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The emancipation of the child is one of the burning questions of the age we live in. This century has seen the shackles struck from the limbs of the slave, and now, save in the dark places of the earth on the upper Congo, the negro is practically as free as his white brother. The emancipation of woman also proceeds apace : she now takes, or will soon take, her proper place as man's helpmate, not as heretofore as his drudge and servant. We have given freedom to the slave, we are giving woman her rights, but yet there remains the child. Have the children no wrongs to be redressed? Are they not subjected to abuses which call loudly for repression? Are there no cruelties practised on the little ones which demand the most speedy attention of the legislators of this land? The following facts speak for themselves.

Many years have not passed away since it was found necessary to pass a Factory Act which prohibited the employment of children in the workshops, factories, and mines of this country, and at the present time it is still a standing disgrace to the United States that child-labour is so extensively employed there. The law regarding the appearance of young children in theatres is of more recent date, and it is only now coming to be recognised that infant phenomena upon the stage are a blot upon our national good name. Surely every right-thinking man and woman must regard with horror the child- or rather infant- marriages of India, and yet

thousands of such unions (if we may use the name) are being still arranged in that thickly-peopled portion of Great Britain's empire. Child marriages are immoral, degrading, outrageous, and barbarous; but alas! there are practices at home, at our very doors, scarcely less barbarous and debasing in their character. Let anyone who may doubt this statement peruse the evidence laid before Parliament this year concerning the insurance of the lives of infants and children in friendly societies. At first sight it might seem a good and prudent thing for the poor to insure their infants' lives in order that money may be forthcoming to pay the burial expenses if death should unfortunately rob them of their little ones; but when it is found that the children are in many cases murdered, so that the burial money may be spent on drink to inflame the passions of the parents, another and a very different aspect of the subject is revealed. The Rev. Benjamin Waugh, that great champion of the children, can scarcely be held to exaggerate the facts of the case when he puts the following words in the mouth of the insurance collector: "You may starve your children if you pay me your pennies, when they are dead I will give you my pounds. You may ill-treat them, lock them in attics or cellars, that is no matter to me; pay me your pennies, and when they are dead I will give you my pounds. You may neglect them in sickness, you may get no doctor till the very last, you may neglect the instructions he gives you, go out and leave your dying to die; pay me your pennies, and when they are dead I will give you my pounds." Everyone here must, I feel sure, join with me in earnestly hoping that the Bill introduced into the House of Lords by the Bishop of Peterborough to remedy this crying evil may without delay become the law of the land.

Should further proof be wanted to demonstrate the inhuman way that children are often treated, it may be found in the existence of Societies for the Prevention of Cruelty to Children. There is a Scottish Society bearing this name; let us all hope that that Society may before long be abolished, by the abolition of the cruelty to which it owes its origin.

It is not, however, of these, which may be termed the gross abuses of children, that I wish to speak to-night; it is rather to those hygienic mistakes in the feeding, clothing, and mental training of the young that I wish to draw your attention. That the

popular mind is filled with many most erroneous conceptions concerning the bringing up of children is a statement which will not, I think, be disputed ; but it may be well worth while to restate a fact in statistics which will serve as a proof that errors in the rearing of infants and young children have most disastrous effects. Dr Eklund of Stockholm, who has studied most carefully the death rate amongst children in all parts of the world, finds as a result of his compilation that in Europe 25 per cent. of all deaths occur in children under one year of age. Another calculation reveals the startling fact that of all children born, 20 per cent. die before the first year of life is completed, 10 per cent. die in the first month of life, and 33 per cent. die before the fifth year of life is reached. When the matter is examined more closely it is found that a very large number of the deaths are due to preventable causes—causes such as cold and errors in feeding, which could have been avoided had a fuller knowledge of the peculiarities of infant life and health been appreciated and acted upon by the parents. Ignorance with regard to the rearing of children is surely but slowly disappearing, but superstition dies hard, prejudices are deep rooted, and are with difficulty eradicated ; and there is still much to be done in the way of the popularisation of many of the most fundamental requirements of infant health and training. This Society has always paid great attention to the health wants of little children, and from time to time lectures upon various subjects connected with the rearing of the little ones have been given by Dr Underhill, Dr Clouston, Dr J. B. Russell, and by Dr Alice Ker. Kindred societies in all parts of the country are travelling along the same lines, and we must all rejoice to see that General Booth has not forgotten to provide for the health and comfort of the children of Darkest England in that gigantic philanthropic scheme which he has so recently laid before the eyes of the world. I cannot hope to bring before your notice this evening much that is new upon the subject of the rearing of infants, but I can, I think, do what is as important, if not more important,—I can point out and emphasise the many errors and prejudices which injuriously influence the healthy training and up-bringing of the children committed to our care.

