

and developed may lead to life's fullest fruition, but if starved and crushed may produce nothing but a withered body and a blighted mind.

But you ask for evidences. And during recent years witnesses in abundance have been forthcoming from almost every civilised country.

Those of you who are desirous of studying this matter fully should consult such important publications as the Report and Evidence of the Royal Commission on Physical Training (Scotland), the Report and Evidence of the Inter-Department Committee on Physical Deterioration, and the numerous papers and pamphlets which have, during the last few years, been issued by societies, medical examiners, and others dealing with the school child as our most valuable national asset.

The Proceedings of the recent International Congress on School Hygiene will soon be issued, and will contain much of value in regard to this matter.

But it is not my purpose to weary you with statistics or quotations from authoritative reports.

All I can hope to do in the limited time at our disposal is to show you by some concrete examples how Malnutrition in Infancy may stunt and handicap the child in later life.

THE DEVELOPMENT OF THE NORMAL CHILD.

[Dr. Kelynaek then, by means of diagrams thrown on the screen, illustrated some of the chief features in the development of the child.]

DEPARTURES FROM THE NORMAL DEVELOPMENT.

As a people we seem to be losing in weight and in height, and in the best characteristics of a healthy physique. Thus Dr. Clement Dukes reports that as a result of an examination of 1,000 boys at Rugby School he found below the normal height 365, below the normal weight 471, and below the normal chest measurement 423. No less than 445 had lateral curvature of the spine, 126 were pigeon breasted, 526 had knock knees, and 329 were flat footed.

Dr. Clement Dukes says: "Some of these infirmities arise from faults in nutrition during infancy, which entail rickets. And these defects in nutrition, as a cause, tend at the present day to involve the children of the rich even more than those of the poor in their sequent physical evils. For a preponderating proportion of mothers in the higher social rank either cannot, or will not, nurse their children; and, more than this, substitute for the naturally appointed breast-milk, boiled cows' milk, which, in the process of boiling, is de-

prived of some elements in its nutritive value which tends to the advent of rickets, or infantile scurvy. Also resort is made to various artificial foods, equally insufficient for the adequate nourishment of infants in their earliest months of life."

In connection with my hospital experience, it has been my duty to see large numbers of consumptive cases, and I have been impressed by the enormous number which bear evidences of neglected infancy, such as the pigeon-shaped chest or the flat thorax.

In London and in other large centres such as the manufacturing towns of Lancashire it is extremely interesting to study the effect of working class conditions on the health of the children. In towns, where many of the women work in factories one sees numerous cases of rachitic deformities, and other late effects of infantile malnutrition.

INFANTILE MALNUTRITION.

Infantile malnutrition impairs the well-being of the school child in many ways, but for our present purpose I wish to focus your attention on three chief ways in which disability is brought about.

RICKETS AND ITS RESULTANTS.

A large part of physical disability is dependent on rickets, and its resultants. Rickets is one of the commonest diseases of childhood, and probably 50 to 80 per cent. of all infants in our cities are more or less affected by it.

Everyone should know its manifestations. The principal symptoms are excessive perspiration, restlessness, disinclination to be moved (the child cries, and shows irritability when this is attempted), there is predisposition to bronchitis and broncho-pneumonia, nervous complications are not uncommon, and may terminate in convulsions and death.

Signs by which such cases may be recognised are:—The child is pale and flabby, and exhibits stunting in its development, the head is square in shape, the fontanelles remain un-closed, and cranio-tabes (*i.e.*, localised softening of the cranium) is often present, the jaws are frequently altered in shape, and there is interference in the regular development of the teeth, which are frequently crowded, irregular, and decay rapidly. Dentition is often delayed, and the teeth appear in the wrong order. Beading of the ribs is another sign of rickets, also thoracic deformity, and what is known as the ricketty spine may develop. The abdomen is often protuberant, and the liver and spleen enlarged. Enlargement of the epiphyses, or extremities of the long bones, with bending of the shaft or diaphysis of these bones is almost invariable, and laxity

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