temporary relief. Sarsaparilla was also administered. The disease soon began to assume a most alarming appearance, and I urged his medical attendants to have recourse to the creosote, which I had before pressed upon them. They consented, and prescribed an ointment in the proportion of one drachm of the creosote, to seven drachms of lard. The slightest application of this produced the most agonising pain, and of course it was immediately discontinued, and the creosote was condemned. I affirmed that no fair trial had been given to it; and, as they now considered the case of my son a hopeless one, I respectfully told them that I should pursue my own course.

"The disease had now assumed the most fearful character: there was profuse nasal discharge, accompanied by the most offensive smell; and ulceration extending into, and seemingly occupying the whole of the nasal cavities. There was great prostration of strength, cold perspirations, pulse 112, laborious breathing, and every appearance of approaching death. I added two minims of the creosote to an ounce of water, and injected the mixture up the nose as high and as universally as I could, and this I repeated three times in the day. I pledge my honour, that after the third injection, a change almost magical took place. The discharge in a great measure ceased, and two days afterwards, the ulcers began to assume a healthy appearance, and they have rapidly improved ever since.

"The ulcers have now lost all their cancerous character, and are assuming a healthy granulating appearance. His diet was nutritious, but no solid food was allowed; and in the course of every day he drinks a tumbler full of good ale. Yesterday he rode out for an hour.

"*Waterford Veterinary Establishment,*
Feb. 28, 1839."

In the *Bulletin de l'Académie de Médecine* for 1837-38, will be found the following cases, where topical baths of belladonna were employed, apparently with benefit. They are related by Dr. Parat, physician to the Veterinary School at Lyons, who places them under the head of *Farcin Simulé*.

"Two students wounded themselves in the hand, the one in operating on, the other in dissecting, horses affected with the glanders. In both, the punctures, at first insensible, were not long in becoming inflamed; the inflammation spread to the lymphatic vessels of the fore-arm, and simulated, what is called in the horse, a farcy cord; a primary deposit of matter took place in both cases. 'We could not then,' continues Dr. Parat, 'but fear, that several other deposits would form, as painful experience had already taught us in analogous instances. Happily, through the influence of topical baths, consisting of a strong decoction of the leaves of belladonna, (atropa belladonna,) employed twice a day, the inflammation was arrested; no new collections of matter took place, and the patients are at present in good health.'

"The belladonna, in these instances," observes the editor of the Bulletin, "did it not act as a sedative; and can other substances of a like nature be substituted in its stead? Moreover, is it to its specific action that we are to ascribe the beneficial effects which it produced?"

The last case I shall mention is one which I presume might be classed under the head of

"*Farcin Simulé*" of Dr. Parat. It bears some analogy to the two foregoing ones, and as it occurred in my own person, I can speak feelingly on the subject. In making the *post-mortem* examination of the man, John Smith, who died of glanders, I had the misfortune to puncture my finger. Four or five days afterwards I was surprised to find that the wound had not healed, but had become painful, and on pressing the finger a small quantity of matter oozed out. The abscess continued to increase in size, and the periosteum covering the second phalanx of the middle finger, the seat of the injury, became thickened. Soon after this, I was troubled with dull aching pains shooting up the fore-arm and arm; an erythematous blush appeared on the fore-arm, and one of the glands in the axilla was painful on pressure. The affair, however, went no further than this. The treatment I adopted was to take five grains of blue pill every night, and to keep the bowels open with saline medicines; water-dressings were applied to the finger, and, on retiring to rest, I had the fore-arm enveloped in flannel, wrung out of warm water, and applied as hot as I could bear it; this was surrounded by a portion of oil siked, to retain the heat and moisture; from this application I experienced the most marked relief, and in the course of a few days the blush on the fore-arm entirely disappeared. The abscess in the finger, however, continued to discharge for about two months, when it healed, and the thickening of the periosteum gradually subsided. Not being in very good health at the time the injury was received, it is not surprising that symptoms resembling those of an ordinary dissection wound have appeared, but bearing in mind the case of the unfortunate nurse, and the serious countenances of the medical gentleman present at the time of the accident, I cannot but consider myself extremely fortunate in having got off so easily.

REMARKS

ON

THE NEW ATTEMPTS TO CURE

OR RELIEVE STAMMER, AND OTHER IMPEDIMENTS IN SPEECH, BY SURGICAL OPERATION.

By P. BENNETT LUCAS, Esq.

SURGEON TO THE METROPOLITAN FREE HOSPITAL, &c.

SINCE the attention of the profession was first directed to the cure or relief of stammer, and other imperfections of speech, by surgical operations, I have not only performed on the dead and on the living subjects every operation which came recommended by competent authority, but have also performed others which originated with myself, and have materially simplified the most formidable of all.

The methods of performing these various operations have long since been made public through the pages of the *PROVINCIAL MEDICAL AND SURGICAL JOURNAL*; and the accounts there given of the conditions of the several patients, both before and after being operated upon, however deficient they may have been in other respects, had their greatest recommendation in a strict adherence to veracity in their narration. The

same desire to arrive at truth dictates these observations.

