

FOOD AND THE CHILD.

TWO conferences held in London since our last issue show that increasing attention is being given to questions relating to the physical and mental development of children from a national point of view. At one conference, held at the Guildhall, the subjects considered related to diet at public and private secondary schools; and at the other, held at the University of London, the health of the child in relation to its mental and physical development formed the general basis of discussion.

Of all that mankind has attempted since the world began, there is nothing which it has practised so regularly, so persistently, and on the whole so successfully as eating and drinking. It is therefore somewhat disquieting to find the great civilised nations suddenly smitten with misgivings as to whether the rising generation is being suitably nourished. It is admitted that the provender provided for the better-class school children of to-day is more abundant in quantity, better in quality, and better served than that supplied to their immediate ancestors; that it is, indeed, exceptional for the fare to be actually deficient in amount, while, whatever its form, it certainly comprises those essential elements of proteids, fats, and carbohydrates upon which previous generations achieved a national pre-eminence. Yet, evidence accumulates to the effect that all is not well with the school child in relation to his diet; and, this being so, the impression arises that the fault lies with the eater at least as much as with the food supplied to him. This also appeared to be the opinion of most of those who spoke with authority and from experience at the recent conference on school diets.

The healthy normal child will eat with avidity of plain wholesome fare, and may even be trusted to eat of it to repletion without risk of injury, it was stated. But, by the healthy normal child was clearly meant one whose teeth were sound, who used them effectively for complete mastication, and whose natural appetite had not been vitiated by a too promiscuous feeding on more highly seasoned viands at home. Now only a small proportion of school children possess quite sound teeth. The rest have mouths more or less septic, and, consequently, infected digestive tracts. Practically none masticate their food completely, and their digestion is by so much the further hampered; while many of those belonging to the upper social classes, when at home, share the more delicately prepared and attractively flavoured foods which are needed to stimulate the faded appetites of their parents, and consequently come to regard simpler fare as insipid and unappetising.

The situation is one of national importance. It calls for a reform of the home dietary and upbringing—beginning in the earliest nursery days—quite as much as for a reform of school diets. The latter may, indeed, be here and there modified with advantage, both in matter and in method; these details, important enough in themselves, were more or less clearly hinted at, but a single-day conference did not provide the time for their adequate consideration. The conference, so far as it went, was as a useful and most suggestive troubling of the waters. Its repetition on a more complete and more comprehensive scale would serve to bring out with greater clearness the need for some effective collaboration between the home and the school in relation to one of the most important factors in determining the future of the race.

At the conference of child-study societies existing in various parts of the kingdom, held on May 9-11 in the University of London, an address was delivered by Sir James Crichton-Browne, the presi-

dent of the central society. He took for his subject the need for proper classification and education of feeble-minded children, with especial reference to the discrimination of those who presented mentally abnormal qualities not amounting to feeble-mindedness, and those whose mental defects might by suitable education under medical guidance be removed and their minds strengthened. At the meeting on May 10, papers were read by Dr. Kerr Love, on the influence of defects of hearing in relation to the mental and physical development of the child, and by Mr. Bishop Harman, on the influence of defects of vision in relation to the mental and physical development of the child. Mr. B. P. Jones, as a teacher of the deaf, gave a successful demonstration with two ex-scholars of what may be done for the hard of hearing. Dr. Jane Walker read a paper on the tuberculous child. In the afternoon, a visit was paid to Sir Francis Campbell's normal college for the blind, where an excellent musical performance was given by members of the college. In the evening Dr. Saleeby lectured on eugenics and child-study. At the meeting on May 11, Dr. Hyslop read a paper on mental hygiene in relation to the development of the child, and a discussion ensued in which Dr. Percy Nunn and Mr. Kirkpatrick, of the Normal College, Fitchbury, Mass., took part. A discussion followed on the instruction of the young in sexual hygiene, in the course of which admirable addresses were delivered by several ladies. In the evening the delegates were entertained by Sir Richard and Lady Martin at their house in Hill Street. The next conference will be held at Liverpool.

THE REFORM MOVEMENT AT CAMBRIDGE.

THE progressive party in Cambridge has lost heart about reforming the University from the inside, and a memorial asking for a Royal Commission, which has been signed by six professors and some twenty-two other members of the University, is being generally circulated for signatures. The signatories hope that power may be given to the commission to make statutes in regard to such matters as financial and other relations between the University and the colleges, and the administration of funds devoted to fellowships, scholarships, and exhibitions. A certain number of those usually associated with reform movements in the University have withheld their signatures, partly, apparently, because they mistrust the sort of commission they anticipate the present Government would nominate, and partly because they feel that the resident members have by no means made up their minds on what lines they would wish reform to be initiated; but some at least hold the view that it is not desirable that the commission should have power to frame statutes.

The petition is as follows:—

To the Right Hon. H. H. Asquith, Prime Minister.

We, the undersigned resident members of the Senate of the University of Cambridge, desire to lay before you a request that a commission may be appointed to inquire into the constitution of the University of Cambridge, the financial and other relations which exist between the University and the colleges, and the administration of funds devoted to fellowships, scholarships, and exhibitions; and that power may be given to the commission to make statutes in regard to these matters.