In all classes of society there is a lamentable amount of ignor-

ance concerning the management of children, and it is the duty of the medical profession and of all those who take an interest in health matters to bring it home to the minds of the general public that the study of the wants, desires, and peculiarities of children is a necessary part of education. An old writer says: "Persons often take great interest in rearing domestic animals, but if we speak to a father on the physical education of his infant he almost feels offended; but ask him about his dogs and horses, and he is ready to give his views on rearing them." Another author says, concerning the mother's duty: "A mother ought to know everything, be it great or little, that will benefit her young ones, and should not be at the mercy of ignorant nurses, or of any unskilled person whatsoever: she ought, in point of fact, thoroughly to know her profession—the profession of a mother." When it is remembered that in the hands of the mother lies almost entirely the mental, moral, and physical welfare of her children, it will be seen what a grave responsibility she undertakes if she do not avail herself of all opportunities to study the things that are harmful and those that are beneficial in their early training. My first contention to-night, then, is that everyone, but more especially the mother, ought to be acquainted with the primary laws which govern and regulate bodily and mental health in the young. If these laws were widely known and extensively acted upon, the distressing mortality in early childhood would assuredly be brought to a minimum, and the children would grow up into men and women in all respects better fitted for the duties of life and for the never ceasing struggle against sickness and death.

The common errors in the rearing of children may be conveniently grouped around the three headings: diet; general hygiene, including dress, exercise, cleanliness, and housing; and mental and moral education. These topics cannot be exhaustively treated here, each calls for a separate lecture to itself, but the outstanding errors and their remedies can at least be suggested.

Diet in Childhood.

It is strange, but unfortunately too true, that the feeding of the baby is still but imperfectly understood. The natural food of a

baby for the first year of life is the mother's milk. This remark may be counted trite and stale, but it is a remark which it will be necessary to reiterate, and to reiterate with force, until such time as the principle which underlies it is universally acted upon. The popular mind is filled with most erroneous notions concerning infant diet, and there is no cause for wonder that the children of our great towns are weakly, puny, ricketty, and prone to succumb to all manner of diseases, when it is remembered that quite young infants are fed upon the food of their parents. The fathers and mothers partake of tea, potatoes, herrings, and too often whisky, and in many cases all these things, not excluding the last named, are forced upon the helpless infant. I am not speaking at random, and I feel sure that all who have had any experience of work, medical or otherwise, amongst the poor of our own town will bear me out as to the truth of the above statements. It is no uncommon sight to witness a mother giving her little baby whisky by a spoon, and should the infant cough and turn blue in the face with the strength of the fluid, she dips her finger in the spirit and rubs with it the inside of the child's mouth. Until a baby has cut his first teeth, milk alone, and preferably his mother's milk, is the food upon which he will thrive best, and with which he ought to be exclusively supplied. There are reasons, both anatomical and physiological, to prove that milk is the natural diet of the baby for the first year of life. There are no teeth to divide solid food, the stomach has the power of digesting milk alone, many of the juices which are secreted in the digestive tract in later childhood, and which act upon the starchy and fatty elements of the diet, are absent in the young baby, and the administration of any food other than milk will, in the case of the infant, lead to both stomach and bowel complaints of a distressing and often fatal character. Furthermore, as has been already hinted, all milks are not equally acceptable to the infantile organism. During the course of last winter's lectures here, Dr Woodhead very thoroughly and convincingly demonstrated to us the difference between the milk of the mother and that of the cow, the goat, and the ass; and showed that the milk of the lower animals, unless prepared in special ways, was unsuited for the stomach of the baby. So complete was Dr Woodhead's paper

that I feel I can, without apology, refrain from any further insistence upon the primary and important truth that the maternal milk is the infant's food.

But, it may be reasonably asked, what is to be done in those cases in which the mother, from illness or some other sufficient cause, is unable to nurse her offspring? In answer to this question, it must be said, in the first place, that it is a serious matter for the infant if the mother be unable to nurse him; and in the second place, that the mother ought never to relinquish what is her first duty to her child without full consideration and without consultation with her medical attendant. If it has been decided that it is impossible for the child to receive his natural food, then there remains the question, What is the next best food with which to supply him? Wet-nursing is theoretically the next best method of bringing up a baby, but there are so many difficulties in the way of getting a suitable nurse, and so many disagreeable circumstances to be faced in the carrying out of the procedure, that it is not surprising that this method is seldom employed. Even when a thoroughly suitable wet-nurse has been obtained, an almost impossible thing to accomplish, it must never be forgotten that that nurse enters the household practically as an autocrat. During her residence in the family she is mistress of the situation. She can claim an exorbitant wage; her commands must be obeyed and her whims satisfied, else she takes her departure, and leaves chaos behind her; and she is a continual source of anxiety to the child's parents, and of annoyance to all those living in the house. If it be also borne in mind that wet-nursing almost necessarily entails the practical desertion of one child for another, it will be seen with how many difficulties and dangers the procedure is surrounded.

