvantageous circumstances. The patient, a married lady, aged thirty-five, fair, and of very delicate frame, was brought to me from the neighbourhood of Brighton, by Mr. John Lawrence, on the 12th of September, 1851. He wished me to perform the operation on the following morning, being anxious to get back to Brighton. The patient had been operated on ten or twelve years before, according to the old method, and I need not add, with all the skill and knowledge that could have been afforded at the time, when I name the justly celebrated operator, Mr. Guthrie, sen. I understand two other attempts were subsequently made whilst the parts were still fresh.

The anterior extremity of the cleft was a good deal rounded off; a considerable deficiency was also observed in the depth of the bony arch, formed by the palatal processes of the superior maxillary and the horizontal plates of the palate bones. This deficiency was made up by a proportionately greater depth of

the velum, so that, although the cleft did not reach quite so far as the hard palate, yet it equalled in depth those clefts where, the usual proportion of hard and soft palate being preserved, the division reaches the bones. The flaps were thin and moveable, and almost disappeared against the sides of the cavity when they were irritated. The tongue was much arched and prominent. Between the anterior extremity of the cleft and the palate bones, the parts were so thin that they appeared almost transparent, and resembled a piece of prepared membrane, moistened and stretched across the palate. This thin edge of the anterior extremity of the cleft, only gradually thickened backwards, as it formed the edge of the flaps, which were still delicate, even at their thickest part. The uvula on the right side was really only a pea-like appendage, attached by a small string-like pedicle to the velum; on the left side it preserved its form, but was very slender.

I felt sorry the case had come up, as I could hardly persuade myself the materials were substantial enough to encourage any strong hope that a successful attempt might be made, particularly if the least untoward accident should follow. I ultimately, however, determined to make the attempt: at the same time, nothing but the extreme confidence in the complete control that a careful division of the muscles gives over these parts, gained by previous experience, could have induced me to yield to the persuasions of Mr. Lawrence and the lady's husband. Having this confidence, I did not feel justified in depriving the patient of the chance she had so much set her heart upon, however great the risk and annoyance of a failure would have been to myself.

More than ordinary pains were taken to divide every fibre of the muscles, and to carry the incision well forward above the flaps towards the hard palate, and I had never succeeded before in rendering the divided velum so completely flaccid; so much so, indeed, that in the later stages of the operation, the flaps literally hung so closely together as to cause great inconvenience in passing the different sutures. The greatest difficulty was in paring the pedicle holding the uvula on the right side without severing it from the velum. The time occupied in the operation was necessarily long, notwithstanding every assistance was given by the patient, but when it was completed the union was perfect and satisfactory, without the slightest strain. She took liberally of food on the afternoon of the operation, and had the usual enema with laudanum, and also took a little laudanum with her beef-tea at night. On the 14th, the day after the operation, she went on well. On the 15th, her skin was hot, and pulse 104 to 110; her mouth was extremely foul; she felt a good deal of uneasiness about the stomach, and in the course of the day had some difficulty of breathing. 16th: She was still restless; pulse quicker, 130; mouth still very foul; tonsils sore and enlarged: one could scarcely have thought it possible union would have taken place with the mouth and parts in such a state. The diet was persevered in, mustard poultices were applied to the throat and stomach, and acidulated drinks used; she had no cough, but a sensation of choking. She thought the nutritive enemata made her uncomfortable, and I was less satisfied with them than on former occasions, and indeed determined to do without this disagreeable aid in future cases. Her mouth was in such a state one could not see the condition of the sutures. On the 17th, the fourth day, she was altogether improved, but still troubled with glairy mucus hanging on the larynx. The middle ligatures were seen holding well without any sloughing; the most anterior were surrounded by a small slough; those of the uvula could not be seen. An enema with senna produced a free evacuation, and she took a good quantity of nourishment. The wind had been in the east since the day after the operation, and she now suffered from cold. She complained of tightness across the chest; the mouth was still in a bad condition, and her stomach was very irritable. On the 18th—the fifth day—I had a good view of the parts, and found them well united to the very end of the uvula, except at the first ligature, which had come away with the thin membrane around it, and left an opening about the size of a pea. On the 19th—the sixth day—the second ligature was removed, as it was hanging loose. She coughed a good deal without disturbing the parts. On the 20th—the seventh day—all the other ligatures were removed, and she vomited slightly; but all held well. She now took more substantial food, but complained of much weakness, and her convalescence was slow. On the 27th—the fourteenth day—she was well enough to go back to the country; and her husband was instructed to touch the opening every day or second day with the solution of cantharides. I saw the patient a short time ago. The opening was considerably diminished, and will, I have very little doubt, soon close entirely.