We venture to remind you that on July 24, 1907, in the House of Lords, the Marquess of Crewe, speaking on behalf of the Government, stated that the

Government were unwilling to appoint any commission for the Universities of Oxford or Cambridge until full opportunity had been given to these Universities to make necessary reform for themselves. In the five years that have since elapsed various proposals for constitutional reform have been brought before the Senate of the University of Cambridge by the council of the Senate, but they have been, without exception, rejected by the Senate; and it is clear to us that no further attempt of the kind is likely to be successful. We therefore make our present appeal for the appointment of a commission.

ELECTRICITY SUPPLY: PAST, PRESENT, AND FUTURE.¹

IT was in 1882 that Parliament passed the first of the Electric Lighting Acts. This Act was in part based upon recommendations made by a Select Committee on Lighting by Electricity that sat in 1879, and as an instance of the want of proportion in the ideas that then prevailed it may be mentioned that before that committee Mr. Joseph Rayner, the Town Clerk of Liverpool, explained that one of the reasons why the Corporation of Liverpool were seeking for Parliamentary powers to supply electricity within their borough was because they were in a specially advantageous position to do this, as they had an engine which was used during the daytime for working a fountain, and might well be used for supplying electricity during the night, that engine having a capacity of 20 horse-power. At the end of last year the electric supply plant of the Corporation of Liverpool amounted to about 50,000 horse-power, which, when compared with this 20 horse-power engine, affords a commentary on the parochial character of the ideas in accordance with which the first of the Electric Lighting Acts was framed.

In the year 1882, also, the first electric supply station for supplying incandescent lamps on a public scale in London was established by the Edison Company on Holborn Viaduct. The Holborn station was equipped with two Edison dynamo machines, and it is interesting, as giving an inkling of the notions then prevailing, that these machines were described by the then editor of one of our chief engineering papers as "enormous," it being added, evidently as a matter of wonder, that "no less than 1000 full size or 16-candle incandescent electric lamps were maintained constantly in operation from one machine." It may be mentioned that each of these dynamos was driven by a high-pressure Porter engine of 130 horse-power, which shows that even in 1882 ideas had not progressed very far beyond those to which I have already alluded in connection with Liverpool three years earlier. The design of these early Edison machines, with their multiple-magnet limbs each with its separate winding, is also illustrative of the ignorance then prevailing on electromagnetic subjects, it being obvious in the light of modern knowledge that the arrangement was altogether inefficient and absurd. It was the late Dr. John Hopkinson who first put the design of continuous-current dynamos and their magnetic circuits on a sure foundation.

So far from assisting electricity supply, the Electric Lighting Act of 1882 had the immediate effect of crushing enterprise in that direction, the period of seven years for which licences, or the twenty-one years for which provisional orders, were granted to promoters of electric supply undertakings being found quite inadequate to enable money to be

raised for such purposes. Between 1883 and 1888, when the Act was amended, only ten licences were applied for, all of which afterwards expired or were revoked, and though in the first year there were a considerable number of applications for provisional orders, not one of these was carried into effect, capitalists refusing to find money for undertakings which had only a tenure of twenty-one years. No doubt, also, this unsatisfactory result was assisted by the severe reaction that had set in from the speculative mania in electric lighting affairs of a few years earlier.

It was not until 1885 that Sir Coutts Lindsay laid down an installation in Bond Street to light the Grosvenor Picture Gallery and the premises of some of the neighbouring tradesmen, which installation in its subsequent development had probably more influence than anything else on the fortunes of electricity supply, not only in London, but in the country generally. Quite a novel system of distribution was employed, the current being alternating and distributed at high pressure by means of overhead wires, and transformers (or secondary generators, as they were called) on the Goulard and Gibbs system being used to reduce the pressure to suit that of the lamps.

To begin with, the system did not work well, and, on the advice of Lord Kelvin, Mr. S. Z. de Ferranti was called in to assist. The station was immediately reorganised and fitted with machinery of much greater capacity, and so successful was the outlook that, early in 1888, the London Electric Supply Corporation, Ltd., was formed with a capital of 1,000,000*l.* sterling, and what were then considered as immense works were started upon as far away as Deptford, six miles from the centre of London, the scheme being to transmit the electricity from where land, coal, labour, and water for condensing could be cheaply obtained, at a pressure of no less than 10,000 volts, with suitable substations where it could be transformed and thence distributed at lower pressures. The great courage shown by those responsible for the venture was deserving of a better fate—but alas for the uncertainty of human endeavours! While the working of the station at Deptford was still in its inception, the plant at the Grosvenor Gallery became ignited by a short circuit and was burnt out; while the London Electric Supply Corporation soon afterwards went into the hands of a receiver, leaving unfinished, and never to be finished, the 10,000 horse-power sets of dynamo and engine which Mr. Ferranti's genius had dared to devise.

Though so very unsuccessful financially at its first start off, there can be no question as to the enormous influence that the Deptford undertaking had on the history of electricity supply, not only in London or in this country, but throughout the world. Here, at length, was an electricity supply proposition on a scale similar to those of the great undertakings that furnish gas to the Metropolis, with generating plant and means of distribution designed for the sale of electricity over a large portion of London. The more cautious procedure adopted by other concerns which sprang up about the same time and later was no doubt more successful from a business point of view, but the impulse given by this ambitious scheme became manifest from the great competition that was shown for provisional orders for different parts of London, leading to the public inquiry that was held by the Board of Trade immediately after the passing of the amended Electric Lighting Act of 1888, in which the period of twenty-one years, after which the undertaking was subject to purchase without any allowance for goodwill, was extended to forty-two years.

¹ From a discourse delivered at the Royal Institution on Friday, April 19, by Alan A. Campbell Swinton.