is truly one of the results or consequences of inflammation, though still an undescribed termination. In some aggravated cases two or more applications of the caustic are required at intervals of eight or ten days. He had never seen pelvic cellulitis or any other bad result follow. The appearance after the operation is as if a portion had been clean cut out with the knife. A large quantity of vinegar-and-water is immediately thrown up through the speculum to neutralize the potassa, and prevent it from injuring the sound parts."

Since this statement was first published, in 1847, in the *Edinburgh Monthly Journal*, his very short communication has been reprinted, in 1855, in Dr. Simpson's collected works, and without any comment; so we must still believe that up to that time Dr. Simpson has never seen any bad result follow the application of an inch of potassa caustica to the neck of the womb, even when re-applied at eight or ten days' interval. In giving to so powerful a plan of treatment the sanction of his name, it is deeply to be regretted that Dr. Simpson did not put those who would be sure to imitate him more on their guard; for though doubtless, in his experienced hands, potassa caustica is a very useful agent, it may be a dangerous weapon in the hands of inexperienced pupils and other practitioners. Professor Simpson has entered fully into the subject of caustics applicable to the treatment of cancerous affections of the womb in his *Clinical Lectures* published in 1859, and the judicious manner in which he has treated the question makes one regret that he did not devote a lecture to the use of potassa caustica in non-malignant affections of the neck of the womb.

If even potassa fusa c. calce occasionally produces the serious accidents which I have just enumerated, I cannot believe it possible that inexperienced practitioners can apply an inch of potassa caustica to the neck of the womb without causing still more formidable accidents. Although this practice has been followed by the numerous pupils formed by Dr. Simpson during the last thirteen years, still very few untoward accidents have been brought to the knowledge of the profession. On this side of the Tweed, the surgical misfortunes of medical men are brought to light by the journals, by medical societies, and by coroners' inquests; but surgical failures are unheard of on the Scottish side of the Tweed. It would seem as if, in that happy land, heroic remedies were harmless, surgeons infallible, and women made of cast iron, were it not that occasionally there come from across the border the details of cases which go far to prove that human nature is everywhere alike.

It must be evident to all, that potassa caustica gives rise occasionally to all the untoward accidents which will sometimes follow the application of potassa fusa c. calce. The risk of producing bridges will be greater; these bands of cicatricial tissue will be stronger. Dr. Henry Bennet has stated, that wherever the vagina had been compromised, in the cases that had come to his knowledge, potassa caustica had been used. The chances of occlusion of the os uteri are greater, and I was not surprised to have been informed by Mr. Whitehead, of Manchester, whose skill is well known, that "in a number of cases wherein it was applied both to the surfaces of the indurated labia and around their inner circle, the reduction of bulk after healing was attended by total closure of the orificium uteri: so complete was the occlusion, that I found it necessary to re-open the orifice with a lancet, and use means to keep it open until the healing was complete. I have the record of several such cases, some of which have been since fertile, and their parturitions been unattended with difficulty." It is obvious that when it is a question of sudden destruction of tissue, by a hissing caustic, inexperienced hands will be liable to destroy too much, and remove the neck of the womb as well as its diseased tissues. This was evidently done by a talented pupil of Dr. Simpson, now dead, by the repeated use of potassa caustica in a lady who is under my care. In this case, the projecting portion of the neck of the womb has totally disappeared from view, nor can it be felt by the finger. At the end of the vaginal cul-de-sac there is a minute opening, scarcely permitting the introduction of a filiform bougie. This constricted passage does not, in general, prevent menstruation being regular and painless, but it must have prohibited conception, and supposing this could occur, I do not think parturition would be safely performed. Dr. Tyler Smith has met with two similar cases, in which the lower part of the neck of the womb was destroyed by potassa caustica. Almost irremediable sterility must be expected in all cases similar to the three I have last mentioned, and should parturition ever take place worse consequences would ensue.