CASE 4.—A young female, aged twenty-two, residing at Camberwell, was sent to me by Mr. Jackson, of Sebbon's-buildings, Islington. The success of this case equalled my most sanguine expectations. The cleft was entirely through the soft palate, equally dividing it, and just encroached on the hard. It was wide enough at its anterior extremity to necessitate, as in three of the other cases, the tedious process of peeling the soft parts from the hard palate, and dividing upwards into the nostrils. This was unusually difficult here, in consequence of each flap arising in front from a small tubercle of bone, from the convexity of which the thin, stretched membrane had almost to be scraped; and the difficulty of doing this without dividing it can be easily conceived. The levator palati and the palato-pharyngeus muscles were divided; and there being plenty of thickness, five sutures brought the parts into admirable apposition. There was, however, still a slight strain on the left side, and consequently the anterior arch was freely divided. The good effect of this was manifest from the wide separation of the edges of the incision. She was rather obstinate in persisting not to swallow as much as she was ordered. I therefore determined to see her take her food, and made her on several occasions swallow a whole breakfast-cupful at one time. She did not have any nutritive enemata, and I am satisfied she took more food than any of the others. The progress of the case was very favourable; there was scarcely an alteration in her pulse or skin; her tongue remained quite clean; and she was free from cough. The operation was performed on the 14th of October, 1851. On the 19th, the fifth day completed, Mr. Henry Lee, of King's College, saw her with me. The parts were quite close to the very end of the uvula, and all the sutures were removed at the same time. Union appeared perfect, showing a smooth cicatrix in the whole extent, excepting a line or two at the anterior extremity. When contraction took place, this point opened a little, but closed finally after the application of the blistering fluid. On the sixth day she was allowed to converse, she ate a mutton-chop, and went for a walk into the park. Shortly after, she went home.

In the relation of the foregoing cases, I have avoided, as much as possible, unnecessary detail, and have only touched on such points as present practical value, and serve to call attention most forcibly to the leading advantages of this excellent operation. Unfortunately, much yet seems necessary to be done to remove the apathy existing among surgeons in respect to this subject; for, with the exception of the cases published by Professor Fergusson as occurring in his own practice and in that of a few of his friends, together with some lately recorded by Mr. Gay, the enterprising surgeon of the Free Hospital, there is no evidence of anything like a general or even a frequent adoption of the method. A good object will certainly be obtained, if, by the foregoing additional testimony, surgeons at a distance from the metropolis can be led to believe that this operation for remedying a very distressing malformation, though less exciting than that of removing monster tumours, or performing Caesarian or ovarian operations, is worthy their best attention, offering at least a more certain advantage than those striking exploits, and yielding, in its results, a satisfaction scarcely inferior to that of any operation in the whole domain of surgery.