When the remarkable success attendant upon the division of the muscles of the human eye in strabismus was placed beyond all doubt, it was rational to suppose that the application of a similar operation to the muscles of the tongue in cases of stammer, where that organ presented deviations from its natural form, or was bound down or otherwise limited in its accustomed mobility, would be also attended with as happy results.

A paragraph in one of the continental daily papers, to which my attention was directed by Dr. Hennis Green, stated that Professor Dieffenbach, of Berlin, had successfully dealt with numerous cases of stammer by the division of the muscles of the tongue; but no further account was given of the matter—how the operation was performed—what muscles were divided—the cases to which such proceedings were applicable—nor, in short, any other light beyond the above simple announcement.

Theory in an obvious manner warranting the supposition that many impediments in speech might possibly be corrected by the division of the muscles of the tongue, I selected from numerous stammering patients those in whom such an operation appeared to promise most. These consisted of cases in which the individuals stammered at words containing letters which required the tip of the tongue to be fairly and steadily applied to the superior alveoli; such as *stammer, doctor, nothing, total*, &c. And in the belief that such defect could be benefited—if not cured—by dividing the muscles of the tongue, which turned its tip *down*, (and thus give increased power to those which turned its tip *up*, or to their antagonists,) the *genio-hyo-glossi* muscles, properly so called, first attracted my attention.

These muscles I divided for the first time in the case of Patrick Heron, by separating them from their tendinous attachment at the superior mental tubercle. After a few days, this patient not having experienced the benefit I anticipated, I performed the operation recommended by my friend M. Amussat, and excised a triangular portion of these muscles immediately beneath the *frænum linguae*, the incisions to accomplish which involved the entire thickness of each muscle. Experience having satisfied me of the safety with which this latter operation could be performed, I did not hesitate to apply it to numerous other cases; some of which, in addition to that of Heron, have been laid before the profession.

In several cases I have simply divided the *frænum linguae* with a similar object, and I have abstained, in such, from prosecuting the operation deeper, unless the free margins of the *genio-hyo-glossi* muscles were embraced within its folds, as they often are, or became very tense in the attempt of the patient to elevate the tip of his tongue.

Shortly after I had performed these operations, the newspaper paragraph alluded to became fully explained in a memoir on the subject sent to the Institute of France by Professor Dieffenbach, and also by an interesting account by Mr. Joseph Travers of the original operations.

It is here unnecessary to dwell upon the three operations recommended by Dieffenbach, as the learned professor has only insisted upon the utility

of one, which consisted of "the horizontal division of the root of the tongue, with excision of a wedge-shaped portion."

This latter operation I performed at the Metropolitan Free Hospital, on April 1, 1841, on the person of Thomas Young; the account of which, and the state of the patient to May 2, are detailed in No. 32 of the *Prov. Med. and Surg. Journal*.

Having witnessed a case of defect in utterance, in which Mr. Lawrence excised a portion of the uvula, and from which the patient appeared to have experienced much benefit, I performed a similar operation in some ten or a dozen cases, which promised, from the nature of their defects, similar results; and in about the same proportion I have excised one or both tonsils after the method recommended, and according to the views advanced by Mr. Yearsley, in the memoir on "Stammering and other defects in speech," read before the Westminster Medical Society, by its author, at the request of that body.

In a few cases I have freed the soft palate by an incision on either side, parallel to its pillars, and in others I have removed both the tonsils and the uvula.

The summary of these various operations is as follows.

1. Division of the *genio-hyo-glossi* muscles at their attachment to the superior mental tubercle.
2. Complete excision of a triangular portion of the bellies of the *genio-hyo-glossi* muscles at the point where these muscles pass beneath the *frænum linguae*.
3. Both these operations in the same individual, viz. Patrick Heron.
4. Simple division of the *frænum linguae*.
5. Excision of a wedge-shaped portion of the tongue near its root.
6. Excision of the uvula.
7. Excision of one or both tonsils.
8. Excision of both tonsils and uvula.

These several operations were performed in the presence of many of my professional friends, and with their approval, and some similar ones I had also opportunities afforded me of witnessing in their practice.

Without at present entering into the merits or demerits of the theories on which these several operations have been founded, sufficient time has elapsed since their performance to judge practically of their results. In nearly all, each patient experienced momentary relief from the hesitation, or from the impediment under which he laboured,—relief amounting, for the time, to an apparent *cure*.

In the majority of the cases this relief has not been permanent, in a few it has.

The division of the *genio-hyo-glossi* muscles has not been attended with the benefit I anticipated, the patients having, in nearly all the cases, relapsed to their former condition.

Thomas Young, in whom I excised the wedge-shaped portion of the tongue, is now as incapable of making himself understood as he ever was.

The division of the *frænum linguae* promises just as much in the adult as it does in the sucking child.

The only improvement in stammer I have witnessed, has been in those cases where enlarged tonsils, or a heavy pendulous uvula, called for their removal. And even here nothing approach-

ing to what could, by the utmost stretch of the imagination, be called a permanent cure, have I seen.