In the great majority of the cases in which an infant must be fed artificially, cow's milk is chosen as the means of nourishment. Now it is well known that cow's milk differs from human milk in its composition, and, therefore, in order to make it suitable for the infant, it is customary to dilute it with water, to add sugar (cane or milk sugar), lime water, and a little cream to it, and so to bring its component parts into that relationship to each other which is found in mother's milk. Perhaps the most nearly perfect modification of cow's milk for infant's use is found in the mixed

milk and cream food recommended by Dr Meigs of Philadelphia. It has the following composition :

Cream, . . .	2 oz.
Milk, ...	1 oz.
Lime water, . . .	2 oz.
Sugar water, . . .	3 oz.

(The sugar water is made by dissolving about $2\frac{1}{4}$ oz. of milk sugar in a pint of water.)

I have known this mixture serve most excellently in many instances ; but there must be other and more subtle differences between cow's milk and human milk, for even preparations, such as Meig's cream food, are often found entirely to disagree with the infants to whom they are given. Chemists have not yet been able to tell us all the changes which occur in milk after it has been taken from the cow and allowed to stand in the air, but some of the products of these changes are known. One of the bodies sometimes found in milk which has been allowed to stand in the cow-house is called "tyrotoxicon," and when it is stated that this substance has effects very similar to those of nitro-glycerine, it will be easy to believe that milk containing it cannot be very healthful for the infant who drinks it. No doubt other changes in the milk are due to an unhealthy condition of the cow and to improper feeding of the animal, but how far and in what way these changes affect infants is not yet thoroughly ascertained. There is a common fallacy that "one cow" milk ought to be given to an infant, and this in order to obtain a supply of milk of constant composition ; but it has been found that the milk of the same cow varies in its composition within wide limits during twenty-four hours, and that it is in reality more likely that an admixture of the milk from several cows will show a more constant analytic result than that from any single animal. I must add another reason why "one cow" milk is to a great extent a mistake, and that reason is that in a great number of cases the "one cow" is entirely a fiction. It might be said, as one reads in the advertisements, when you ask for "one cow's" milk, see that you get it. I can remember in the case of one dairy, at any-rate, seeing a special can come in for the milk from one special cow for infant use. When the dairyman was busy, which was often

the case, this can was simply filled from the general supply can of the establishment. The baby fed on that milk throve well.

Science has of late years devised a means whereby it is possible to prevent the occurrence of chemical and other changes in cow's milk, and so to render the food harmless to infants and young children. I allude to what is known as the sterilization of milk. This process has already been adopted to a very large extent in the United States, in Germany, and other foreign countries, but its benefits are not yet fully appreciated in this country. I know of one or two instances in this town in which infants fed on cow's milk, prepared in the usual way, did not thrive at all well, in fact became seriously ill, but who rapidly recovered and got fat on sterilized milk. The method of preparation consists, in its essentials, in the placing of corked bottles of cow's milk (treated in the usual way) in a can of boiling water, and allowing them to remain there from half-an-hour to three-quarters of an hour. It is then found that the milk in these bottles will remain unchanged, even in hot weather, for twenty-four hours, or in some cases longer. The apparatus most commonly used at present is that of Soxhlet (*apparatus demonstrated*), and the following are the rules given for the carrying out of the process of sterilization :—

"1. The milk which is to be used can be procured from several cows, and is not to be allowed to stand long before being sterilized.

"2. The milk to be thinned according to the instruction of the physician, *before* being poured into the bottles or heated.

"3. A quantity of milk, rather more than is necessary for one day, is to be then poured into the bottles (each of which hold about half-a-pint), by means of the large bill-shaped glass jar, to within half-an-inch of the neck of the bottle, and the india-rubber stoppers pressed firmly into their mouths. The bottles are then to be placed in the bottle-frame, and deposited into the water-pan, which is to be filled with cold water as far as the neck of the bottles, and brought to the boiling point. After it has boiled for five minutes the glass rods are to be placed into the rubber stoppers, having previously been dipped in boiling water so as to make them air-tight. The pan is then placed on the fire and kept boiling for forty minutes, after which the bottles may be taken out and allowed to cool.

"4. When the child is to be fed, one of the charged bottles is placed into the double-floored metal jar filled with cold or lukewarm water, and heated by means of a spirit-lamp or kitchen range until it reaches the required temperature.

"5. When the milk has reached the proper temperature, and immediately before being used, the glass stopper is withdrawn, and the suctional (rubber teat) part is slipped over the mouth of bottle.

"6. Milk which has been left by the child, or a bottle which has been opened by mistake, must on no account be used or given to the child. On the other hand, bottles which have not been opened may be safely used on the second or third day.