It is a great mistake to suppose that because the unfortunate subjects of this deformity do not suffer bodily pain, their situation should the less excite our utmost sympathy. I never look back upon the change which took place in the morale of my first patient without feelings of the highest satisfaction. When I first saw him, his shyness was quite painful; his look was downcast and desponding, and his expression was awkward and almost repulsive, showing how keenly he felt his infirmity. The eagerness with which he hailed the thought of the operation, and the heroic courage and patient endurance he maintained during its long and painful performance, without chloroform, bear ample evidence that the miseries attendant on afflictions that, in his own estimation, lower an individual among his fellow-men, are not less keenly felt than the sufferings produced by the most painful diseases. It is a case in which one really *can* "minister to a mind diseased." His straightforward and cheerful look, a few months after, convinced me of this, when, quite a different man, he passed through London after his marriage. In a case in which Mr. Gay made repeated attempts, which redound greatly to his skill and credit, to remedy an aggravated case of deformity of the hard as well as the soft palate, it is impossible to conceive, without seeing it, the extraordinary courage and heroism, the subject of it, a girl, displayed on the several occasions she submitted to be operated on at her own

request; showing, in the midst of the greatest poverty, how much worse than poverty she felt this mark of her bodily inferiority amongst her associates! Those who have witnessed many of these cases know that as a class none are more alive to their infirmities than these unfortunate beings. The trifling number of published operations give no estimate of the number of cases which are in existence. Some idea can, however, be formed by calling to mind their frequency in infants in connexion with harelip. No doubt many of the worst cases die on account of the difficulty of suckling them; but a great many remain, and are unperceived on account of their diffidence, and the little encouragement practitioners in general offer of success from the operation. A very favourable feature with regard to the operation itself is, that scarcely any modifications have been made in the manner in which it was performed in the first case. It is easily accomplished with moderate skill and patience, after a careful study of its steps. It should be seen well demonstrated on the living or the dead subject; for I have been astonished at the erroneous ideas some excellent operators have formed of the proceeding, after they were fully convinced they had made themselves masters of it. I would strongly recommend the flaps to be pulled about as little as possible. The division of the levator palati can generally be almost entirely effected without seizing the flap with the forceps—a plan to be adopted if possible, as it is difficult to draw the flap out against the muscular contraction without considerable violence. After the division of this muscle and the palato-pharyngeus, the part can be held with much more delicacy, and consequently without injury. In two of the cases a small portion of the uvula remained ununited, and in one of these I made an unsuccessful attempt, by paring the edges, to unite the portions, although it was hardly worth while. Both these cases happened to be hospital patients, and perhaps were not so well nursed as the others. In the other five cases union took place to the very end of the uvula. I believe this result is unusual, and may be owing to the great pains taken to get a very secure hold with one of the sutures just at the base of the uvula, to command the movements of the ununited azygos; another at the middle; and the last very near to its point.

A very important question in connexion with this subject is,—What is the earliest age at which this operation may be undertaken? M. Velpeau ("Med. Oper." second edit., vol. iii. p. 537) believed it was performed successfully in France in 1764, in the case of an *infant*, where the cleft extended from the incisive teeth. My friend, the distinguished military surgeon of Strasbourg, M. Sédillot, has lately sent to the Académie de Paris an account of a successful case in a young person ten years old. He performed the operation by a method peculiar to himself. I have not yet had a case offer so young, but I should not hesitate to follow the example of M. Sédillot, if the patient were docile. The recovery of the voice, I should expect, would be much more perfect when the operation is performed at an early age, and, in case of failure, there is as good a chance of success on a future occasion. From carefully watching these cases, I should now feel much more confident in operating at an early age than I should have done formerly, because I have a *strong conviction* that if the muscles are well divided and the parts firmly put together, no ordinary effort of the patient—even coughing or vomiting—will separate the parts within the first forty-eight hours, any more than that, in infants, taking the breast will separate the parts after the operation for hare-lip. I have observed that those patients have done best who have taken their food most fearlessly, or who, I was quite satisfied, had taken a good allowance of food within the period mentioned. This was particularly well seen in the second case of the first paper, the patient having been nursed and attended to by his mother, a very intelligent and careful person; and also in the last of the present cases, which, as it was close to my own residence, I superintended in this point myself. Scarcely any general disturbance followed the operation in either of these cases. I have already alluded to the great credit due to Sir Philip Crampton for his first introduction of this all-important practice of early and careful sustentation. If well followed up, union will be safe by the third or fourth day; if neglected, the patient is liable to disturbance of the stomach, irritability, general and local disturbance. The uniting process will be less perfect without due attention to this particular; and there may be sloughing and easy separation of the parts, even five or six days, or later, after the operation. It should be particularly remarked that this separation does not take place because the parts are *torn asunder*, but because they have *failed to unite*. The ligatures being now loose, the parts naturally fall from each other, and, if examined at the time,

present a sloughy appearance. On this account I am particularly desirous to impress the necessity of the certain administration of a good supply of food within the first forty-eight hours. The quantity after this time may be regulated according to the appearance of the parts, particularly about the critical period of the fourth or fifth day.