I should be very sorry to saddle potassa caustica with the responsibilities of potassa fusa c. calce, but from what I have witnessed, and from my knowledge of the potent action of potassa

caustica, I feel persuaded that this agent was used in most of the cases brought forward as instances of the injurious effects of caustic treatment. The important question which I raise, and upon which I seek to be enlightened, will doubtless be taken up by some of the distinguished men who do honour to Scotland's most illustrious obstetric authority, so as to satisfy the profession respecting the relative action of, and the danger of using, the two caustics under notice.

Grosvenor-street, 1861.

ON THE SUPPOSED INFLUENCE OF THE CEMENTUM IN SUSTAINING THE VITALITY OF TRANSPLANTED TEETH.

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THE preparations in the Hunterian Museum that illustrate John Hunter's experiments of transplanting the teeth are of the greatest interest, as leading to a scientific solution of a result, hitherto unexplained, arising from certain accidental injuries of the teeth, and operations performed on them.

Professor Owen says, "In growing teeth, with fangs not fully formed, the cement is so thin that the Purkinjan cells are not visible; it looks like a fine membrane, and has been described as the periosteum of the fangs; but it increases in thickness with the age of the tooth, and is the seat and origin of what are called exostoses of the fang, which are wholly composed of it. These growths are subject to the formation of abscess and all the other morbid actions of true bone."

"It is the presence of this osseous substance which renders intelligible many well-known experiments of which human teeth have been the subjects, such as their transplantation and adhesion into the combs of cocks, and the establishment of a vascular connexion between the tooth and the comb. The appearances which the Hunterian specimens of these experiments present, and of the reality of which Professor Müller satisfied himself during his visit to London, are no longer perplexing, now that we know that the surface of the tooth in contact with, and adhering to, the vascular comb, is composed of a well-organized tissue, closely resembling bone."

Now, if the union of transplanted teeth depends on the presence of the cementum, we can scarcely be prepared for the account of Hunter's experiments given in the catalogue of the College of Surgeons, or in Hunter's work on the Teeth, wherein he says, "I may here just remark, that this experiment is not generally attended with success; I succeeded but once out of a great number of trials." It cannot for a moment be supposed that Hunter could overlook a difference in the mode of conducting his experiments that would account for his non-success in so many cases. We must therefore look for the success of the one case to some principle not recognised by Hunter, and this, I believe, will not prove to be the presence of the cementum.

Before I had the opportunity of examining the Hunterian preparations, I felt certain that the tooth in the one successful case was a young tooth,—that is, a tooth in which the root is not fully formed, the pulp cavity large, and the formative pulp present; and such I really found it to be. Yet such a tooth, as Professor Owen says, has little or no cementum, that substance being like a thin membrane in growing teeth. The very reverse is found in the preparation in the museum mentioned by Hunter as unsuccessful: the tooth in it is more fully formed, and the cementum proportionately greater; yet union has not taken place. (Figs. 1 & 2.)

Careful consideration of the whole subject of transplantation of the teeth, and considerable practical experience of cases of reunion, have thoroughly convinced me that the successful cases depend on the presence of the two formative organs,—namely, the internal or dentinal pulp, and the external or cemental pulp; and that in all cases in which these are not present, or in which ossification is nearly complete, successful results are not to be anticipated.

By this reading of Hunter's experiments we can understand necrosis as a result of slight injuries to the teeth, and shall also be able to avoid such a result in operations performed on them for the purpose of improving their relative position.

FIG. 1.

FIG. 2.

Fig. 1, the tooth of the Hunterian preparation, No. 47; the successful case of transplantation.

Fig. 2, the tooth of the Hunterian preparation, No. 49; the unsuccessful case of transplantation.

(Sketched from the Hunterian preparations by permission of the Council of the Royal College of Surgeons.)

Necrosis, as a result of slight injuries to the teeth, is of every-day occurrence, and is brought about in the following manner. After a blow from a fall or otherwise, the tooth loses its vitality, and gradually becomes of a dark colour. In many cases the gum and alveolar process are absorbed, when the tooth loosens and has to be removed. This absorption occasionally commences at the apex of the fang, and the tooth seems to be retained in its place for a time by a band of gum covering only a portion of the root of the tooth.

