

THE HEALTH OF
THE CHILD OF
SCHOOL AGE

OXFORD MEDICAL
PUBLICATIONS

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THE HEALTH OF THE CHILD OF SCHOOL AGE

BY
VARIOUS AUTHORS

WITH A FOREWORD BY
SIR THOMAS OLIVER

M.A., M.D., F.R.C.P., LL.D., D.C.L.

PROFESSOR OF MEDICINE, UNIVERSITY OF DURHAM AND COLLEGE OF MEDICINE,
NEWCASTLE-UPON-TYNE

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FOREWORD

IN the following pages we have an illustration of one of the many-sided activities of the Institute of Hygiene. By means of Science Lectures and Demonstrations the Institute seeks to bring up-to-date information within the reach of all who are interested in health and welfare problems. The Council has spared no efforts to obtain lecturers specially qualified to deal with the subjects upon which they speak. For this, and other reasons, the objects of the Institute commend themselves to those members particularly who are teachers, and who are therefore likely to have the opportunity of bringing before groups of children the various aspects of the relationship of Hygiene and Health, and how the latter may be promoted.

A desire has been expressed that the lectures which were delivered a few months ago should collectively appear in book form, under the title of "The Health of the Child of School Age." The volume will meet a real need, for it deals with questions to which at present the public is giving considerable attention. The people wish to be instructed on points of health. It is, for instance, in the early years of life that mistakes in feeding are apt to leave harmful impressions upon the young constitution which it may take years to remove. In the ten lectures in this book a considerable extent of ground has been covered. The subjects dealt with

have been wisely chosen, while all the lecturers are men well known in the medical profession and therefore bring to bear upon the theme of their addresses expert knowledge. The opportunity is now given of having a course of lectures, which were much appreciated during their delivery, reproduced in material form, so that they may reach a larger audience, and thus to some extent fulfil the purpose for which they were written.

THOMAS OLIVER.

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THE DENTAL PROBLEM IN RELATION TO SCHOOL CHILDREN

BY SIR HARRY BALDWIN, C.V.O., M.R.C.S., L.D.S.

AN examination of the large series of wonderful portraits and drawings of personages of the Tudor period by Holbein, at Windsor Castle, will reveal that not one shows evidence of the contracted jaw, pinched nostrils and blankly gazing eyes of the adenoid subject. A similar series of present-day portraits would show a large proportion with these signs of maldevelopment. A typical example of a lady of the adenoid diathesis, showing the features mentioned above, occurred in the exhibition of works by the late John Sargent at the Royal Academy. The eyes are wide open and expressionless, the whole nose, especially the region of the nostrils, is pinched and obviously inadequate to satisfy the requirements of normal nasal respiration; the mouth is somewhat open; the jaws are contracted, the teeth prominent; and it may be assumed that the teeth would have been more prominent if dental aid had not been invoked, reducing the number of teeth, and regulating as far as possible those remaining. This lady is a well-marked example of what is characteristic of a great part of our nation at the present time, and illustrates a change which modern conditions have brought about.

If the temporary teeth be lost prematurely in any

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child showing tendencies to such conditions as above, matters will be made much worse for the permanent teeth. The first permanent molars will come forward in advance of their proper positions, and all the premolar and front teeth will find themselves short of room: they will consequently be more crowded and more forced forward than they would otherwise have been. The temporary teeth, therefore, should be credited with an important function in preventing contraction of the jaw.

The temporary teeth are highly useful to the growing child in various ways, and should on no account be allowed to get badly decayed. The function of mastication is a very important one for the child, and should be maintained as perfect as possible, so that the child may eat natural foods freely and with relish, and effective mastication will not only prepare the food for digestion and render it able to give up its vitamins to the system, but will also endow the child with good habits of mastication and preferences for physiologically desirable foods which may last for life.