12, Argyle Street, Regent Street, London.
June 22, 1841.

ON THE
PHYSICAL ALTERATIONS OF THE BLOOD
AND
ANIMAL FLUIDS IN DISEASE.

By M. ANDRAL.

No. III.

(Continued from p. 187.)

Diseases in which the quantity of fibrin is diminished or retains its normal standard, while the globules are increased, or retain their normal standard.

It has been clearly shown in the preceding paper, that the quantity of fibrin contained in the blood is constantly increased during inflammation; but it may be asked, does this increase depend on the inflammation itself, or is it connected with the accompanying fever? M. Andral unhesitatingly answers, that it does not depend on the febrile movement. We have, for example, a large class of diseases, of which the principal feature is a fever just as intense, and often more protracted than pure inflammatory fever; now, in this class, we often find the fibrin either in normal quantity, or remarkably diminished. The class alluded to is the "pyrexia," and here the analysis of the blood points out a fundamental distinction between them, and the class "inflammations." In addition to the pyrexia, M. Andral has found the quantity of fibrin diminished in cerebral congestion and hæmorrhage.

Condition of the blood in the premonitory stage of continued fever.—The blood was examined in eight patients, who were bled nine times. In no case was the quantity of fibrin increased; in three cases it was somewhat diminished, though still above 2; in two other cases the quantity of fibrin had fallen to 1·8 and to 1·6; on the other hand, the proportion of globules was generally augmented, giving 136·4, 137·9, 142·7, 143·5, and even 157·7; in this latter case the fibrin amounted only to 1·6. When received into the hospital, the patient presented a very remarkable degree of muscular prostration; after some time he recovered his strength a little, and was then bled again; the fibrin had now increased to 2·1, but the globules had fallen from 157·7 to 129·3; and the solid constituents of the serum from 96·6 to 88·9. In all the cases the solid parts of the serum were abundant, while the watery part, on the contrary, never exceeded the average quantity, and in one case fell to 74·2.

Simple continued fever.—The blood was examined in eleven patients, who were bled twenty-one times. In six cases the disease terminated favourably without any complication; in six others, it was complicated after a certain lapse of time with some inflammatory disease, such as erysipelas, angina, bronchitis, &c. Hence, these two series

should be distinguished from each other, for obvious reasons.

In the first series ten experiments were made; once the fibrin amounted to 5·6, that is to say, to the minimum figure of inflammation. The patient was a young girl, 18 years of age; when bled previously, the amount of fibrin was ascertained to be 4·6; no particular symptom was present to explain this augmentation of the fibrin, which was found on the seventh and ninth days; but since the same quantity was never found in any other case of simple fever, M. Andral thinks that it must have been connected with some inflammatory complication which escaped detection. In the other cases the fibrin varied from 4·2 to 2·2.

The globules presented very remarkable differences; in one of the five cases, they amounted to the enormous sum of 185·1; the patient was 58 years of age, and affected with what Pinel calls inflammatory fever; the disease continued for eight days, and then terminated in recovery, without any dangerous symptom. In three other cases the globules amounted to 120·7, 117·4, 103·6; in the latter the fibrin marked 4·6. Finally, in the fifth case, the globules amounted to 82·5 only; but this was explained by the circumstance of the attack occurring in a chlorotic female. The solid parts of the serum varied from 98·7 to 90·9; the water from 725·6 to 851·9.

We have now to consider those cases in which the simple fever became complicated by some local inflammation. Out of six cases there were three, (two of amygdalitis, one of erysipelas,) in which the inflammation produced no effect on the blood; but in three other cases, the fibrin was augmented to 4·5, and 5·4, which the globules diminished to 118·6, 114·7, and 94·1; these examples show how the blood is modified by the occurrence of local inflammation during the course of continued fever; when the inflammatory affection is slight, it produces little or no effect; but if severe, the quantity of fibrin is at once increased.

Typhoid fever.—The blood was examined in twenty cases of this disease; fifty experiments were performed. M. Andral confines the term typhoid fever to that species characterised by ulceration of the mucous follicles of the intestinal canal; now, although the lesions which exist in typhoid fever are manifestly the result of inflammation, the blood is far from presenting the characteristic signs of an inflammatory affection; we find no augmentation of the quantity of fibrin in cases of typhoid fever, but, on the contrary, a diminution in many cases; as the fever becomes more severe, the fibrin diminishes until it reaches the minimum quantity. This remarkable decrease in the quantity of fibrin does not depend on blood-letting or an abstinence from food; while, on the other hand, the relative proportion of the fibrin increases as soon as the disease assumes a favourable change, long before the effects of food could be experienced. It has already been shown that in inflammatory diseases the blood globules are considerably diminished in quantity; in typhoid fever we find an opposite tendency; when we examine the blood at an early stage of the disease, we discover an evident augmentation of the globules, and this increase is proportionate to the period or stage of the fever; it is not, however, constant, like the increase of fibrin in inflammation, and is not, therefore, an essential element.