"7. Immediately after use, the bottle and the several parts connected require thorough cleansing, and ought to be washed in water several times with the wire brush. The bottles are then placed in the bottle-stand upside down until required."

This process, I feel sure, would if more widely adopted in this country greatly lessen the number of serious cases of diarrhœa met with in young infants during the summer months. The apparatus, which is at present a little cumbrous, will soon no doubt be simplified, and it may be found useful to sterilize not only the baby's milk, but also that of the whole household, especially during the hot season of the year.

There now remain for consideration certain common errors in the use and care of the bottles employed in the feeding of infants. All complicated feeding bottles are a nuisance. They are traps for impurities and for germs of disease. They are extremely difficult to keep perfectly clean. Mothers assure us that they clean them thoroughly, and the mothers in many cases speak only the truth; but still with all care there are impurities, almost invisible it may be, which lodge in the angulations of the tube and around the fittings, and which influence injuriously the milk which is in the bottle. The simple glass bottle with no irregularities in the glass, with no long india-rubber tubing, and with simply black india-rubber tip, is after all the best bottle for the purpose. Such a bottle filled with milk should be held in the nurse's hand, and she should, whilst the baby drinks, gradually tip it up so that the fluid may pass easily into the mouth. No bottle should be put aside partly emptied for the next feeding time, and the most

pernicious practice of putting a bottle into the crib along with the baby must be abandoned altogether. This practice is unfortunately a convenient one ; but it too often results in the child sucking away at an empty bottle, and so distending the stomach with wind. After each meal the bottle used ought to be placed in scalding water, and the india-rubber tip ought to be everted and thoroughly scrubbed.

A very common but most erroneous procedure is the giving of the bottle to a baby whenever that baby cries. Babies cry from hunger, it is true, but hunger is not always the cause. Sometimes they cry on account of the presence of an irritating pin, sometimes they cry from the pain occasioned by cramp in the stomach. In the one case the bottle will not ameliorate the pain, in the other case it will increase it.

Many mistakes are commonly made in the manner in which babies are brought up on the bottle. For example, irregularity in the hours of feeding is a very frequent error. Children should be trained from the very earliest days to take their food at regular intervals. Children are essentially creatures of habit, and if the baby be trained from the very first to have his food every two hours when quite young, and every three hours after the sixth month of life, it will prove of immense benefit to his parents, nurse, and to himself. From 11 P.M. to 5 A.M. he ought not to be fed at all. This practice is perhaps a little difficult of establishment, but if it be insisted upon from the very first, it will be found to be quite practicable. These remarks apply not only to bottle-fed babies, but also, and with even greater force, to babies nursed by their mothers ; and if these rules be followed, the mothers will be able to obtain at least a six hours' rest every night, and the fathers will be spared those nightly disturbances which are so well known and so much dreaded.

Babies, further, are often over-fed. In the early days of life the stomach is of small size, and can only comfortably contain some 2 oz. of milk. Hence for the first three or four months the meals should be frequent, but the quantity at each meal should not exceed 2 or 3 oz. (four or six tablespoonfuls).

The following table, showing the increase of stomach capacity, will give some idea of the quantities of food which can

be safely given at one meal in the first few months of life. It is taken from Frowlowsky's work :—

In 1st week, stomach capacity is 1 oz.		
In 4th " " " $2\frac{1}{2}$ oz.	period of rapid increase.	
In 8th " " " $3\frac{1}{5}$ oz.		
In 12th " " " $3\frac{1}{3}$ oz.	period of slow increase.	
In 16th " " " $3\frac{4}{7}$ oz.		
In 20th " " " $3\frac{3}{5}$ oz.		

More might be said concerning the diet of babies in the first year of life, but it is necessary now to pass to the consideration of some of the errors of diet in children during and after the time of weaning. It is a mistake to think that any hard and fast rule can be given for the time of weaning. From the age of ten to that of fifteen months is the usual time chosen ; but weaning really depends, in each case, not upon the number of months the child has lived, but upon the stage of teething arrived at. Nature gives us a guide in the appearance of the teeth : when dentition is early, weaning ought to be early ; and when teething is late, weaning also ought to be postponed. Every child is in this matter a law unto himself ; and whilst ten to fifteen months is the usual time, it is by no means always the natural time. The time for weaning most suitable for one child may be most unsuitable for another.

With regard to the method of weaning, it is common to suppose that the diet of the child can be suddenly and completely changed, but this is an error. The process must, if the baby's health is to be preserved, be a gradual one, extending as a rule for over a month.