The new knowledge of nutrition acquired in the last fifteen years has shown conclusively the supreme importance of an adequate supply of vitamins. The modern dietician is anxious above all things that we should get back to more natural foods, and to feeding in a more natural way. This means that we should rely largely on vegetable foods rich in vitamins, and should eat a good proportion of them raw, in which state the vitamins are fully active. This is the kind of food which absolutely demands thorough mastication, both in the case of children and adults; and unless the teeth are very efficient as grinders, with the working

surfaces of the back teeth capable of fitting very perfectly together like millstones, the upper row to the nether row, such mastication is impossible. Extraction of a few teeth from a set which began by being an efficient triturating apparatus will cause displacement of the rest—with the result that the mill is completely spoilt. Dieticians when recommending raw foods for the sake of their vitamins should realise that an enormous number of present-day people have such dilapidated dental armament that this recommendation is often beside the mark. I suggest that they should recommend for such people that their raw foods should be prepared by means of pestle and mortar, and the substances not merely reduced to small pieces, but really triturated before being introduced into their mouths ; otherwise the material will simply pass through the alimentary canal undigested and almost unaltered and the valuable vitamins and salts will not be made available to the system. However, it would seem more desirable that each individual should be able to masticate his own food in his own mouth if possible in the way that Nature intended rather than be dependent on such a roundabout and troublesome method of preparation. The ruminant thrives on green grass, but consider the kind of mastication that Nature has found to be necessary to ensure that result. The grass is chewed and the cud is re-chewed and chewed again, the business lasting most of the day. The adenoid lady with the irregular teeth would not have much chance of extracting vitamins from raw vegetable food if relying on her own powers of mastication. Her condition, in my opinion, can be attributed to an arrest of facial development consequent on a deficiency

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of vitamins in food supplied to her as a baby and young child, and probably to her mother before she was born, or to a deficient extraction of vitamins from food. In the light of modern science who can doubt that mastication is a most important function?

During child-life after weaning, when growth is actively going on, mastication is specially necessary, as it is also in the case of the expectant mother in the interests of the foetus, as here again all vitamins are urgently required to activate the chemical changes and metabolism which are proceeding at an extremely rapid rate. So much for insuring for the child an efficient masticatory organ.

Temporary teeth, if allowed to decay badly, will probably cause much pain, which is not in the interest of the child, and through becoming tender or actually painful to bite on will arrest the function of mastication. If allowed to get very badly decayed their pulps will die and ordinarily become septic, and then will poison not only the alimentary canal but possibly the whole system.

Temporary teeth should be inspected thoroughly and if necessary treated by filling at least twice a year. Any cavities of decay should be filled at once. When the cavities are small they are easy to manage. This can be done very often quite effectively by filling with red base-plate gutta-percha after a not too thorough excavation by the dentist. Another most valuable material for easy and effective filling, which again may not require a too drastic removal of the decay, is the combination of cement and amalgam which I had the honour of submitting many years ago to the approval of the profession. The amalgam is pushed into the

cement in the cavity while the cement is still soft, the cavity having been dried and kept dry during the process, and the exposed surface of the filling made of amalgam only. We sometimes hear of dentists recommending cavities in temporary teeth to be filled with gold; such teaching is pernicious and will not advance the true interests of dentistry for children.

Dentistry for children should be in the hands of operators of considerable technical ability endowed with much sympathy for children. The dentist should never outrage the child's sense of honour by deliberately deceiving it, and by promising that things will not hurt when he knows the contrary is the case. He should strive to take the child completely into his confidence, stating truthfully beforehand what will hurt and what will not. Telling lies to the child is utterly stupid and wrong, and will lay up untold trouble for the future. If well treated, children soon become, if not so from the first, excellent patients; and most thoroughly enjoy the visits to the dentist. A lady was making an appointment for her little boy and mentioned that it must be on a certain date; she explained that was the date of his birthday, and he always elected to come on his birthday, as it was the greatest treat he could have.

By all means let the children have the best dental attention regularly twice a year from four years upwards.

