

tenular disease, the last named being by far the commonest cause of permanently impaired vision among the poor :

- Cases treated for conjunctivitis and blepharitis, 120 out of 800, or 15 per cent.
- Cases treated for corneal ulcer and phlyctenular keratitis, 48 out of 800, or 6 per cent.
- Cases treated for corneal nebulae, 46 out of 800, or 5.75 per cent.

In 56 cases, or 7 per cent. of those sent for treatment, no treatment beyond temporary atropinization was found to be necessary.

Among the less common affections of the eye encountered may be mentioned optic atrophy (5 cases), nystagmus with and without albinism, diphtherial paralysis, and trachoma (only 1 case).

Many of the cases treated during the first and second years have been seen since, and some cases have required continuous treatment during months, or even years—for example, cases of progressive myopia, interstitial keratitis, and severe phlyctenular disease. The cases requiring operative treatment at a hospital included squints, high myopia, lamellar cataract, and lacrymal abscess.—I am, etc.,

London, W., April 11th.

A. HUGH THOMPSON.

THE TEETH OF SCHOOL CHILDREN.

SIR,—The letter of Mr. Norman Bennett in the last issue of this JOURNAL and the views expressed in two recent leading articles on the dental treatment of the school children of London constitute a vigorous attack on the negative attitude that the London County Council has taken up in the matter. Moreover, the deputation that waited upon Dr. Newman on March 23rd received from him no answer that could be considered a defence of that attitude.

Now, although the evidence brought forward seems at first sight to be convincing, it is extremely one-sided, and equally strong, if not stronger, evidence can be adduced against the immediate establishment of school dental clinics. In my own opinion, the position the London County Council has assumed can be justified for the following reasons :

1. Though the dental section of the medical profession are still undecided as to what is the exact etiology of the disease, they are, with few exceptions, satisfied that its prevention is one of extreme simplicity, and that it is entirely in the hands of the individual. No better evidence in favour of this belief can be offered than the number of better-class children who are today growing up free of this disease. In other words, it is a disease of imprudence.
2. The treatment of dental caries, although radical, is not itself permanent unless it is combined with subsequent preventive efforts of the individual. Failing these it will recur with almost mathematical certainty and render the scheme economically unsound.
3. The cost is excessive. I have carefully worked out the cost of what could only be considered a moderately efficient scheme for London, and I find that at least £60,000 a year would have to be spent.

I may add that after studying the disease for many years, both specially and in its ultimate relation to the individual, I am inclined to agree with those who hold that its importance in relation to the general health, although great, has been somewhat exaggerated.

It seems to me, therefore, that the proper course for any authority faced with this problem to follow is, first of all, to promulgate by every means in its power the methods of prevention, and not to undertake a scheme of treatment that, without the intelligent co-operation of the individual, can only end in failure. It will be time enough when the effect of the teaching of prevention is ascertained to consider how far it is justifiable to use public money in the treatment of this complaint—I am, etc.,

STANLEY COLYER, M.D.Lond.,

Assistant to the M.O.H., Southampton.

Southampton, April 11th.

SIR,—Some twenty years ago a gentleman engaged me to investigate for him and tabulate the teeth of a number of schoolboys with a view of determining the extent of decay in them. This philanthropist was struck by the fact that some of these boys, otherwise of good physique and destined for the army or navy, were yet debarred from an honourable calling by a few carious teeth, so he sought to know the facts and provide a remedy. He was

beginning to be obsessed by the fear of the physical degeneration of the race so much in vogue at the present day. He "heckled" candidates for Parliament with the question whether if elected they would urge the appointment of a dentist to every school, to the great amusement of the audience. Ever since then I have instinctively examined the mouth of almost every patient, irrespective of the general malady complained of, and also batches of scholars in the elementary schools, always with the approval of the health officer and of the teachers, who are only too happy to be aided in their herculean task in however fitful a manner the help may come.

Now the statistics of dental decay in the teeth of British children show a very serious state of things. Between 80 and 90 per cent. have defective teeth, requiring extraction, or stopping, or regulating. If, then, there is a real decadence in the physical condition of the tooth substance, due perhaps to our food being of such a soft texture as to require no trituration, then we should have to resign ourselves to the ills and pains associated with the manipulations of the dentist awaiting the advent of an edentulous posterity.

But what are the real causes of dental caries? One has only to soak a healthy extracted tooth in some acid, and in about a day or less the hard substance becomes softened by the abstraction of the lime salts. Now acid, chiefly in the form of lactic acid, is produced from the carbohydrates in the food, by the action of bacteria present in the mouth, and exactly the same process occurs there as in the tooth experimented on, the only difference being that the acid fermentation in the mouth takes place in those natural pits and crevices formed by the structure of the teeth, such as between the cusps of the grinding surfaces of molars or in the interval between adjacent teeth, and so the softening occurs in the limited places known as carious cavities. Once this protection is weakened, the peptonizing activity of bacteria carry the decay further inwards, until the acutely sensitive pulp is reached, with symptoms, local and general, familiar to us all as toothache, deranged digestion, abscess, and many other ills.

Now, this process of caries is a purely chemical one, and not due to anything inherent in the dental tissues, such as inflammation or new growth. For we find that it always begins from the surface and proceeds inwards, never the other way. Where bacterial life is much developed, as in congested districts and in the dirty places generally, dental decay is more prevalent, and these are also the places where the cheaper and more putrescible foods are consumed and the débris not brushed away from the teeth.

In those situations where the conditions are not favourable to the lodgement of putrescible material, as upon the cusps or in the front of the mouth, where the tongue in its anterior and more movable portion acts as a sort of natural toothbrush, decay is correspondingly diminished. The lower incisors, as the teeth most directly acted upon by the tongue, aided, no doubt, by the action of the sub-maxillary gland secretion, are comparatively free from decay.

But the most decisive proof of the extraneous nature of dental caries, and the one most encouraging to believers in the future of the race, is the effect of cleanliness. The axiom, "No dirt, no decay," is amply proved. The Indian and the Japanese eat a soft carbohydrate in the form of rice, vegetables, and sugar, affording ample scope for acid fermentation and decay, but the universal use of the toothbrush or cleaner after food has banished caries from the teeth of these peoples. On a certain occasion when the scholars of an industrial school were examined, the only ones with perfect teeth were gipsy lads. The kindly matron almost excused this condition by saying that they lived like "animals." One would like every British youth to be similarly situated. The healthy animal will not endure any débris about its teeth, and will remove it with tongue and claw. The gipsy at his best, as we know him near Manchester, lives a highly hygienic life in the purest air, is cleanly in his habits, eats the best of food, and is civilized enough to requisition medical aid. Who will venture to say that the British boy is inferior in physique to the Indian or Japanese or gipsy?

If our population could be prevailed upon to brush their teeth after every meal or after the last meal of the day, we should not hear much of the "physical degeneration of the