Now, it may be asked, when weaning is successfully accomplished, are there then any common dietetic errors to be corrected ? Unfortunately, it must be admitted that there are many. The baby cannot thrive upon the food of his parents, it is true ; but it is equally true, although perhaps less generally known, that the young child cannot enjoy good health unless fed upon articles of food suitable to his age. Diet after weaning is nearly as little comprehended as diet before weaning. With regard to the proper food for young children, the following letter from a mother may be adduced as evidence of how not to do it. This letter appeared in a journal devoted to the health of children, and it runs as

follows :—"I have a boy four years and three months, and a girl three years old, both much advanced for their years. They talk fluently, and are very bright children. Through their good-natured grandparents they are inclined to luxury, much to their father's and mother's protest. The children have both good appetites. At breakfast they have each a cup of gruel, followed by a chop (and often more), hashed potatoes, two small cups of milk (a drop of tea in it), and toast. For lunch, either beefsteak, cold roast meat, a chicken (plenty of it), with baked or hashed potatoes, and bread and butter and milk. Cake and candy between meals. At six o'clock (sometimes later) they come down to table, and partake of clear soup, oyster soup, etc., bread and butter, apple sauce, milk, and plenty of ice water, sometimes chicken, lots of ice-cream." The writer then goes on to ask whether "this is right"? Such a letter as the above may well drive one to despair. Nearly everything mentioned in the communication is wrong or unsuitable; and one does not require to be gifted with prophetic vision to foresee a future of gastric and dyspeptic misery for these unhappy children. After weaning, milk must still form, for several years, the staple article of diet; to it may be gradually added oatmeal porridge, milk puddings, bread, potatoes, and the like; but meat, sweets, pastry, and such foods must, for a long time, be given most sparingly.

I have dwelt at some length upon the common dietetic errors in childhood, but the importance of the subject demanded considerable space; and yet I have said nothing concerning artificial foods, such as Mellin's, Nestlé's, and Benger's food, condensed milk, Frame food, and many others. Such foods are widely advertised and widely used; but I cannot help thinking that there are few cases in which any artificial foods, other than cream food or sterilized milk, are required. At any rate, it may be safely said, that artificial foods containing starchy matters are unsuitable for, if not actually injurious to, children under one year in age. Mellin's and Benger's are, perhaps, the best; but, again, I may say they are seldom needed. The diet of sick children lies beyond the sphere of my remarks to-night.

Sleep in Childhood.

For some time after birth, infants spend their time in alternately eating and sleeping. It is very important to remember that children require more sleep than grown-up people. The practice of allowing children to "sit up" at nights is a pernicious one. A baby sleeps for eighteen out of the twenty-four hours; and for children of two and three years of age, thirteen hours and eleven hours, respectively, are necessary. The presence of a precocious little one in the drawing-room in the evening may give the mother feelings of pride, and excite from her admirers wondering comments, but the spectacle is a sad one when looked at from the health point of view. "Tired nature's sweet restorer" is most necessary in the early stages of life's journey. A child's entertaining behaviour in the drawing-room is but a small thing to put into the balance against the temporary or permanent loss of health occasioned by the want of sleep.

It is an important accomplishment when the mother is able from the very first to train her children into regular habits in sleeping. Except when a baby is suffering from illness, he ought to be able to sleep continuously from 11 P.M. to 5 or 6 A.M.; and in the case of children over one year in age, they ought to sleep from 7 P.M. to 6 or 7 A.M. without any interruption.

There is an error which a mother commonly commits once, but never again, and that is the awakening from sleep of her baby, in order to show some friend the beautiful colour of his eyes. The experiment results in a complete demonstration of the power of his lungs, and is not usually repeated.

To frighten little children into quietness at bedtime is a most grievous error; and yet this pernicious practice is far from uncommon. Its results are far-reaching, for whilst it is certainly a present source of acute mental suffering to the children who are its victims, it may also be the cause of various nervous diseases, such as "night terrors" and convulsions in the immediate future. To frighten children to sleep by telling them ghost stories or by threatening them with a visit from the policeman, is a procedure which may be flattering to the ghosts, but it is a cruelty to the

child and an insult to the police. Here is a story which I read some time ago which may illustrate this matter :—

"Remember, Honora," said Mrs Perkins to the new nurse girl, "that I do not allow the children to hear stories that might frighten them when they go to bed. You may tell them about birds, and harmless little fairy stories, but nothing about bears or lions."

"Yis, mem," replied Honora ; and this was the harmless little story she told that night :

"Wanst there wuz a gr-r-reat big monsther of an animal wid horns an' a tail of hot fire an' teeth a yard long that wint around in the dead of the noight atin up little byes an' girruls that bothered their nurse askin' her to get up an' give them wather in the noight and tellin' how she lift the baby for a wurrud with the perlace-min in the parruk and little things loike that. An' this ter-r-rible big monster could go roight through solid walls, moind yeez, an' he'd ate yeez up 'fore yeez could scrame out. Now cuddle up an' go to slape like good byes an' girruls or he'll be afther yeez av yeez say a wurrud. Moind that. Sthop yer shiverin' now, Birdie ; an' phwat do yeez mane by chatterin' yer teeth loike that, Willie ? To slape wid yeez or yeez'll be ate up the minit I takes the light out."