Now, if the cementum were sufficient to support the vitality of a tooth, this unfavourable termination of a slight injury would not so frequently occur. Such cases, I believe, are best explained on the principle that ossification of the pulp having progressed to that stage in which the aperture leading to the pulp cavity is at its minimum, the vessels being ruptured by the force applied, recede, and cannot reunite.

This view of the subject is also proved conversely by the fact, that a tooth may be entirely removed from its original position without detriment, provided its removal be effected gradually. This is well illustrated by the following case, which is one out of many similar to it that might be given:—

FIG. 3.

Fig. 3. Drawing from the mouth of a boy who lost the central incisors from a fall.

FIG. 4.

Fig. 4 shows the space nearly closed, the lateral incisors having been drawn together by elastic cord nearly into the position previously occupied by the central incisors.

Amongst the operations that have been recommended and performed on the teeth, there is one almost identical to transplantation, and depends for its success on the same principles. This operation is the seizing a misplaced tooth with the forceps, and at once turning it into its proper position; the tooth is then secured by ligature, or some mechanical contrivance previously prepared for the purpose. This proceeding has been recommended in cases of torsion, such as are represented by Fig. 5.

Such an operation should never be performed when the development of the tooth has proceeded beyond a certain stage. And as there are no physical signs of the stage of development in any one individual tooth, I consider it to be questionable practice ever to resort to it. A slight mechanical contriv-

ance, similar to the one used to retain the tooth in its new position, would prove sufficient to move it gradually, if an elastic ligature be used. The object sought would also be gained in nearly the same space of time as is required for the refixing of the tooth when forcibly turned.

FIG. 5.

Faith in the power of the cementum to support the vitality of the teeth, I believe to have led to errors in our practice. A correct reading of Hunter's experiments in the transplanting of teeth will suggest to every dentist such modifications as will lead to a safer and more uniform result.

Cavendish-place, Cavendish-square, 1861.

ON THE

CURE OF GONORRHOEA BY BLISTERS.

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I.—INTRODUCTORY.

IN looking back through the pages of the medical periodicals during the decennial period just completed,* it is instructive to observe the numerous remedies which have from time to time been recommended for the treatment of this complaint—which have been tested in their day, and have fallen into desuetude. Widely as the remedial agents have differed in character, antagonistic as some seem to others, constituting, as it were, the very Alpha and Omega of empiricism, it is satisfactory to find that, however disinclined we may be, at first thought, to plunge into the perplexing array, however little we may be convinced of the likelihood of success being attendant on the employment of many of the measures suggested, we still are in all instances assured, by the testimony of credible correspondents, that each remedy has been tried in a large number of cases with "marked good" or "attested success."

Let us look over some of the items which swell the goodly list: cubebs; chloroform and chlorine injections; tannin and the tannates of zinc and alumina; chloride of zinc; infusion of buchu; trisnitrate of bismuth; acetate of potash; chlorate of potash; copaiba as a local application and for internal administration; the Chian turpentine; veratria; the diacetate of lead; the sulphates of copper and zinc; and caustic washes of various strengths,—each and all these have had their adherents.

But steering afar from most of the articles just enumerated, I would ask attention to a plan of treatment which has proved, in my hands, of singular efficacy, and which I venture to submit to the profession only after having tested its success during a period of eighteen months, and in some sixty cases. The "unwholesome love of novelty," as has been sagaciously remarked, is far too rife at the present day; but there is fortunately nothing novel in the principle of the treatment I am about to support, whatever there may be in its method and application. Nine years since, "blistering in gleet" was advocated by a gentleman who, in 1853, wrote with still further experience on the subject; but Mr. Milton appears to have "revived or introduced this practice" more with a view to the treatment of *refractory* cases of gonorrhoea or gleet than to recent and ordinary examples of the complaint, for he says, writing in 1851, "Not merely will a single blister frequently cure the most prolonged gleet, not merely will it rapidly sweep away all drugs of the disease in its ordinary course, but it will often cure those runnings which have resisted all known and used methods." And again, in 1853 ("On the Cure of Gleet and Obstinate Gonorrhoea"), "If only pure gleet, sometimes mucous, sometimes purulent, be met with, it will in almost every case

* Written January, 1861.