There are a few other points I would have wished to have adverted to, but I will defer them to a future occasion. Other cases which I am about to operate upon will give me an opportunity of doing this. I cannot conclude, however, without expressing the satisfaction I have derived from the success of the above cases, contrasted with that of the great French operator, M. Roux. In the former paper, the opinion entertained by M. Sédillot of the success of M. Roux was mentioned, but I was hardly prepared for the following observations of M. Velpeau on the same point ("Med. Oper.," vol. iii. p. 561, second edit.)—"Toutefois, l'opération échoue encore assez souvent; une jeune fille que j'ai vue à l'Hôtel Dieu l'a subie cinq fois sans succès. *Plusieurs malades de M. Roux en sont morts, et j'en ai vu un certain nombre que ce chirurgien avait opérés sans fruit. Les autres praticiens ont obtenu une proportion de résultats heureux moins forte que M. Roux, en sorte qu'il n'est prudent de la tenter que dans de bonnes conditions, chez des sujets bien portants, dociles, et âgés de quinze à cinquante ans, par exemple.*"

ON SOME OF THE MORE IMPORTANT POINTS IN THE PHYSIOLOGY, PATHOLOGY, AND PRACTICE OF MIDWIFERY.

By J. POWER, M.D., &c.

(Continued from p. 6.)

The exciting causes of labour.—A variety of interesting points connected with the process of a natural or normal labour having been considered in the preceding paper, it is now proposed to attempt an explanation of those causes which more immediately excite the parturient or expulsive action of the uterus.

Previously to the author's publication, in the year 1819, little or nothing satisfactory was known of the exciting causes of labour; so that even the great Haller had piously attributed its supervention "to the will of God." One of the best writers at the commencement of the present century, Dr. Burns, says, in reference to the subject, that "it can do no good to enter into the investigation."* The more philosophic Denman, however, conceived that this cause might "involve the reason why the uterus ever contracts at all, and lead to important practical results;† he does not, however, appear to have arrived at any satisfactory result from any investigation he might in consequence have entered upon.

In bringing forward the doctrine of orificial irritation as the exciting cause of labour, the author did not at the time lay claim to originality, inasmuch as it had previously been conjectured that labour might possibly be excited by some stimulus or irritation applied to the mouth of the womb; but this opinion was supported by no positive facts, nor was it attempted to deduce any useful or practical results from it; in these respects at least the author may lay claim to originality, and he humbly conceives that his efforts have been the means of introducing improvements, both physiological and practical, into the science of midwifery.

The doctrine of orificial irritation is suggested by various analogies with respect to other expulsive organs which are excited into action by appropriate stimuli applied to their orificial parts; as, for instance, the bladder and rectum, organs, like the uterus, intended to receive, retain for a time, and afterwards expel their contents: to accomplish properly these functions, they are furnished with structures, termed sphincters, placed near their evacuating orifices, which not only serve to enable them to retain their contents until the proper time for expulsion arrives, but, by virtue of their peculiar sensibility, determines them to assume expulsive action. The first perception of the want or necessity to evacuate them is always felt in the situations of their sphincters, and, indeed, the action of the expelling muscles admits of being called forth artificially: thus nurses procure stools with costive children by tickling the sphincter ani with a piece of twisted paper; and it is well known that the act of micturition will be induced by a mechanical irritation

* Burns, 4th ed., p. 249.

† Denman, chap. v. Lecture 11.