Exercise in Childhood.

The best exercise a young infant can get is that afforded by allowing him to lie on his back and kick out his legs, and turn about at will. It is a mistake to encourage him to sit up at too early an age. His back bone is far from strong, and his muscles are yet weak. He will sit up naturally enough, and in good time, if left to his own devices. He will probably begin to creep at the age of nine months, and when he is a year old will be able to stand alone, and he will walk a month or two later. In regard to this matter there are great individual differences, and one baby cannot be advantageously compared with another. It is often no matter for congratulation when a child walks at an unusually early age. The great principle, however, is that whether the baby lie, or creep, or walk, he must have exercise. When it is possible, the exercise ought to be in the open air, and in the

sunshine. Children, like plants, cannot grow well and healthily unless they have sunlight. In damp or rainy weather, and when the wind is either in the east or north, the house is the best place for young children; under all other conditions children ought to spend part of the day in the open air. When they are in the open air, they ought always, except when so young as to require to be carried in the nurse's arms, to walk or run. Perambulators are dangerous alike to the infants in them and to the pedestrians in the streets; but they are more dangerous to the former than to the latter. It is very difficult to keep a child warm in a perambulator; and when he falls asleep in it, as he often does, with his head hanging over the side, he is particularly liable to take cold.* It ought, by the way, to be accepted as an axiom, that when a baby catches a cold, someone is to blame, and the *someone* is never the baby himself. He is helpless, he cannot move into danger, neither can he move out of it. Someone, mother or nurse, is to blame in the matter. Exercise is as important in later as it is in earlier childhood; and if there is to be the *mens sana in corpore sano*, then it must be seen to, that school children get a physical as well as a mental training. School-boys may train themselves physically by means of games, but the physical trainings of school-girls is too often sadly neglected. As a writer in *Punch* said some time ago:

"Rounded shoulders, slouching gait, and also haply crooked spines,
By gymnastic exercises shall grow straight as mountain pines;
Let the girls then learn athletics who in town are apt to droop,
Careful drill will make them upright and eradicate the stoop.

"We should educate the muscles as we ever try to train,
By severe examinations, many a weary little brain;
We'll improve the dainty *deltoid* and the *flexors* of the arm,
While the shapely *gastrocnemii* shall obtain an added charm."

Dress in Childhood.

When it is remembered that children's skins are very delicate, and that they are very liable to feel the effects of any sudden

* The history of the perambulator, and of its uses and abuses, has yet to be written; and the man who writes it must possess both pathos and humour.

changes in temperature, it will be seen at once how important it is that little ones be properly clad. It is not my place to insist upon certain kinds of clothing, but I do feel it my duty to protest against that old pernicious practice of allowing children to go about with bare necks, arms, and legs. There are very few months in the year when a child can safely dispense with woollen underclothing; and all the garments ought to fit loosely and be frequently changed. There is a little error which is often thoughtlessly committed, and that is to permit children to romp about in the house with their "going out" clothes on. Out-door clothes ought only to be assumed when the child is ready to start out, otherwise the child runs a great risk of catching cold.

The Bathing of Children.

There is an ancient but erroneous procedure known as the hardening of children. The practice of plunging newly-born children into cold water, nay, even into water mixed with ice, in order that their bodies might be made more robust and less sensitive to cold, is a very old one, and it is to be feared that this practice is still far too commonly met with. The result of this hardening process is the death of all the weakly infants. We can easily understand how it is that infants that have been hardened are strong and robust: they were originally so; those who were weak went to the wall. It is nevertheless most necessary that in early life children should be regularly bathed, but the temperature of the water used must be neither too high nor too low. A temperature of about 98° F. is a very safe one for the bath; and in order to ensure that the water is neither too hot nor too cold, it is well for the mother or nurse to use a bath thermometer. Nurses are, as a rule, averse to the use of a thermometer, and even when one is provided for them, omit to employ it. They prefer the rough and ready method of ascertaining the heat of the water, so graphically described in the following reported conversation which I read recently in a comic paper.

Anxious Mother: "I wish, Susan, that when you give baby a bath you would use the thermometer, so as to ascertain whether the water is at the proper temperature."

Susan: "Oh, don't you worrit about that, ma'am, I don't need no 'mometers. If the little 'un turns red, the water's too hot! if it turns blue, it's too cold; and that's all there is about it."