I was asked the other day whether the decaying of temporary teeth would damage the permanent ones still unerupted. The answer is, that if an abscess forms around the roots of a dead and septic temporary tooth it will occasionally damage the unerupted tooth or teeth. This, however, is quite uncommon. In the

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great majority of cases the abscess bursts through the alveolar bone and gum, evacuates into the mouth, and no damage is done to the permanent teeth. Simple caries or decay of the temporary teeth has no direct effect on the permanent successors.

Temporary teeth which decay and lose their vitality are not so easily eliminated by nature when the time for their shedding arrives. The roots will often resist absorption and therefore be retained. They then form an obstruction to the permanent teeth and cause them to come into irregular positions. The remedy, of course, is timely extraction of the temporary roots.

It is not my intention here to give instruction in the technicalities of dental surgery for children: that is the domain of the dentists; and though I have no doubt that improved feeding will eliminate most of the dental troubles at present so rife, we cannot afford as yet to neglect the biennial visits to the dentist for inspection and treatment. On those occasions when there is nothing to be treated—so much the better.

When unfortunately temporary teeth have become very carious, dead and chronically septic, or have acute abscesses, the teeth should usually be extracted. The danger of septic infection and poisoning is not to be tolerated. There are, however, times when the cleaning out, disinfecting and filling of the root canals of temporary teeth can be done successfully; and this method should be adopted in certain cases. The early treatment of decay in temporary teeth will undoubtedly often prevent decay in the first permanent molars.

The first permanent molars are cut at six years old, and come behind all the temporary teeth without having any predecessors. A sharp look-out should be kept

for caries in them, as it often progresses extremely rapidly, and can cause pain of the severest type. These teeth are the largest the patient will ever have, they are the best grinders of all teeth; and it is a misfortune when they have to be extracted. These are of all teeth the most prone to decay. This, however, is mitigated by the fact that the specially weak spot is localised in the middle of the masticating surface and is one of the easiest cavities to fill if taken well in time. These teeth should be specially carefully examined at the biennial visits and should never be allowed to decay badly. The site of the decay is at the bottom of the wrinkles, so-called fissures, in the masticating surface, and if softening or even imperfect calcification can be detected there, by means of the sharp-pointed probe, the wrinkles should at once be prepared and filled even as an anticipatory measure and a prevention of decay. An early filling of this sort, especially when made of metal like amalgam or gold, will induce in time some calcification of the pulp; which is all to the good, as in the event of other cavities forming later on in other parts of the tooth the pulp will be reduced in size and rendered less liable to exposure. If this or any other tooth becomes very badly decayed the dentist's hand may be forced and extraction may be necessary. Extraction of these teeth, however, will always result in some movement of the remaining teeth, and the fitting of the upper to the lower grinders can never be perfect afterwards.

If front permanent teeth decay, they should evidently be treated and filled at the earliest possible moment; and in view of the permanent and definitive saving of the teeth, they should usually be temporarily filled at

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an early age with red baseplate gutta-percha. This, on account of its requiring less excavation of the cavity, and on account of its special action in preventing the progress of decay, will generally outlast any other material which could be safely and considerably used at this age; thanks to its insolubility it will last for years. The softened dentine, which, being sensitive, is left unexcavated under it, will recalcify and become insensitive under its influence; and it will prove to be the best possible prelude to permanent filling later on.

At ten and eleven years the permanent bicuspid will displace the temporary molars, and by doing so will often bring great satisfaction to the dentist, who will be pleased to see nice new teeth in place of temporary molars which may have become very troublesome through extensive decay.

At this age, therefore, and for some time longer, when this change has come about, the mouth may have a wonderfully sound appearance, when perhaps for years it may have had quite the reverse. All the temporary molars may have been very carious in multiple places and the mouth may have presented a striking appearance of susceptibility to caries. Now for a time it will be entirely or comparatively caries-free.

At twelve years the set of four second permanent molars may be expected to erupt behind the six-year molars, and like them they come at the back of the mouth, without having had any temporary predecessors.

- The only teeth remaining to be erupted after these are the third permanent molars or wisdom-teeth, which come at the very back behind all the other teeth, and so late that they may be said to be generally outside the limit of school age.