It is not possible to expect that mothers in the poorer classes should use thermometers; all that can be reasonably asked of them is to see that their children are bathed in some way or another. There can be no doubt that dirt stands next in importance to cold and bad food as a causal factor in the production of infantile maladies and disease. To "look beautiful through the dirt" may be a possibility, but to be healthy under the dirt is not practicable.

I have now passed in review some of the more common hygienic errors in the rearing of infants, but there still remain the mistakes in moral and intellectual training which call for some notice. Before, however, speaking of such errors, I may be permitted to say a word or two about teething. There is a common practice amongst mothers and doctors alike, to ascribe all the ills that infants are heir to, to the process of dentition. There is a maxim in whist which advises the player, when in doubt, to play a trump; and so also in infantile maladies it may be said, "when in doubt as to diagnosis, ascribe the state of things to teething." It is, it is true, impossible to prove that any disease which may affect a young child may not be due to the process of dentition: for if there are no teeth, the disease may be due to their tardy appearance; if there are teeth, they may be coming in wrongly; and if they are coming regularly and speedily, why, then the child may be ill because of their premature eruption. It is from reasoning such as the above that such names as tooth rashes, teething colds, and the like, have arisen; and whilst I am very far from denying that teething may in some cases influence the general health of the child, I am equally far from believing that all infantile diseases are due to that process. With regard to so-called teething coughs and colds, these may indeed be due to teething, but not in the way that is usually supposed. Dentition is usually accompanied by an excessive secretion of saliva; this secretion, if not very carefully wiped away, will trickle on to the child's dress and soak it, with the result that a cold in the chest is an almost invariable sequel.

The whole process of teething has, from the earliest times, been surrounded by mystery and superstition. In Africa, at the present day, the Ibo people kill all the children who cut their upper teeth first; and at home, here, there are practices scarcely less absurd, if not so dangerous. Soothing syrups, containing opiates and bromides, are most risky drugs to administer to infants, and the so-called "sugar-teats" are abominable. Teething rings are seldom necessary; and with regard to gum lancets, it is not often that the doctor really requires to use these instruments. Scarifying the gums is a tempting procedure; but it is very difficult to prove that it has ever had a good effect upon the eruption of the teeth. It would rather seem from the physiological standpoint that it must retard the appearance of the teeth. I heard not long ago of a little child whose gums had been once scarified, and who was again in agony with a coming tooth, toddling up to the family doctor with a carving knife and dumbly beseeching him to repeat the process; but I must confess the tale did not much influence my opinion of the practice. The most rational treatment of teething is to make sure that infants at that time are put under the best hygienic conditions as regards food, clothing, exercise, and the like, and thereafter to leave the process to nature.

Moral and Mental Training in Childhood.

The great maxim in the mental and moral training of children is that they learn far more from what they see than from what they hear. One must practise what one preaches if one would influence successfully a child. One of the deepest thinkers and wisest men says, when speaking of the education of a child:—"At six months old it can answer smile with smile, and impatience with impatience. It can observe, enjoy, and suffer acutely, and in a measure intelligently. Do you suppose it makes no difference to it that the order of the house is perfect and quiet, the faces of its father and mother full of peace, their soft voices familiar to its ear, and even those of strangers loving; or that it is tossed from arm to arm, among hard, or reckless, or vain-minded persons, in the gloom of a vicious household, or the confusion of a gay one? The moral disposition is, I doubt not, greatly determined in those first speechless years."

The mental and moral food supplied to children is often as inappropriate and even as dangerous as the eatables with which unthinking parents fill their stomachs. Someone has said the education of a child begins twenty years before its birth, in the education of its father and mother; and it is too true that the ignorance of parents often most unhappily mars the early training of their offspring. One great and fundamental fact with regard to children and their education is this: children are not simply men and women in miniature, not simply little men and women, they are also undeveloped men and women, and their training to be natural must take place along developmental lines. For example, the sentiments which influence mental and moral development in the young differ from those which are potent in later life. Fear, anger, jealousy, curiosity, wonder, and trustfulness are all most important factors in the evolution of child intelligence. In older people, other sentiments, as ambition, love, and the like, come into play in the shaping of mental activity. The curiosity of children is proverbial. They wish to get at the root of every matter; they are continually asking questions; and they are not satisfied with superficial or partial answers. It is a great mistake to refuse to answer children's questions. When a question is asked, answer it fully and once for all; if the question be repeated at any future time, then allow the child himself to recall the answer. In this way children are prevented from falling into the bad habit of asking simply for asking's sake. Children exhibit curiosity in other ways than by asking questions; they are constantly making experiments in natural philosophy; in the early days they are training themselves in the measurement of heights and distances, and in the mysteries of the laws of gravity and of equilibrium. The experiments may result in bruised heads and knees, but the child learns more by these experiences than by any other methods. It is a dangerous thing to check a child's curiosity; it is a wise thing to direct it into useful channels. Complicated toys are mistakes, the endeavour to understand them tires the infant brain. On the other hand, simple toys, especially those which illustrate some of nature's great laws, are educative factors almost without their equal in early life.

Children are naturally extremely trusting; they believe all

that is told them, and it is dangerous in the extreme to cheat or mislead them. Not only do wrong statements take a deep hold of infants' minds, but, what is much worse, the natural trustfulness of the child is gone. This trustfulness extends into all their mental processes; it is a fact of everyday occurrence that children understand statements literally, that they grasp only the evident meaning. Children know nothing about double meanings. A great number of the jokes we read weekly in our comic papers owe their origin to the fact that children have heard sayings with a double meaning, and have accepted them literally. A few weeks ago the following joke appeared in *Punch*. A little girl asks a visitor if he will drink a little water. He asks her why she makes this request; and she says it is to see how he drinks, for her papa has said that he drinks like a fish. Children are often blamed for making these so-called unfortunate remarks; but if blame must fall on some one's shoulders, it ought to fall not on the child's, but on those of the people who speak with double meanings. Sometimes the literalness of children results in remarks which are simply amusing and not at all disconcerting. If I may be permitted to give a personal reminiscence, I may tell the following story: I was told in my young days that it was a good thing to laugh and grow fat. Upon a certain occasion there was some lamb for dinner, which was, as is not uncommonly the case, very fat; my comment was, "This lamb must have laughed an awful lot."

There is another characteristic of the mental life of the young which is very interesting and instructive, and it is this: It is always much easier for a child to do something than to refrain from doing something. In other words, children obey more readily positive commands than negative ones. It is an extremely difficult thing for a child to inhibit movements, to sit still; therefore, when a child is in mischief it is more rational to give him something useful to do than simply to demand that he be quiet and do nothing. The restlessness of young children is natural, it is a sign of overflowing vitality, and it ought not to be checked harshly and unreasoningly.

Fear is a powerful emotion in childhood, and it is, therefore, a powerful educative factor; but in its use for the purpose of training great care must be employed. It would be infinitely prefer-

able, no doubt, if it were possible to bring up children entirely by love; but I am old-fashioned enough to believe that fear must be an element in the moral and mental education of the young. There are, of course, great individual differences in children, and it may be possible to act upon the loving sympathies of some children in such a way as to ensure complete moral rectitude; but in most cases it is necessary to use fear in some way or another—it may be only the dread of bringing a sad look to the mother's face, or it may be in the form of sterner measures.

In the education of young children it is a mistake to commence learning by rote at too early a period. The education in the nursery is many-sided—the child learns by means of sight, hearing, touch, and taste, and through these sense avenues he gathers together an enormous amount of information in the first years of life. The education in the school is one-sided—there is too much learning by rote, too much exercise of the memory; it would be better if the scholastic training were more truly a continuation of the nursery education. There is a grave risk that the information gained in the school is of a superficial character and is not properly understood by the child. It would be much better, for example, if geography were taught by means of numerous models of rivers, lakes, and mountains, than simply by the learning of long lists of names of places and seas and hills from the text-books. It ought never to be forgotten that mental processes, memory amongst others, are but imperfectly developed in children, and that to force them is to injure the healthy evolution of the brain. The reasoning of children is at first most primitive, for they draw hasty conclusions from very insufficient data. There are of course individual exceptions. Some children reason with startling correctness at a very early age. I recently heard of an extraordinary example of correct reasoning by association in a little girl under two years of age. She had a doll called Victoria, and one day she was asked to say what was the doll's name. She had forgotten it, but after thinking intently for a moment or two, she began to hum the first bars of the National Anthem. Such cases are, however, exceptional, and this fact ought to be taken into account in the rearing of children. We must not expect children to see the reasons for certain acts as we see them.

If properly reared mentally and morally, children are the brightest and most lovable of creatures; but if brought up on erroneous principles they become veritable despots and autocrats in the family circle. Spoiled children form a sad spectacle, and are a source of distress not only to their parents but to all with whom they come in contact. It ought to be recognised that it is as wrong to spoil a child morally and mentally as it is to let a baby catch cold, or to permit an infant to eat food unsuitable for or dangerous to bodily health. In the hands of the parents of this generation lies, to a very large extent, the power of shaping that unknown future of happiness or misery which is the heritage of every little child born into this world.

"Beautiful child by thy mother's knee,
In the mystic future what wilt thou be?
A demon of sin or an angel sublime—
A poison Upas, or innocent thyme—
A spirit of evil flashing *down*
With the lurid light of a fiery crown—
Or gliding *up* with a shining track,
Like the morning star that ne'er looks back.
Daintiest dreamer that ever smiled,
Which wilt thou be, my beautiful child?"